A MIXED-METHOD, FACTORIAL EXAMINATION OF MEN'S AND WOMEN'S PERCEPTUAL AND AFFECTIVE RESPONSES TO IDEAL, ACTUAL, AND AVERAGE MALE AND FEMALE BODIES

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DEDICATION

To the two of the most influential people in my life, my husband, George, and my grandmother, Sofia. Your unconditional love and belief in me has allowed me to see myself in all capacity and truth. This work is a reflection of struggle and power gained through overcoming what once seemed impossible.

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ABSTRACT

A MIXED-METHOD, FACTORIAL EXAMINATION OF MEN'S AND WOMEN'S PERCEPTUAL AND AFFECTIVE RESPONSES TO IDEAL, ACTUAL, AND AVERAGE MALE AND FEMALE BODIES

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Body image issues have traditionally been perceived as women's issues, but this is no longer true. Both men and women are impacted by social pressures to look perfect (Calogero & Thompson, 2010; Grogan, 2008). Adolescents and young adults are most at-risk for maladaptive behaviors related to body image issues (Eisenberg, Wall, & Neumark-Sztainer, 2012; Fernandez & Pritchard, 2012; Frederick et al., 2007; Salk & Engeln-Maddox, 2012). The literature on body image dissatisfaction is immense, but only 12 research articles were published between 2005 and 2015 dealing specifically with men's and women's perceptions of the ideal female and male bodies. Eight of these studies were international and used samples that may not represent the U.S. population. Many used relatively small samples that limited statistical power (Warner, 2008). Finally, most of the studies used a small number of artificial body stimuli (e.g., figural outlines, body silhouettes) and required that subjects choose a single stimulus that captured the "ideal" male or female body. There were three overarching goals of the present mixed-method, factorial examination of men's and women's perceptions of male and female bodies: (a) to correct some of the methodological flaws of previous studies, (b) to contribute to the literature on the basic processes involved in body perception, and (c) to inform the therapeutic efforts of clinicians who work with clients with body image issues.

Results showed that participants used different perceptual filters when perceiving male and female bodies. Female stimuli were sorted on the basis of observers' evaluative and affective reaction. Males were sorted based largely on judgments of potency. Men were more likely than women to identify female bodies as ideal if they were curvy, with larger breasts, and less muscle definition. Women more frequently viewed athletic female bodies as ideal. There was far more gender consensus on the ideal male body. Both men and women reacted more negatively to same-gender ideals than to opposite-gender ideals. Men and women reported equal levels of body dissatisfaction. Personal fitness variables shaped several aspects of body perception and over a dozen statistically significant correlations linked physical fitness variables to body perception outcomes.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

Body dissatisfaction has historically been considered to be a women's issue, but this is no longer the case. Since the 1960s, media representations of what constitutes the ideal female body have become increasingly and more unattainably thinner and taller (Calogero & Thompson, 2010). The male ideal body has moved similarly out of reach, becoming unrealistically lean and muscular since the 1970s (Blond, 2008). Today, over 90% of women and 70% of men in the college-aged population report feelings of dissatisfaction with their body and weight, and researchers suggest that media portrayals of body ideals have contributed significantly to this increased body dissatisfaction, self-objectification, low self-esteem, and disordered eating patterns among both men and women (Neighbors & Sobal, 2007; Wright & Pritchard, 2009). In order to match Western society's standards, women are expected to be thin, lean, and yet curvaceous in all the "right" places (i.e., breasts and buttocks). The ideal for men includes a V-shaped body with large muscular arms, chest, and shoulders with narrow hips and waist (Flynn, Park, Morin, & Stana, 2015).

Recently, Fernandez and Pritchard (2012) noted that the drive for thinness in both college men and women is directly related to awareness and internalization of media models and the tendency to compare their own body image with those media ideals. Cramblitt and Pritchard (2013) reported that the more time men and women spend watching sports-related and other image-focused television programs, the higher their

drive for muscularity becomes. Thus, while one might assume that the female ideal focuses on thinness and the male ideal focuses on muscularity, some research indicates that the ideals are becoming increasingly similar in the sense that for both men and women, the ideals are highly unnatural and physically impossible bodies, based more on mathematical calculations (e.g., waist-hip ratios) than any realistic notion of what a healthy human being looks like (Bonafini & Pozzilli, 2011; Flynn et al., 2015).

Vulnerable Population

Researchers emphasize that adolescents and young adults are most at-risk for developing body image dissatisfaction and disordered eating behaviors (Fernandez & Pritchard, 2012; Sheldon, 2010). In fact, muscle-enhancing behaviors (e.g., use of steroids and other substances such as creatin, amino acids, and growth hormones) are becoming increasingly common among adolescents, triggering concern among pediatricians and other health and mental health care providers. A survey of 2,793 diverse adolescent males and females revealed that pressure toward muscularity has indeed increased in recent decades in this age group, and muscularity is an important component of body satisfaction in both genders (Eisenberg et al., 2012).

Young adulthood is an important phase of the lifespan, and psychological developments that take place during adolescence, such as body dissatisfaction, have been found to affect body image development into adulthood (Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013). The evaluation of one's physical appearance, and the body dissatisfaction issues that often follow, are especially salient during the college years, since this is the time when young adults begin to make crucial decisions about their

health and social lives independent of direct parental supervision (Gillen & Lefkowitz, 2012). Away from their parents' influence, young adults' body images are powerfully shaped by peer pressure, often in negative ways (Sheldon, 2010). Current research suggests that college women frequently compare their shape and weight to their female peers, and these comparisons have been implicated in women's body dissatisfaction and disordered eating patterns (Fitzsimmons-Craft, 2011). Peer influence also appears to impact men's body satisfaction as well as their eating and exercise behaviors (Karazsia & Crowther, 2010; Tylka, 2011).

Actual-Ideal Discrepancy

One approach to explaining body image dissatisfaction is provided by self-discrepancy theory (Higgins, 1987). Although the original theory concentrated on comparisons between three body images (i.e., "actual self," "ideal self," and "ought self"), body image research literature more typically focuses on the discrepancy between the actual and the ideal selves (Vartanian, 2012). Specifically, larger discrepancies between individuals' perceptions of their actual and ideal bodies are associated with greater degrees of body dissatisfaction in both men and women (Frederick et al., 2007; Heron & Smyth, 2013). The actual-ideal body image discrepancy has also been found to be predictive of depressive symptoms in a mixed-gender college sample (Stevens, Lovejoy, & Pittman, 2014) and to mediate the relationship between self-esteem and disordered eating in a sample of college women (Zeigler-Hill & Noser, 2015). Finally, the actual-ideal discrepancy has been found to have a significant positive correlation with

the pursuit of muscularity and a significant negative correlation with self-esteem among adolescent males (Martin & Govender, 2011).

Social comparison theory (Festinger, 1954) offers another perspective on body image dissatisfaction. The theory states that people have an innate tendency to compare themselves to others in order to achieve a better understanding of who they are. This comparison proceeds in either an upward or downward fashion (Collins, 1996; Wills, 1981). Upward social comparisons involve comparing oneself to another individual who is considered to be superior on a dimension of interest. Downward social comparisons involve comparing oneself to a target that is considered to be inferior on that dimension (e.g., physical attractiveness, body shape) (Morse & Gergen, 1970; Wood, Giordano-Beech, Taylor, Michela, & Gaus, 1994). Most body image studies that approach the problem from the perspective of social comparison theory focus on upward social comparisons, for example, by focusing on discrepancies between the actual and ideal self-images, and have noted the negative consequences that often follow (Sohn, 2010).

A meta-analytic review of 156 studies revealed that the tendency to engage in social comparisons was associated with higher levels of body dissatisfaction, an effect that was more pronounced for women than men (Myers & Crowther, 2009). In a similar manner, intensity of exposure to the media's idealized female and male images has been associated with body dissatisfaction, low self-esteem, negative affect (e.g., sadness, anger, envy), and increased motivation to improve their bodies among women (Nabi & Keblusek, 2014; Rollero, 2015; Sohn, 2010) as well as negative self-images, increased body image anxiety, need for self-enhancement, and engagement in body

image behaviors (e.g., dieting, excessive exercise) among men (Barlett, Vowels, & Saucier, 2008; Halliwell, Dittmar, & Orsborn, 2007).

Current Research

What is the Ideal?

Although the body image literature is immense, only 12 studies were published between 2005 and 2015 that explored perceptions of the ideal female and male bodies. These studies are included as part of the main review of literature in Chapter Two. Willinge, Touyz, and Charles (2006) investigated perceptions of body-satisfied and body-dissatisfied men and women and discovered that, regardless of gender, body-dissatisfied participants selected an ideal female size that was significantly thinner than the one selected by the body-satisfied individuals. Another study investigated differences between perceived and real body images in male and female competitive swimmers and found a significant gender difference, with women desiring to have less stout and men more stout bodies (Urdapilleta, Aspavlo, Masse, & Docteur, 2010). A study of college-aged men's and women's preferred ideal male and female bodies found no gender difference either for the ideal female (low body mass index, toned) or ideal male (lean, muscular) bodies. Further, both genders favored ideal physiques that were significantly different in size and shape from their own (Crossley, Cornelissan, & Tovee, 2012). Koscinski (2013) found that young adults, on average, preferred a female silhouette with a BMI of 17.3 (mildly underweight) but most frequently chose a silhouette with BMI of 15 (severely underweight) (World Health Organization [WHO], 2012).

Ideal Female Body

The largest cross-cultural study of the female body ideal is the International Body Project (Swami et al., 2010), which surveyed 4,000 women and 3,000 men in 26 countries. Using figural line drawings to represent the female form, the researchers found little difference between men's and women's choices of the ideal female body among participants from countries that were exposed to Western media, with both genders preferring a thin female ideal (Swami et al., 2010). A qualitative study by Ahern, Bennet, Kelly, and Hetherington (2011) pointed to individual differences among young women despite their agreement that the ideal body was thin. Even though the female participants recognized the difference between "too thin" and "normal weight" bodies, their overall choice of the female ideal was still underweight (Ahern et al., 2011). One study tested the hypothesis that viewing images of healthy weight models would increase the size of female participants' body ideal compared to the ideal selected after viewing very thin models (Owen & Spencer, 2013). The hypothesis was supported: results showed that women's body ideals were significantly larger after viewing healthier weight models than after viewing thin models (Owen & Spencer, 2013). MacNeill and Best (2015) studied body mass index (BMI), ideal female body image, and disordered eating pattern in a sample of female college students. The researchers found that disordered eating was associated with a thinner ideal body size and greater body dissatisfaction. In addition, the female body chosen as ideal most often by participants had a BMI categorized as underweight (MacNeill & Best, 2015).

Ideal Male Body

In a qualitative study, Bottamini and Ste-Marie (2006) found that although men preferred tall, lean, and muscular male bodies as their ideal, most emphasized that hyper-muscularity was not acceptable because it reflected a preoccupation and obsession with one's physical appearance. Frederick et al. (2007) noted that across three cultures (United States, Ukraine, and Ghana), male college students were dissatisfied with their muscularity and body fat, but this dissatisfaction was much more prominent among men in the U. S. men than Ukrainian or Ghanaian men. Another study explored perceptions of ideal male bodies among men who were identified as having high or low muscle dysmorphia symptomology (Danilova, Diekhoff, & Vandehey, 2013). The results revealed that although both groups used the same attribute dimensions (i.e., evaluative, potency, activity, sadness, disgust) in organizing their perceptions of male bodies, and agreed on the ideal male body type, men who endorsed a high number of muscle dysmorphia symptoms had a significantly greater discrepancy between their actual and ideal selves compared to men who presented with fewer symptoms (Danilova, Diekhoff, & Vandehey, 2013). A qualitative study by McNeill and Firman (2014) examined how men from different age groups perceived their physical appearance and the motivation behind changing or maintaining that appearance. The researchers discovered that young men tended to strive for a lean and muscular body, whereas older men tended to focus more on health and lifespan concerns (McNeill & Firman, 2014).

Research Limitations

Eight out of the 12 studies described in the previous section were done in Canada, the United Kingdom, France, Poland, Australia, and New Zealand and used samples that may not be representative of mainstream American culture. Although researchers have noted some cross-cultural similarities in body perception (e.g., Swami et al., 2010), clear cultural differences in body ideals have also been noted by several investigators (e.g., Frederick, Forbes, & Berezovskaya, 2008; Tovee, Furnham, & Swami, 2007). Consequently, cross-cultural generalizations need to be made cautiously.

In addition, sample sizes in the quantitative studies ranged from 10 to 7,514, but were typically quite small, with a median sample size of only 73 participants. Small-*N* studies provide very limited levels of statistical power and offer only limited protection from Type II errors, that is, failures to find sample differences significantly different when those differences do indeed exist in the larger population (Warner, 2008). As a result, reports of "no difference" coming from small-*N* studies (e.g., no difference between men's and women's views of the ideal body) have an elevated likelihood of being the result of Type II error and can make credibility questionable (Urdapilleta et al., 2010; Warner, 2008).

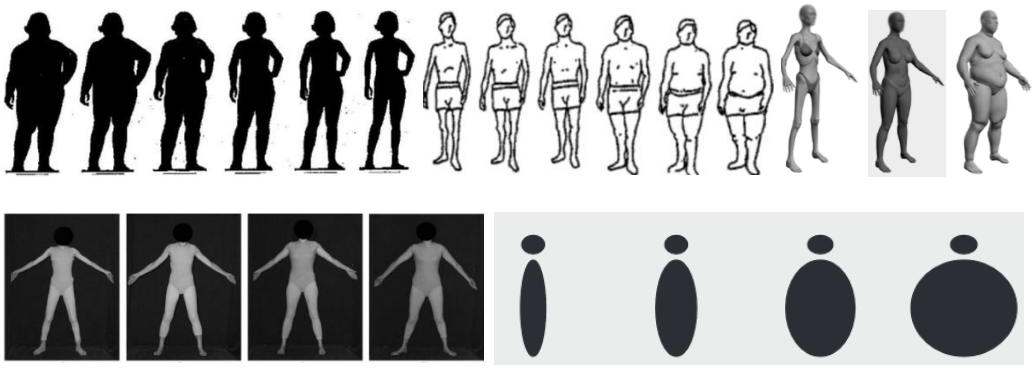


Figure 1. Examples of non-naturalistic body stimuli. Various types of body stimuli have been used in studies of body perception. Top row, from left: body silhouettes (Anderson, Janes, Ziemer, & Phillips, 1997, p. 303), figural outlines (Stunkard, Sorenson, & Schlusinger, 1983, p. 119), computer generated images (Stewart, Allen, Han, & Williamson, 2009, p. 69). Bottom row, left to right: standardized photographs (Swami, Salem, Furnham, & Tovee, 2008, p. 1755), and geometrical shapes (Segura-Garcia, Papaianni, Rizza, Flora, & De Fazio, 2012, p. 221).

The nature of the stimulus materials used in many previous studies of body perception (Figure 1) also raises several concerns, specifically with regards to (a) the artificiality of the stimuli, (b) the limited number of stimuli that subjects have to work with, and (c) the fact that subjects are routinely asked to select a single stimulus that captures *th*e "ideal" body. Studies of body perception have utilized stimuli of several sorts but most are non-naturalistic, including figural outlines (Frederick et al., 2007; Swami et al., 2010), filled-in silhouettes (Anderson et al., 1997), computer-generated images (Crossley et al., 2012; Urdapilleta et al., 2010), and photos of humans taken under standardized conditions (standardized typically for clothing, body posture, and background) (Koscinski, 2013; Swami et al., 2008). Only two body perception studies published during the period 2005-2015 (Danilova, Diekhoff, & Vandehey, 2013; MacNeill & Best, 2015) used naturalistic photographs like the ones proposed for use in the present study.

Non-naturalistic stimuli are useful in some applications. When the focus is on the ideal-actual discrepancy is measured by the number of ordered stimuli between those that are designated as "ideal" and "actual" by the observer, it does not matter too much that the stimuli only faintly resemble the human form and that there are only a dozen or so to choose from. In fact, measures of body dissatisfaction obtained in this manner are strongly correlated to scores on body dissatisfaction inventories (Gardner & Brown, 2010). However, if one's purpose is to study perceptions of the *human body* it is difficult to justify the use of stimuli that only faintly resemble the human figure. Even stimulus collections consisting of photos of actual humans taken under standardized conditions are extremely limited by the fact that both male and female images are often artificially posed and are clothed in a manner that gives few cues as to muscle definition (e.g., Harris, Bradlyn, Coffman, Gunel, & Cottrell, 2008; Swami et al., 2008; Swami et al., 2012). It seems self-evident that if we wish to learn more about how we naturally perceive the human body, we are better off using naturalistic stimuli. As Mook (1983) stated, "If our purpose in conducting an experiment is to predict real-life behavior in the real world, then issues of ecological validity confront us full force" (p. 381). Naturalistic body stimuli not only meet the ecological validity standard but also offer the advantages of abundance, low cost, and are not so overly-processed as to be susceptible to the criticism that they "…maximize researchers' chances of demonstrating a significant effect rather than necessarily to be representative of the real world" (Want, 2014, p. 32).

Subjects in body perception studies are routinely told to pick the *one* stimulus that is "ideal." While this may follow naturally when one is limited to working with a small

array of stimuli, it forces one to conceptualize the ideal body as a single stimulus. This makes no more sense than speaking of *the* ideal personality or *the* ideal melody. All of these ideals are perceptual categories, represented by multiple examples that vary somewhat from one to the next. The evidence indicates that much of perception is a matter of learning the natural and culturally-defined categories of the perceptual world, placing specific stimuli into their best-fitting categories, and responding to all examples of the category in pretty much the same way (Schwartz & Krantz, 2016). Categorical perception is tremendously functional because it eliminates the necessity of having to learn how to deal separately with each and every stimulus we encounter. It follows that any researcher who hopes to investigate body perception must begin by acknowledging that it is a categorical process and its study requires the support of a sufficiently large number of body stimuli to fully cover the spectrum of the human physique.

Computer generated body stimulus materials would seem to offer infinite variety, as subjects in studies using these images have almost complete control to generate their "ideal" and "actual" bodies. The typical paradigm in these studies, however, still focuses on adjusting the image to achieve *the* ideal or *the* best match to the subject's own body. In addition, even researchers who have used computer-generated body images have noted that the software offers only limited control over the images (e.g., Ferrer-Garcia & Gutierrez-Maldonado, 2008; Rowe, McDonald, Mahar, & Raedeke, 2005; Stewart, Allen, Han, & Williamson, 2009). The subtle details—muscle definition, the curvature of a single body part, the sizes of individual muscles—cannot be controlled, especially by untrained research participants.

In sum, methodological problems related to the study of body perception using stimuli that are not actually human bodies include poor validity and ambiguity in the meaning of the actual-ideal differences (Cafri, van den Berg, & Brannick, 2010). Limiting body stimuli to a dozen or fewer ordinally related representations of the human form and requiring participants to select their "ideal" from this collection inadvertently forces one to assume that there is a *single* ideal male or female body for any given study participant. It seems more realistic and fruitful to recognize that each individual's image of the ideal body is a variable perceptual category that is represented by a collection of similar-yet-different exemplars.

Another weakness of previous body perception studies is that most have approached the notion of what constitutes the ideal female or male bodies from a one-sided perspective (i.e., women's perception of female bodies, men's perception of male bodies) or two-sided perspective (i.e., women and men's perception of either female or male bodies). Only one study in the last ten years (Crossley et al., 2012) utilized a fully-crossed factorial design, similar to the one in the current study, where both genders provided data on the ideal male and female bodies. In the Crossley et al. (2012) study, participants, drawn from two universities in Great Britain, manipulated computer-generated images of the human form to capture their ideal male and female bodies. The researchers estimated BMI values and calculated waist-to-hip and waist-to-chest ratios, corresponding to each image, and reported that men and women did not differ significantly in either their choice of the ideal male or ideal female body.

The use of a factorial design is valuable in investigating potential gender differences in male and female ideals because these designs allow the researcher to evaluate both main effects and potential interaction effects, while also offering improved statistical power by reducing unexplained "error" variance in the dependent variables (Diekhoff, 1992). Although Crossley et al. (2012) used a potentially powerful research design, their relatively small sample size (40 male and 40 female participants) failed to take full advantage of this design. The resulting limited statistical power is particularly relevant because the chief findings of the study were that there were no differences between men and women. The absence of statistically significant differences can easily result from Type II error when sample sizes are small and statistical power is low (Warner, 2008). The study was limited as well by the fact that participants were not working with actual human bodies but with computer-generated images that represented the human body. Also, even though participants in the study were able to adjust the images they generated on 94 independent dimensions, the images were immediately recognizable as nonhuman, "virtual," and most notably lacking in any indication of muscle definition. The final limitation of the Crossley et al. (2012) study was the fact that participants were required to generate a *single* ideal image, which precluded the possibility of exploring such issues as the gender differences in the breadth or variability of the ideal male and ideal female perceptual categories.

Purpose and Overview of Method

The current research consisted of two studies, one quantitative, and the second qualitative. The purpose of Study One was to explore men's and women's perceptions of

male and female bodies, focusing on perceptions of the "ideal" body (defined as a perceptual category), but examining the "actual" and "average" body categories as well. Study One was a quantitative study that used archival data collected between March 2011 and March 2015. In a fully-crossed factorial design that is presented in detail in Chapter Three, male and female participants (or observers) sorted decks of male or female photographs into piles based on their similarities. These decks included cards labeled Ideal Female or Ideal Male, Average Female or Average Male, and Myself, and participants sorted these cards along with the actual body photographs. Next, participants engaged in various tasks with the photo piles (i.e., judging their degrees of similarity, rating the photos in each pile along each of several attribute and affective reaction dimensions), completed a survey to answer questions related to these tasks, and provided demographic and personal information about themselves.

The overarching goal of Study One was to answer the *whats* of body perception. What are the fundamental characteristics of body perception? What fundamental dimensions do men and women use to organize their perceptions of the human body? What are the acuity characteristics of human body perception, i.e., how sensitive are observers to subtle differences in physiques? Put another way, how many different types or categories of bodies do men and women tend to see? How broad or variable are these categories? What do the male and female ideals look like? Do men and women agree? Do men agree with each other? Do women agree with each other? Beyond the perception of body types, there is also the matter of participants' affective reactions to those types. What emotional responses are elicited by male and female bodies of one type or another?

Do these reactions differ between men and women? What observer characteristics, beyond their gender, influence body perception?

Although quantitative research can answer these questions, the answers often raise other questions at a deeper level, leaving researchers to ask why they got the quantitative results that they did. Explaining the *whys* was the goal of Study Two. Why do individuals perceive the human body in the ways that they do? Why do men and women differ (or not) in their perceptual and affective responses to body stimuli? What is the reasoning behind men's selection of the ideals? Why do women prefer the ideals that they do? What forces impact men's and women's emotional reactions to the human body? Study Two took a qualitative approach to exploring these questions.

The qualitative Study Two used the "think aloud" method (Ericsson & Simon, 1984, 1993) and open-ended questions to shed light on the cognitive and emotional processes involved in participants' perceptions of male and female bodies, focusing on the ideals, the averages, and bodies that are like themselves. Follow-up questions were also posed in order to explore participants' awareness of the process after the thinking aloud and emotional ratings portions of the interview. Study Two also involved collecting numerical ratings of basic emotional reactions—anger, sadness, surprise, disgust, happiness, and fear—in response to ideal, average, and bodies like one's own. However, the purpose of that quantitative element was not to collect more quantitative data, but rather, to stimulate and open up a qualitative conversation that the researcher hoped would shed light on the affective component of human body perception.

The dissertation research was important for a number of reasons. Images of ideal male and female bodies are ubiquitous in the lives of young people and the influence of these images is concerning. Negative body image, body dissatisfaction, and body-related self-discrepancies are no longer a women's issue alone; across several cultures, men are affected as well (Crossley et al., 2012; Grogan, 2008; MacNeill & Best, 2015, Swami et al., 2010; Taniguichi & Aune, 2013; Vartanian, 2012). One overarching goal of the two studies that composed the dissertation research was to investigate some of the fundamental features of adult men's and women's perceptions of and affective responses to the male and female bodies. A second overarching goal was to explore how those perceptual processes and emotional reactions are shaped by numerous diversity (e.g., age, gender, socioeconomic status), social (e.g., family, peers, media), and cultural (e.g., gender roles, objectification) factors.

The end goal of the research was to provide the clinical community with a greater understanding of the similarities and differences in men's and women's perceptual and emotional responses to widely varying examples of the male and female body. The hope was that findings from this study might further inform therapeutic work with adult individuals who struggle with body image issues and offer insights into processes that, under normal circumstances, are often outside of people's awareness. The insights that resulted from the combination of quantitative and qualitative methods that were used in this study might be helpful to therapists who want to assist their clients in changing maladaptive core beliefs and emotions that are associated with negative perception of their bodies. The findings from the research might also stimulate the design of body

awareness programs or workshops for young adults as a way to prevent more serious body image issues as they enter into their later adulthood. Knowledge gained about body-related self-discrepancies could be particularly important, since the impact of social media, the Internet, and virtual reality on young individuals is becoming a major concern within the field.

Definitions of Terms

Beauty ideals – broadly defined, these ideals refer to representations of culturally prescribed and endorsed images that incorporate various aspects of the human face and body that consequently define the standards for physical attractiveness within a culture (Calogero, Boroughs, & Thompson, 2007).

Body mass index (BMI) – a measure of weight in pounds divided by the square of the height in inches (WHO, 2012).

Body image – a complex and multidimensional psychological experience that includes one's evaluative thoughts, emotions, and behaviors about one's body and those of others that takes place within a reciprocally interactive process between intrapersonal, interpersonal, and sociocultural realms (Crocker et al., 2014).

Body image attitudes – central constructs of one's body image that stem from the interplay of cognitive, emotional, and behavioral processes within a given context (Cash, 2011).

Body dissatisfaction – refers to a combination of "negative thoughts, feelings, and attitudes that give place to the underestimation of one's own body" (Ortega-Roldan, Rodriguez-Ruiz, Diaz-Ferrer, Fernandez-Santaella, & Vila, 2014, p. 470).

Body esteem – an individual's feelings about his or her own body (Sheldon, 2010).

Body shame – an emotional experience of shame that concerns a person's body or physical appearance (Martz, Curtin, & Bazzini, 2012).

Body surveillance – a person's tendency to self-monitor his or her body appearance (Martz et al., 2012).

Culture – the belief and value systems that impact norms, customs, practices, social institutions, and organizations within a given context (American Psychological Association [APA], 2002).

Drive for muscularity – the extent to which an individual have internalized the muscular ideal as his or her ideal body shape (McCreary, 2011).

Drive for thinness – the extent to which a person has internalized the thin ideal as his or her ideal body shape (McCreary, 2011).

Downward comparison – a cognitive process that takes place when individuals compare their physical body appearances to those whom they perceive to be "worse" in such appearances in order to preserve their sense of esteem regarding their own bodies (Wills, 1981, p. 245).

Femininity – the gender role associated with women and which stereotypically contains traits and behaviors related to emotional expressiveness, passivity, vulnerability, and fragility (Murnen & Don, 2012).

Gender-role socialization – an internalization of values and standards for one's gender, including expectations about physical appearance and behavior that reflects prescribed notions about physical attractiveness (Cash, 2011; Leaper & Friedman, 2007).

Internalization [of beauty ideals] – "the extent to which individuals endorse societal standards of beauty and attractiveness as their own personal standards," which are then reflected in an increased preoccupation with physical appearance as well as the objectifying observer's perspective on their own bodies (Ahern et al., 2011; Dakanalis et al., 2015, p. 82; Frederickson, Roberts, Noll, Quinn, & Twenge,1998).

Masculinity – the gender role associated with men, which stereotypically encompasses traits and behaviors associated with assertiveness, power, control, and strength (Murnen & Don, 2012).

Muscle dysmorphia – refers to preoccupation, mostly observed in men, with the notion that one's body is not sufficiently lean or muscular enough despite the evidence to the contrary (Grieve, 2007).

Obligatory exercising – a subjective need to engage in repetitive exercise accompanied by negative affect when these exercise sessions are missed (Chalk, Miller, Roach, & Schultheis, 2013).

Self-discrepancy theory – a theory that states that emotional discomfort begins to develop when people's perceptions of "actual" selves do not match with their perceptions of "ought" or "ideal" selves (Higgins, 1987, p. 320).

Self-schema theory – a model which states that cognitive generalizations about the self derived from past experiences, guide individuals' processing of self-related information, which is usually contained in social experiences (Markus, 1977).

Self-esteem – "the extent to which an individual likes oneself" (Zeigler-Hill & Noser, 2015, p. 109).

Self-objectification – refers to "an observer's perspective" on his or her own body that is often manifested as persistent body monitoring, or body surveillance (Parent & Moradi, 2010, p. 246).

Social comparison theory – a theory that suggests that people have an innate tendency to compare themselves to others to order to evaluate their own physical appearances (Festinger, 1954).

Sociocultural pressures – direct and indirect messages that encompass attitudes, values, and/or behaviors that influence an individual to conform to group norms (Ricciardelli & Williams, 2012).

Sociocultural theory – a theory that emphasized that societal values have a significant impact on individuals' attitudes and behaviors (Rodgers, 2012).

Upward comparison [of appearance]– a cognitive process that occurs when individuals compare their body appearances to others who they perceive to be "better" in such appearances, often resulting in a lower sense of esteem regarding their own bodies (Collins, 1996, p. 52).

Waist-to-hip ratio – calculated as the circumference of the waist divided by the circumference of the hips (Scott, Bentley, Tovee, Ahamed, & Magid, 2007).

Western culture – in a broad sense refers to economically stable cultures that value individualism, independence, competition, rational thinking, and economic displays of power and privilege (Katz, 1985).

CHAPTER II

REVIEW OF THE LITERATURE

The following literature review covers three major areas related to the perception of human bodies: body image, beauty ideals, and body dissatisfaction. The body image component discusses what body image is, how culture and gender role socialization impact men's and women's body image attitudes, followed by the impact of objectification and its negative consequences, including body shame, body image dissatisfaction, and body monitoring in both genders. The beauty ideals section takes a closer look at the history of the ideal male and female bodies and their numerous transformations over the centuries, concluding with a discussion of current views of what is ideal. This overview is followed by a discussion of how body ideals create self-discrepancies (i.e., differences between actual and ideal bodies) in men and women, leading to increased body dissatisfaction in both genders across Western and non-Western cultures. The body dissatisfaction component discusses what body dissatisfaction is and how it varies as a function of age. Next, the impact of three sociocultural factors (parents, peers, and media) are presented and the process of social comparisons will be outlined, followed by a discussion of how body talk and body emotions impact physique dissatisfaction among both genders. The chapter concludes with the rationale and purpose for the investigation and the research questions that were answered.

Body Image

Body image, a notion pioneered by Paul Schilder in the 1930s, refers to a complex, multidimensional experience that includes evaluative thoughts, emotions, attitudes, and behaviors (Crocker et al., 2014; Schilder, 1935; Yu, 2014). Body image contains both positive and negative components, and how people perceive, feel, and act toward their bodies is a function of the configuration of the elements that form their body image and the interplay that takes place between these parts. For example, if someone sees his or her body in a positive light (e.g., "I think my body is attractive."), the emotional reaction that most likely follows will be positive as well (e.g., "I feel happy about my body.") Both thoughts and emotions influence behavior, and a self-affirming body image will most likely lead to behaviors that contribute to one's physical well-being (e.g., seeking balanced nutrition and physical activity). Sociocultural forces are also important in understand body image. Social and interpersonal environments shape an individual's body image by providing models of the "ideal" body and setting specific standards by which to evaluate one's own body and those of others. Thus, body image represents a reciprocally interactive process involving personal experiences and behaviors, environment, social groups, and cultural factors that converge to shape individuals' perceptions, feelings, and thoughts as they relate to their body and those of others (Smith-Jackson, Reel, & Thackerey, 2011).

The development of a negative or positive body image is influenced by both historical and proximal events. Historical experiences are defined as past events that affect the way a person thinks and feels about the human form and include the context of

cultural norms, standards, values, and beliefs within which we perceive our bodies and those of others (Smith-Jackson et al., 2011). Proximal events are usually more immediate experiences related to body perception that include observing our own bodies or those of others, modeling, and imitating other individuals, often parents, siblings, and peers (Smith-Jackson et al., 2011). Family members often communicate cultural norms about what it means to be feminine or masculine, engage in body monitoring, and even cast judgment, at times intentionally and other times not. Parents certainly influence how young women and men think about their appearance (Leavy, Gnong, & Sardi Ross, 2009). The comments of both mothers and fathers about their daughters' overall appearance tend to emphasize the value of "looking good" (McCabe, Ricciardelli, & Ridge, 2006, p. 413). Siblings and friends of young women frequently communicate about physical appearance, attractiveness, body size, body parts, weight, and clothing. The opposite seems to be true when it comes to young men. Parents are less likely to focus on their sons' appearance and more on physical functionality such evidence of fitness, physical prowess, and success in sports. Compared to young women, the focus for men is shifted to physical strength, height, body build, and muscularity (Danilova, Diekhoff, & Vandehey, 2013; McCabe et al., 2006).

Cultural Obsession with Weight

Culture comprises overarching value systems that influence communication styles, norms, customs, traditions, social institutions, and organizations such as media and educational systems (APA, 2002). Western culture largely refers to economically stable cultures that value individualism, independence, competition, rational thinking, and

economic displays of power and privilege (Katz, 1985). Such cultures value physical appearance as central to a person's social standing, success, and sense of worth (Katz, 1985; Striegel-Moore, Silberstein, & Rodin, 1986). Affluent Western societies, such as the U. S., present outward appearance as a symbol of personal order or disorder. A firm and toned physique represents success and anything that falls short of that represents failure. Although most individuals do not naturally have perfectly slim and toned bodies, these ideals are still highly valued by many young men and women (Crossley et al., 2012; Grogan, 2008; MacNeill & Best, 2015). As a result, both genders must constantly be vigilant and proactive in order to conform to ever-changing body ideals. Those who will not or cannot conform to the ideal often face prejudice throughout their life span (Grogan, 2008). The tendency to link physical attractiveness with positive personal characteristics has been documented since the 1970s, when Dion, Berscheid, and Walster (1972) first coined the phrase, "What is beautiful is good" (p. 285). The results of this classic study suggested that people in general tend to assign more favorable personality traits and ascribe more positive life outcomes to those individuals whom they perceive as attractive (Dion et al., 1972). Thus, individuals with slim bodies tend to be judged as active, intelligent, hardworking, successful, and popular. In contrast, individuals with larger bodies are often labeled as slow, less intelligent, lazy, failures, and unpopular (Grogan, 2008).

Western ideology exudes the dichotomous view that fat is bad and thin is good. This belief is evident in the fact that any excess of weight is taken as a violation of the cultural ideal of self-denial and self-control. Individuals who do not fit the slender

stereotype are stigmatized and blamed for their "weakness of will" due to their inability to control their own fate (Grogan, 2008, p. 11). At the same time, slenderness has not always been associated with health, even though medical research indicates that the current body ideal that emphasizes slenderness is *healthier* than curviness. For example, at the beginning of the 20th century, thinness was associated with illness in the U. S. and Britain due to its link to tuberculosis. Extreme slimness and a lower body mass index (BMI) may be perceived as signals of other infectious diseases (e.g., meningitis, septicaemia) especially in areas where these illnesses have a long-standing history (Grogan, 2008). Recent research has also pointed out that the desire for thinness tends to be associated with high socio-economic-status (SES) countries, and that curvier rather than slimmer bodies are preferred in low-SES societies (Swami et al., 2010; Swami & Furnham, 2007).

The debate surrounding weight and health is ongoing. On the one hand, the U. S. is in the midst of an obesity epidemic with two-thirds of adults and one-third of children struggling with excess weight. However, even though the percentage of American adults considered to be obese rose from 15% to 34.9% from 1970-2012, and the percentage of obesity in children rose from 5% to 16.9% in the same period, some things do not add up (Greenhalgh, 2015; Grogan, 2008). For one, labels such as "overweight," "obese," "within normal range" are misleading and create a false dichotomy between what is normal and what is not. The most common objective measure of body types is BMI. However, BMI does not take into account body composition as a whole (e.g., heavily muscled and obese individuals can display very similar BMIs) and assumes no change in

weight after age 25 (Grogan, 2008). In addition, obesity has been regarded as a medical condition only in recent decades, when evidence-based medicine took the lead, and scientists discovered that saturated and trans-saturated fats were linked to metabolic and cardiovascular illnesses (Bonafini & Pozzilli, 2011). In her book, *Fat-Talk Nation: The Human Costs of America's War on Fat* (2015), Susan Greenhalgh flawlessly summarizes this Western belief system:

> American antipathy toward fatness is nothing new. For roughly the last 150 years, being fat has been seen as a cultural, moral, and aesthetic transgression that marked one as irresponsible, immoral, and ugly—"grotesque" in the delicate language of former Surgeon General C. Everett Koop. In the last few decades, however, there has been a critical shift in our concern about fatness, from "self-control" (or virtue) to "health." The now routine definition of excess weight as a disease…has become so naturalized that people do not even realize it is a conceptual frame, one among many possible frames (p. 5).

Gender-Role Socialization

Gender-role socialization refers to the process of internalizing the cultural standards, values, and/or expectations about one's masculinity or femininity, including physical appearance and/or behaviors that reflect normative ideals of attractiveness and the roles that men and women are encouraged to adopt in order to gain societal approval (Cash, 2011; Leaper & Friedman, 2007). Both girls and boys are exposed to unrealistic body ideals that impact their self-concept and body image early on. These gender role norms are apparent in the unattainable images of the female and male bodies of dolls

marketed for girls and action figures designed for boys (Murnen, 2011). Dolls like Barbie and action heroes like Batman often serve as role models and thus, as socializing agents. Through play and fantasy, both important mechanisms of children's cognitive and emotional development, children work with these images in ways that further internalize them as ideal (Dittmar, 2012).

Barbie was first launched in 1959 by the Mattel Company and has since been an important toy fashion doll for more than 50 years. The decreasing size of the doll and her unrealistic body shape have been criticized for years. The main criticism stems from Barbie's proportions. If Barbie were a living being, she would have a 36-inch chest, 18-inch waist, and 33-inch hips, while maintaining her weight at 110 pounds, a body ideal that is attainable by fewer than 1 in 100,000 women (Dittmar, 2012; Rossner, 2014). In 2013, *Time* magazine presented a new Barbie created by Nickolay Lamm, a doll that was based on the body measurements of an average 19-year-old American woman. The differences between Mattel's Barbie and Lamm's Barbie are striking (Figure 2) (Groden, 2013). However, being thin and curvy (an oxymoron) is not enough. Although, like Barbie, the Bratz doll is very slim, she is much more sexualized in terms of her revealing clothing, exaggerated makeup, long eyelashes, and pouting lips, features that reflect the increased sexualization of girls and women in Western culture (Murnen, 2011). Recently, Sonia Singh, a Tasmanian artist, decided to give Bratz dolls a makeover in order to present them in a manner that is more representative of the average young women. She bought several dolls that she found at local thrift shops, repainted their faces, re-conditioned their hair, and dressed them in hand sewn or knitted clothing (Figure 2)

(Stampler, 2015b). The significance of these exaggerated gender-stereotyped body image ideals is that they support and promote equally exaggerated gender role norms. For girls and women, the message is relentless: a woman's self-worth is contingent upon her appearance rather than the content of her character (Murnen & Don, 2012).

Figure 2. Classic Barbie and average Barbie on the left. The Bratz doll before the makeover in the middle and after on the right. Images adapted from: "Barbie, Meet 'Average Barbie,'" C. Groden, 2013, *Time.* Retrieved from http://time.com. "See How One Artist Dramatically changes Bratz Dolls to Look Like Real Girls," L. Stampler, 2015b, *Time.* Retrieved from http://time.com. Copyright 2015 by Time Inc.

G. I. Joe was first manufactured in 1964, five years after Barbie. Just as Barbie has become thinner over the years, G. I. Joe has grown more muscular. If G. I. Joe were a real person, by 1999, his waist measurement would have grown from 32 to 36½ inches, a 15% increase. His chest circumference also grew from 44½ to 55¾ inches and his biceps doubled in size, altogether representing a 51% larger chest and 123% greater muscle mass than the current average body size of soccer players. Once again, the comparison is striking (Figure 3) (Dittmar, 2012). G. I. Joe is not the only male action figure that has received a makeover in the past 30 years. In their pioneering book, *The Adonis Complex: The Secret Crisis of Male Body Obsession*, Pope, Phillips, and Olivardia (2000) noted

that other top-selling figures from *Star Wars* and *Star Trek* as well as action toys such as Superman and Batman (Figure 3) have all gotten significantly larger and more muscular, in some cases exceeding the outer limits of human male proportions that are possible even with the use of steroids (Pope et al., 2000). Boys and men are not immune to these body ideals, and while the feminine ideal is thin and sexualized, the hypermasculine ideal projects dominance, aggression, power, and control (Murnen & Don, 2012). The message to boys and men is clear: masculinity equals strength, power, and success. Anything else is associated with weakness, impotence, and failure (Grogan, 2008; Murnen & Don, 2012; O'Neil, 2008).

Figure 3. Classic 1964 G. I. Joe on the left, and G. I. Joe's transition from 1980s through late 1990s on the right. Images adapted from: "Drugs, Sports, Body Image and G. I. Joe," N. Angier, 1998, *New York Times*, F1. Copyright 2015 by The New York Times Company. "Evolving Ideals of Male Body Image as Seen Through Action Toys," by H. G. Pope, R. Olivardia, A. Gruber, and J. Borowiecki, 1999, *International Journal of Eating Disorders, 26*, p. 69. Copyright 1999 by John Wiley & Sons, Inc.

American society and its social construction of gender influences body image. The mind-body dichotomy places men and women, masculinity and femininity, as opposing forces. Masculinity is associated with the mind, and femininity with the body. As a result, women are in a continuous process of "bodywork," which leads to

appearance-driven attitudes, modification of food intake, and exercise rituals (Leavy et al., 2009, p. 264). The mainstream culture further perpetuates the image of the slender body as the ideal of femininity. The thin ideal is associated with determination, achievement, social status, and social acceptance (Ahern et al., 2011; Cheney, 2011). In attempting, often unsuccessfully, to meet these culturally dictated standards of femininity and thinness, women tend to experience anxiety or guilt around eating, restrict their food intake, weigh themselves ritualistically, and exercise obsessively and excessively (Leavy et al., 2009).

On the other hand, the muscular ideal is associated with the functionality of men's bodies and their capabilities. The muscular physique with "six-pack abs, defined arms, and a large, V-shaped upper body" (Petrie & Greenleaf, 2011, p. 207) communicates strength, competence, confidence, power, and independence—attributes that are commonly taken as defining features of masculinity (McCreary, 2007). This false image places men, especially those with a high drive for muscularity, at a greater risk for abuse of anabolic-androgenic steroids and other supplements (e.g., androstenedione, protein powder), poor self-esteem, low levels of life satisfaction, and disordered eating behaviors (e.g., consuming large amounts of food to gain weight and/or using laxatives to lose unwanted pounds) (Danilova et al., 2013a; McCreary, 2007, 2011).

Body Image Attitudes

Attitudes are central, organizing constructs that influence cognitions, emotions, and behaviors that take place within particular contexts. Two basic elements of body image attitudes are body image investment and body image evaluation. Body image

investment refers to the cognitive and behavioral importance individuals place in their appearance (Cash, 2011). Body image evaluation refers to people's positive or negative beliefs about their physical appearance as well as their evaluative appraisal of their appearance. In most cases, a person's investment in their appearance depends upon how they perceive and consequently appraise their physique. The more negative the appraisal, the more investment would be expected in order to correct the perceived body flaws. Although, some individuals may give up altogether attempting to correct their flaws if they perceive the gap between what is achievable and what is not as too great. In turn, the more positive the evaluation, the less likely the individual will invest time and money in changing that appearance. However, for some individuals the same positive evaluation may serve as a motivating factor and counteractively propel more investment in changing the physical appearance (Cash, 2011).

Body image attitudes are influenced by self-schemas, or "cognitive generalizations about the self, derived from past experience that organize and guide the processing of self-related information contained in an individual's social experience" (Markus, 1977, p. 64). According to the self-schema theory, people develop their sense of self through three distinct processes: (a) observation of the reactions of others to one's self, (b) processing of social information about which aspects of the self are most valued, and (c) reflection on one's own behaviors. Thus, self-schemas derive from one's history of personal and social experiences and pertain to various facets of the individual, one of which is physical appearance (Markus, 1977; Markus, Crane, Berstein, & Siladi, 1982; Stein, 1996). From this perspective, individuals for whom appearance is a salient facet of

self are purported to develop complex and interconnected networks of knowledge and affect regarding physical appearance (i.e., body image schemas).When triggered by contextual events, these body image schemas impact the content of one's thoughts, emotions, and behaviors (Cash, 2011; van den Berg & Thompson, 2007). As a result, maladaptive or negative schemas contribute to biased information processing about one's body, resulting in disturbances in more accurate body image perception (Chen, Feng, & Huang, 2008).

One of the key aspects of self-schema theory is that body image can become a central and defining feature of self-concept for some individuals who, in turn, will be more likely to internalize the slender and/or muscular ideals than do individuals for whom physical appearance is not as salient (Markus, Hamill, & Sentis, 1987). Two important notions that comprise appearance schemas, and subsequently body image investment, are motivational salience and self-evaluative salience (Cash, Melnyk, & Hrabosky, 2004). Motivational salience refers to the extent to which men and women attend to and place value on appearance in order to enhance attractiveness and to "to look their best" (Cash, 2005, p. 440). This type of appearance investment is adaptive and reflects taking pride in and care of one's appearance. Self-evaluative salience is the extent to which individuals deem their physical appearance to be an internally-defining aspect of their self-worth. This form of appearance investment is typically perceived as maladaptive and has been found to be related to greater internalization of societal body ideals (Cash, 2005; Ip & Jarry, 2008).

Specific situational cues or contextual events (internal or external) can activate schema-driven processing of information about one's physical appearance. As a result, men and women who place more importance on outward physique are likely to pay more attention to (or filter) information that is relevant to their appearance. Triggering proximal events may include body or mirror exposure, social scrutiny or feedback, wearing certain clothing, weighing, exercising, mood states, or changes in appearance (Cash, 2011). These cues in the environment may in turn elicit internal dialogues composed of emotion-laden thoughts, inferences, interpretations, and conclusions about one's physique. In order to cope with distressing body image thoughts and emotions, individuals who have maladaptive body image attitudes and self-schemas will be likely to respond with accommodating, or adjustive, reactions such as avoidant or body-concealment behaviors, appearance-checking or appearance-correcting rituals, social reassurance seeking, or other compensatory strategies (e.g., use of cosmetics or clothing to conceal body, social withdrawal, emotional eating) (Bottamini & Ste-Marie, 2006; Cash, 2005, 2011).

Objectification

Sexualized messages are infused throughout American culture, and sexual objectification is commonplace. According to Bartsky (1990), sexual objectification is the separation of one's body, body parts, or sexual functions from one's identity, which consequently reduces the person to the status of an object. Building on Bartsky's work, Frederickson and Roberts (1997) developed objectification theory, asserting that Western culture socializes girls and women to view themselves as objects to be evaluated

specifically on the basis of their physical appearance rather than their personality attributes or accomplishments. According to the theory, constantly subjecting female bodies to visual inspection and sexualized gazing by others (predominantly men) plays out in three ways: (a) in actual interpersonal and social encounters, (b) in media that depict interpersonal and social encounters, and (c) in media that spotlight bodies and body parts with an implicit sexualizing point of view (Frederickson & Roberts, 1997; Frederickson et al., 1998). Girls and women internalize such gazes and evaluations, resulting in self-objectification, an increased preoccupation with their own physical appearance, and the internalization of the objectifying observer's perspective on their own bodies (Ahern et al., 2011; Frederickson et al., 1998). Body surveillance and body shame comprise another two building blocks of the objectification process. Body surveillance refers to the experience of viewing one's body from an outsider's perspective. Body shame occurs when a person evaluates his or her physical appearance against some internalized or cultural ideal and concludes that they do not measure up to that standard, resulting in feeling shame not only about one's body but also about oneself as a whole (Frederickson et al., 1998; McKinley & Hyde, 1996).

Exposure to sexually objectifying media content has been linked to internalization of beauty ideals, self-objectification, and body surveillance, especially among young girls (American Psychological Association [APA], 2007; Vandenbosch & Eggermont, 2012). Advertisers have been scrutinized for decades for portraying women as sexual and/or decorative objects. The concern is that this culture of sexualization appears to trickle down to girls and their perceptions of what it means to be capable, competent, and

desirable (Graff, Murnen, & Smolak, 2012). Jean Kilbourne, whose groundbreaking work on advertising's impact on women's body image began over 40 years ago, argued that advertisement purposefully portrays women in poses of submission and subjugation, making them little more than products designed for male consumption (Knight, 2012). Even though Kilbourne's fourth installment of *Killing Us Softly* continues to make waves on college campuses by increasing awareness of the sexual objectification of girls and women in the media, the fact is that the sexualizing of girls continues, not only in the U.S. but also in Australia and Great Britain (Graff et al., 2012; Knight, 2012).

Research shows that women who deviate from the thin ideal are objectified to the same extent as women who represent that ideal (Gervais, Vescio, & Allen, 2012). The pressure to look good, especially sexual, is so inescapable that many women accept these sociocultural attitudes as the norm (Strelan & Hargreaves, 2005b). Self-objectification has been linked to increased body shame, appearance anxiety, self-consciousness, body monitoring, low self-esteem, and greater dissatisfaction with one's physique (Arroyo & Harwood, 2012; Gapinski, Brownell, & LaFrance, 2003; Holland & Haslam, 2013). Women who objectify themselves are particularly conscious of not only their appearance but also the appearance of others (Strelan & Hargreaves, 2005b). Research on other-objectification shows that women who tend to evaluate other women's bodies see the other person as less moral, intelligent, competent, and even less human (Holland & Haslam, 2013). Thus, bodily hyperawareness creates a vicious cycle of critical attention to one's own weight and shape as well as that of others, resulting in a synergistic cycle of body comparisons that further heightens the salience of physique.

Although objectification theory was originally developed to explain female body image concerns, other researchers have emphasized its applicability to male body image issues as well (Martins, Tiggemann, & Kirkbride, 2007; Strelan & Hargreaves, 2005a; Schwartz, Grammas, Sutherland, Siffert, & Bush-King, 2010). Research suggests that self-objectification in males is associated with decreased self-esteem and psychological well-being, body image dissatisfaction, increased body surveillance, body shame, and dietary restrictions (Martins et al., 2007; Strelan & Hargreaves, 2005a). This increase in male body objectification can be understood through the lens of gender role conflict, a psychological state that reflects cognitive, emotional, behavioral, and unconscious struggles that men encounter when conforming to society's expectations of male gender roles (O'Neil, Helms, Gable, David, & Wrightsman, 1986; Martins et al., 2007).

The cognitive domain encompasses the process of how men think about gender roles. The affective realm includes their feelings about gender roles, and the behavioral domain how they act, respond, and interact with others as a result of internalized gender roles. Finally, the unconscious layer refers to how gender role dynamics impact behavior and produce conflicts outside of men's awareness (O'Neil et al., 1986; O'Neil, 2008). The conflict can take place within or between any of the following dimensions: (a) success, power, and competition, (b) restrictive emotionality, (c) restrictive affectionate behaviors between men, and (d) work and family relationships (O'Neil et al., 1986; O'Neil, 2008). Gender role conflict is a significant predictor of perceived pressure to have lower body fat among men in at least three ways: (a) The inability to express or understand emotions has been found to be directly related to dissatisfaction with levels of

body fat, (b) discomfort with the expression of affection toward other men is predictive of self-objectification, and (c) overemphasis on achievement, competition, power, and control over others appear to negatively predict self-objectification within the male population (Schwartz et al., 2010).

In addition, research literature suggests that ads featuring men have become more idealized and sexualized than ever before (Knight, 2012). As men's bodies become increasingly objectified, men experience more pressure to achieve the unrealistic male ideal physique that is depicted in the media. Gay men appear to be at more at risk for experiencing body dissatisfaction and sexual objectification than do straight men (Kozak, Frankenhauser, & Roberts, 2009; Lanzieri & Hildebrandt, 2015; Morgan & Arcelus, 2008). Researcher suggest that members of the gay male community tend to experience greater emphasis on physical attractiveness than do heterosexual men, and Schwartz and Andsager (2011) have concluded that many gay men live in cultural environments in which sexual objectification is commonplace. Consequently, these men are at increased risk for developing a self-objectifying perspective on their own bodies, which has been linked with greater body shame, drive for thinness, and restrained eating among gay men (Martins et al., 2007).

Beauty Ideals

Beauty ideals are culturally prescribed and endorsed "looks" that encompass features of the human face and body and define the standards for physical attractiveness within a given culture (Calegoro et al., 2007). Some theorists suggest that body shape preferences have evolutionary roots and argue that current Western ideals of slenderness

and fitness are based on the fact that these physical features reflect today's health-oriented attitudes within that culture. In other words, individuals have an innate tendency to gravitate toward these ideals because they are indicative of good health. The social meaning of slimness (and attractiveness) has indeed changed over the centuries (Grogan, 2008). Today, slenderness is a symbol of status, happiness, success, youthfulness, social acceptability, will power, energy, control, and attractiveness while robustness is associated with laziness, lack of will power, low morality, personal inadequacy, social disregard, and unattractiveness (Grogan, 2008; Swami & Furnham, 2007). Historically, however, a more robust form was indicative of wealth, privilege, and access to plenty. The social interpretation of the corpulent and slender forms has gone through an extensive metamorphosis over time. This view has shifted from mathematico-aesthetical explanations of beauty in Ancient Greece, to consumerized representations of the ideal body as a commodity in the 20thcentury, to today's return to an obsession with mathematical waist-to-hip ratios and BMIs as representations of "healthy," "good," and "beautiful" (Ricciardelli & Williams, 2012; Swami & Furnham, 2007).

Ideal Female Body

Women have been encouraged for centuries to change their shape and weight in order to conform to the ideal of their time, and there is a general consensus among researchers that social pressure to conform has been greater on women than on men (Grogan, 2008). The ancient Greeks viewed beauty as a matter of having the "right" proportions," or "golden ratios" (Ricciardelli & Williams, 2012, p. 50). The height of the body was approximately seven and one-half head lengths, and the fullest part of the

hipline (at the wrists) would divide the total length of the body in half. The fullest part of the bust was located two head lengths from the crown, and the waistline (at the bend of the elbow) was two and two-thirds head lengths from the crown. The knees and ankles were five and one-half and seven head lengths from the crown respectively (Fan, 2007). These Pythagorean notions of mathematical precision were reflected in such classical works as *Aphrodite of Cnidus*, one of the first entirely nude female sculptures, by Praxiteles and later Da Vinci's *Mona Lisa*, whose facial proportions were considered to be ideal at that time (Figure 4) (Bonafini & Pozzilli, 2011; Furnham & Swami, 2007).

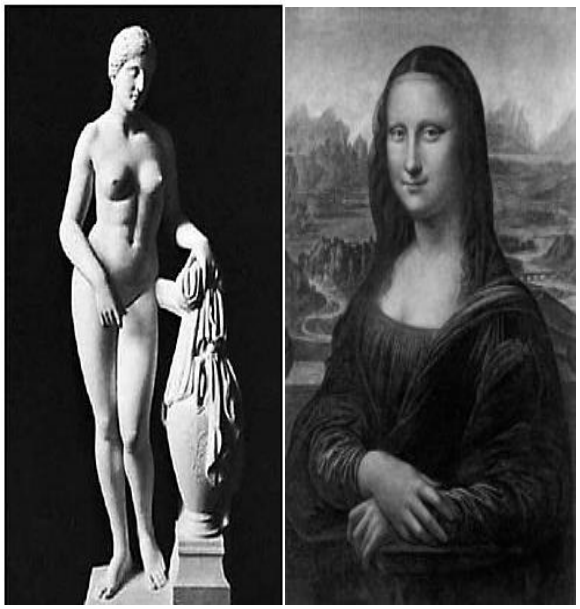


Figure 4. Aphrodite of Cnidus (Praxiteles, 350 BC) on the left. Mona Lisa (Da Vinci, early 1500s) on the right. Images adapted from: Praxiteles. (Sculptor). (350 BC). *Aphrodite of Cnidus.* [Sculpture]. Retrieved from http://www.britannica.com. Da Vinci, L. (Painter). (n.d.). *Mona Lisa.* [Painting]. Retrieved from http://www.britannica.com. Copyright 2015 Encyclopedia Britannica, Inc.

Figure 5. Danae (Tiziano, 1544-46) on the left. Olympia (Manet, 1863) on the right. Images adapted from: "Body Weight and Beauty: The Changing Face of the Ideal Female Body Weight," by B. A. Bonafini and P. Pozzilli, 2011, *Obesity Reviews: An Official Journal of the International Association for the Study of Obesity, 12*, p. 63. Copyright 2010 by the International Association for the Study of Obesity. *History of Beauty*, by U. Eco, 2010, New York, NY: Rizzoli, p. 339. Copyright 2004 by Alastair McEwen.

Although Pythagorean expressions of beauty remained virtually unchallenged until the late 18th century, the Middle Ages presented stoutness as a symbol of reproduction and maternity. Fleshiness, full and rounded stomach, hips, and breasts represented fertility. Plumpness was considered fashionable and erotic (Furnham & Swami, 2007; Grogan, 2008). The Renaissance and Baroque periods continued this tradition and added another component—sensuality (Bonafini & Pozzilli, 2011; Furnham & Swami, 2007). The female figure became associated with love and eroticism. In his classic work *Danae*, Tiziano paints Danae, the princess of Argos, in a sexualized position where the opening of her legs represents her acceptance of being fertilized by Zeus, who finds his way into the tower where she is residing by transforming himself into a shower

of gold (Figure 5) (Bonafini & Pozzilli, 2011). During this time period, slim female bodies were considered neither attractive nor aesthetically pleasing. In fact, Manet's *Olympia* (Figure 5) was highly criticized due to his representation of the female body's as too lean and insufficiently plump, a feature that was considered visually unappealing (Grogan, 2008).

In the late 18th century thinking about female beauty and the female ideal took another directional shift as philosophers Hume and Burke addressed the subjectivity of beauty. The focus, for a moment, shifted from a woman's outer, physical attributes to the notion that beauty is in the eye of the beholder (Furnham & Swami, 2007). Hume (1970) captured this view in the following excerpt:

> Beauty is no quality in things themselves; it exists merely in the mind which contemplates them; and each mind perceives a different beauty. One person may even perceive deformity, where another is sensible to beauty…To seek in the real beauty, or deformity, is as fruitless an enquiry, as to pretend to ascertain the real sweet or real bitter. According to the dispositions of the organs, the same object may be both sweet and bitter; and the proverb has justly determined it to be fruitless to dispute concerning tastes (p. 208-209).

However, the idea that beauty is a purely subjective phenomenon was fleeting and was seen to only a limited extent in the late 19th and 20th centuries. Even though the 19th century defined the ideal as a "voluptuous" and "corseted figure" (Fan, 2007, p. 30), the 20th century took a revolutionary view of the ideal female body as thin, linear, and masculine (Bonafini & Pozzilli, 2011; Grogan, 2008). In the 1920s, flapper fashion

demanded a figure that was thin and shapeless, consequently leading to binding of breasts, dieting, and vigorous exercise among middle- and upper-class women. In the 1930s and throughout the 1950s, the ideal returned again to a more shapely form, and breasts were back in fashion, along with clothes that emphasized the hourglass figure. In the 1950s, a split image of the ideal emerged. On the one hand, Marilyn Monroe personified sensuality and the curvaceous ideal. On the other hand, Grace Kelly and Audrey Hepburn became symbols of sophistication and the trend toward slimness associated with the upper class (Grogan, 2008; Mazur, 1986).

In the 1960s, Twiggy, the British model with "flat-chested" and "boyish figure" became an overnight phenomenon (Grogan, 2008, p. 19). Her waif-like figure came to exemplify unconventionality, youthfulness, and freedom. This decade was also a turning point for Miss America winners who were significantly taller and slimmer than contestants in the previous decades (Bonafini & Pozzilli, 2011; Grogan, 2008). In fact, the trend toward thinness during the 1960s through 1980s was noted across Europe and the U. S., with models becoming visibly thinner and thinner, but with relatively large breasts. The 1990s experienced another dichotomy in the female ideal. On the one hand, the three most highly paid supermodels (Cindy Crawford, Claudia Schiffer, Christy Turlington) were, by far, not "waifs," and yet, this was also the decade of the "heroin chic" look and Kate Moss who epitomized the look of frailty, black eye make-up, and matted hair (Grogan, 2008, p. 23).

In 2000, the Women's Unite of the British Labour government became so concerned about the potential effects of media images and magazines' representations of

extremely thin models that they arranged a Body Summit meeting in order to discuss the potential links between disordered eating behaviors and these images (Grogan, 2008). In 2006, Italian designers became the first in the world to ban models who were either too thin (BMI below 18.5) and/or too young (under the age of 16) from their fashion shows ("Italy Joins," 2006). In the following years, a flood of news articles (e.g., Bowers, 2008; Nussbaum, 2007) challenged the extremely thin Western ideal, and although recently France, Israel, Spain, and Australia have joined the movement set by Italy, this has not been the case in the United States (Minsberg, 2012; Stampler, 2015a; Wright, 2015).

Ideal Male Body

The golden ratios of the ancient Greeks did not bypass the muscular ideal male body. Men with well-defined muscles, low body fat, and proportionate body parts were idealized, and the legendary heroes of that time (e.g., Achilles, Odysseus, Alexander the Great) were defined as powerful, strong, and courageous. Ancient Greeks also believed that the pursuit of knowledge and maintenance of one's well-being were not possible without a healthy and physically active body. Consequently, significant importance was placed on physical endurance and training in order to promote the highly-proportioned and physical ideal (Grogan, 2008; Ricciardelli & Williams, 2012). The seventh century B.C. solidified the broad-shouldered and narrow-hipped ideal, which has become known as the Daedalic body style, named after the mythical Deadalus who, according to the legend, was the first Greek sculptor (Grogan, 2008). In addition to valuing muscularity, however, the Greeks also highlighted young, adolescent, and slightly thin and androgynous male bodies. In fact, this kind of beauty was proudly embodied by young

men, since the youthful, slender, and adolescent male physique was praised in the majority of Greek literature and art (Ricciardelli & Williams, 2012).

Muscularity was also valued during the Dark and Middle Ages. Medieval society was overtly divided by class: the rich and the poor. Wealth was associated with power and was demonstrated through armor and extravagant clothing. The nobles adorned themselves with gold, jewels, and wore clothes that were dyed with the most precious colors of that time such as purple and green. Poverty, on the other hand, was associated with plague, famine, and disease. In contrast to sumptuous clothing, peasants wore gray or brown clothes made of rough, natural, and undyed fabrics often represented in art as dirty and crude (Eco, 2010).

Idealization of the male body continued well into the Renaissance (Grogan, 2008). The beginning of the era reflected the Pythagorean view of male beauty with Da Vinci's *Vitruvian Man* and his precise measurements of the human body which he considered to be ideal (Figure 6). However, Da Vinci was not the only one who subscribed to Pythagorean precision and the Platonic thesis that there is an objectively beautiful ideal that can be understood and perceived by all human beings.

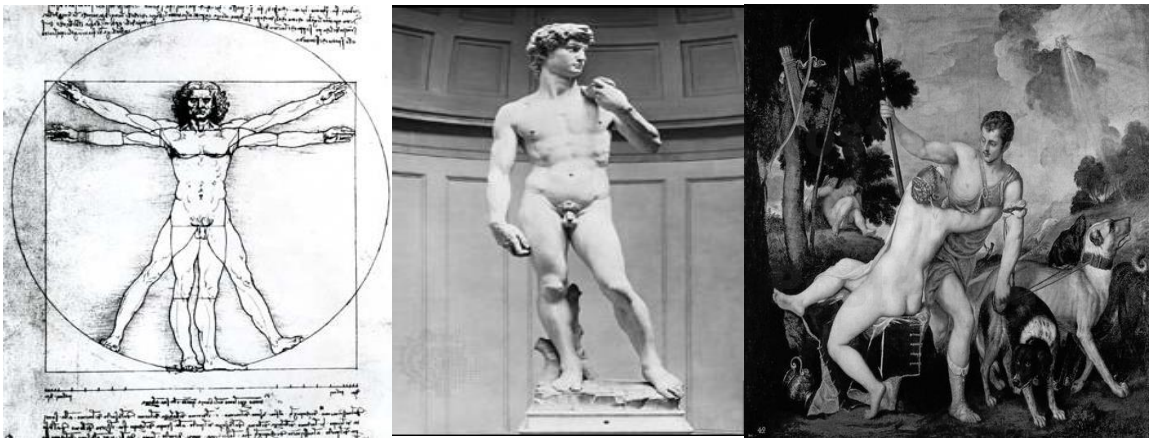


Figure 6. Vitruvian Man (Da Vinci, 1490) on the left. David (Michelangelo, 1501-1504) in the middle. Venus and Adonis (Titian, 1553) on the right. Images adapted from: Da Vinci, L. (Artist). (1490). *Vitruvian Man*. [Drawing]. Retrieved from http://www.brittanica.com. Michelangelo. (Sculptor). (1501-1504). *David.* [Sculpture]. Retrieved from http://www.britannica.com. Titian. (Painter). (1635). *Venus and Adonis*. [Painting]. Retrieved from http://www.britannica.com. Copyright 2015 Encyclopedia Britannica, Inc.

Architects, writers, artists, and designers of the time endorsed the belief that as long as an object had the right proportions, it contained the essence of beauty (Furnham & Swami, 2007). Michelangelo's *David* took the symmetrical muscular ideal to the next level by presenting him as emotionally and physically strong (displayed in his stance and facial features) as well as youthful, lean, and ready for competition (Figure 6) (Ricciardelli & Williams, 2012). However, during the same century, Titian introduced another type of male body ideal in his classic *Venus and Adonis.* In contrast, to mathematically-calculated male bodies, the artist presented his ultimate male physique as less defined and heavier rather than proportionate as had his predecessors (Figure 6) (Pope et al., 2000).

Aesthetic interest in the male body dominated art until the middle of the 19th century when artists such as Courbet shifted the sensual focus from the male to the

female body (Grogan, 2008). Between the 1860s and the beginning of World War I, the muscular and athletic male image was celebrated. The sport of boxing was popular entertainment, and strongmen appeared in contests as well as a broad range of publications and on collectible postcards (Ricciardelli & Williams, 2012). Physical strength became not only a virtue but also a duty, a necessity that would preserve the integrity and overall well-being of the nation. Soon after, a model that represented self-validation and personal power emerged—Charles Atlas—also known as the bodybuilder of the 20th century. Despite Atlas's image of success, due to his "shaped up" body, (Luciano, 2007, p. 46), overly muscular men were still viewed as anomalies, and bodybuilding was limited to a small subculture of competitors who shaped their bodies for purely visual purposes.

The male models that appeared in magazines became progressively more muscular after the 1950s. During the 1960s and 1970s, the male physique became consumerized and open to exploitation and objectification in the same way that the female body has been for decades (Ricciardelli & Williams, 2012). Idealized images of the partially nude male bodies (but usually wearing some clothing) started to become common in mainstream Western media in the 1980s. Weight training and increased muscularity also became part of the norm for many men (Grogan, 2008; Ricciardelli & Williams, 2012). In the 1980s and 1990s, the objectification of the male body in photographs became more obvious in the mainstream market, as more magazines began to sell the well-muscled male ideal to male *and* female consumers, consequently blurring

the traditional boundaries between men as viewers and women as the viewed (Grogan, 2008).

Today, men are under increased social pressure to conform to the idealized muscular, well-toned, and mesomorphic shape as evidenced by a steady increase in the use of anabolic steroid and cosmetic surgery among men (Grogan, 2008). On the other hand, the renewed popularity of the lean and youthful ideal has also been seen in the recent appearance of British male mannequins named the "skinniest male form ever" (Ricciardelli & Williams, 2012, p. 55) and debuted in 2010. Alarmingly, similar trends of increasing leanness have also been seen in the body shapes and sizes of male models who have begun to sport much thinner and more androgynous physiques (often well below a healthy BMI) over the past two decades (Ricciardelli & Williams, 2012).

Perceptual Self-Discrepancies

Body image is central to the concept of one's self. The view that people have different self-states in the field of psychology dates back to William James and *The Principles of Psychology* (1890). James described the notion of self as composed of numerous dimensions (material, social, and spiritual), each containing different self-states such as the actual self (immediate and conscious sense of self) and the ideal self (potential sense of self) (James, 1890). E. T. Higgins (1987) took this notion one step further by creating a systematic framework that described specific aspects of the self and then linked them to both the physical and emotional well-being of an individual (Halliwell & Dittmar, 2006). According to Higgins' self-discrepancy theory, the self is composed of three domains: actual, ideal, and ought. The actual (or current) self is the

individual's subjective perception of his or her characteristics (e.g., body shape and size). The ideal self refers to the attributes a person aspires to have or would like to possess (e.g., slender and/or muscular body). The ought self-reflects characteristics that the individual feels he or she has a duty or an obligation to possess (e.g., attaining a specific body type in order to meet societal norms for physical appearance). Higgins believed that the latter two types of selves are directive and motivational in nature, and, as a result, guide one's cognitive, affective, and behavioral states (Higgins, 1987, 1989; Higgins, Klein, & Strauman, 1985).

Body ideals that men and women are exposed to on a daily basis create discrepancies between their actual selves and their perceptions of what they are ideally supposed to look like (Crossley et al., 2012; Danilova, Diekhoff, & Vandehey, 2013; MacNeill & Best, 2015; Urdapilleta et al., 2010). According to the theory, the perception of a discrepancy between one's actual and ideal selves can lead to dissatisfaction with one's body as well as depressive states, if the person is unable to attain the ideal. A discrepancy between actual and ought selves, on the other hand, can lead to feelings of guilt and anxiety resulting from a violation of a sociocultural standards of body appearance. Overall, the greater the discrepancy, the more discomfort a person feels and the more likely he or she is to engage in behaviors that will reduce the discrepancy gap and the discomfort (Higgins, 1987, 1989). Although early empirical investigations offered some support for relationships involving both the ideal and the ought selves (e.g., Higgins et al., 1985; Strauman & Higgins, 1988), other research attempts to replicate these original findings produced mixed results, with researchers finding consistent

evidence for actual-ideal discrepancy but very little evidence for the actual-ought discrepancy among nonclinical samples (Halliwell & Dittmar, 2006).

The unattainability of current cultural female and male ideals is concerning, especially since exposure to these images is ubiquitous. Body dissatisfaction and disordered eating are often thought of as predominantly Western issues, resulting from the emphasis placed on physical appearance within that culture. However, numerous studies have now shown that body dissatisfaction is also prevalent in non-Western countries such as Korea, Japan, and Fiji, where the Western look is idealized (Jung & Forbes, 2007; Shih & Kubo, 2005; Swami et al., 2010; Williams, Ricciardelli, McCabe, Waqa, & Bavadra, 2006). Body-related self-discrepancies have also been identified cross-culturally (e.g., Bahraini, Muslim, Jewish, Arab, Nigerian), and although research suggests that some variability among cultures exists, the vast majority have two things in common. First, women in virtually all cultures show a preference for a thinner ideal body than their current body and believe that this is the ideal that men find attractive. This discrepancy appears to be more pronounced for Caucasian women, however, than in any other racial or ethnic group. Second, men in all cultures, except East Asia, typically select a larger or more muscular body than they currently possess as their ideal. Men also believe that a significantly heavier figure is what women find most attractive (Swami et al., 2010; Vartanian, 2012).

Body Dissatisfaction

Body dissatisfaction refers to a subjective and negative evaluation (thoughts, feelings, attitudes) of one's body, weight, and/or shape (Myers & Crowther, 2009;

Ortega-Roldan et al., 2014). Traditionally, body dissatisfaction research focused primarily on women; however, the increasing societal emphasis on the ideal male body has expanded attention to include men (Taniguchi & Aune, 2013). Body image and body dissatisfaction are related in the sense that one way to evaluate a person's body image is to monitor various behaviors that would emerge as a result of body dissatisfaction. One such behavioral indicator is dieting, or an inclination to change body shape through diet (Bottamini & Ste-Marie, 2006; Grogan, 2008). Dieting is much more common in women and is often considered a gender-inappropriate behavior among men (Gough, 2007). Another behavioral sign of body dissatisfaction is exercise, particularly as a means to change one's body shape and size. Women differ from men in their motivation for exercise in that weight loss is often an important motivator for women but not men. Men, on the other hand, are more likely to use weight training as a way to develop muscle mass reflective of the muscular ideal portrayed in the media (Bottamini & Ste-Marie, 2006; Grogan, Conner, & Smithson, 2006; Grogan, 2008).

Other body dissatisfaction behaviors include the use of cosmetic surgery or anabolic steroids in order to "improve" one's physical appearance. Although cosmetic surgery is often associated with women's desire to change their bodies, men are becoming increasingly more likely to have cosmetic surgery in order to alter the way they look (Grogan, 2008). In fact, according to the American Society for Aesthetic Plastic Surgery (ASAPS), American men and women spent more than 12 billion dollars in 2014 on plastic surgery, and plastic surgery procedures for men increased by 43% in a five-year period. The top five surgical procedures for both genders include: liposuction

(342,494 procedures), breast augmentation (286,694 procedures), eyelid surgery (165,714 procedures), tummy tuck (164,021 procedures), and nose surgery (145,909 procedures) (ASAPS, 2014).

Anabolic steroid use is predominantly found among men who want to increase their muscularity (Grogan, 2008; Hildebrandt, Langenbucher, Carr, Sanjuan, & Park, 2006). However, this trend is beginning to change, as illustrated by a recent study of female and male adolescents' attitudes toward muscle-enhancing behaviors (Eisenberg et al., 2012). The authors found that muscle-enhancing behaviors (i.e., use of protein shakes or anabolic steroids) are common among both genders, although most of these behaviors are significantly more frequent among male than female adolescents. The study demonstrated a higher frequency of use of steroids and other muscle-enhancing substances in the adolescent population than was previously reported and concluded that muscularity is becoming an important component of body satisfaction for both genders (Eisenberg et al., 2012).

Age Differences

Growing dissatisfaction with physical appearance among college students in North America has been noted as a major issue by numerous scholars (Bucchianeri et al., 2013; Sheldon, 2010; Taniguchi & Aune, 2013). Body dissatisfaction and perceived sociocultural pressures from media, peers, and family are higher for women than men, and this is especially true for young adult females (Esnaola, Rodriguez, & Goni, 2010). Pervasive body weight dissatisfaction among women was noted in the early 1980s, when Rodin, Silberstein, and Striegel-Moore (1984) first labeled it as a "normative worry," (p.

267), and later, normative discontent. Normative discontent suggests that negative feelings about one's appearance are no longer the exception but the norm for many women. However, normative discontent is not exclusive to women. In the early 1990s, interest in muscularity began to increase rapidly, and the term "reverse anorexia" (currently known as muscle dysmorphia) appeared for the first time in the research literature, describing the emergence of excessive dissatisfaction with muscularity among men (Pope, Katz, & Hudson, 1993, p. 406). More recently, Tantleff-Dunn, Barnes, and Gokee Larose (2011) noted that body image concerns, such as anxiety about physical appearance, self-consciousness about weight, and fear of aging, are normative experiences among men as well as women.

Body dissatisfaction has been shown to exist in women across the adult life span. However, some researchers suggest that body dissatisfaction begins to decrease significantly in older women (Runfola et al., 2013). Although studies show that younger and older women have similar body dissatisfaction, younger women tend to have a higher drive for thinness and experience more societal influence (e.g., advertising and/or social models) on their body image (Koscinski, 2013; Willinge et al., 2006). Older women, on the other hand, appear to have greater cognitive control (i.e., more realistic reappraisal of expectations) in regard to perceived sociocultural pressures that promote the thin ideal (Esnaola et al., 2010; Pruis & Janowsky, 2010). Overall though, women report much greater discontent with their physical appearances than men at all ages (Esnaola et al., 2010).

Age also seems to play a significant role in the experience of male body dissatisfaction and appears to manifest differently in younger than older men (McNeill & Firman, 2014). Peat, Peyerl, Ferraro, and Butler (2011) noted that younger men tend to report greater dissatisfaction despite having a lower BMI than older men who reported higher BMI and depressive symptomatology. Young men who perceive themselves as thinner than the ideal, or as heavier than the ideal appear to exhibit increased dissatisfaction with their bodies than men who do not (Mintem, Gigante, & Horta, 2015). Young adult males also seem to be more affected by the influence of media messages and social models than older adult men (Esnaola et al., 2010; McNeill & Firman, 2014). These findings suggest that although traditional feminine gender roles are associated with a focus on physical attractiveness, traditional masculine gender roles are less associated with physical appearance and more with an emphasis on physical strength and health (Peat et al., 2011).

Sociocultural Influences

Physical appearance and body image have become very salient considerations in contemporary Western societies. Women and men are increasingly dissatisfied with their bodies, and body dissatisfaction has become a major negative contributor to overall levels of self-esteem, or the way individuals feel about themselves as a whole. The North American obsession with body image and appearance has a constant presence in people's everyday lives—billboards, shop windows, magazines, television, social networking sites, and in ordinary conversations. As a result, societal ideals shape not only the

evaluation and interpretation of one's physique but also that individual's overall well-being (Neighbors, Sobal, Liff, & Amiraian, 2008; Tiggemann, 2011, 2012).

A sociocultural model offers a perspective which examines how body weight and shape ideals develop and change over time. From the sociocultural viewpoint, body image and the ideal human form represent a consensus created by sociocultural values, standards, and expectations that influence attitudes and behaviors at the individual level (Jackson, 2002; Roach & Eicher, 1973; Thompson, Heinberg, Atabe, & Tantleff-Dunn, 1999). The sociocultural model is best viewed as general framework for understanding and investigating body image and its relationship to body dissatisfaction and the associated negative cognitive, affective, attitudinal, and behavioral consequences. At the basic level, the model states that existing societal ideals of beauty (i.e., slenderness, muscularity) are transmitted through a variety of sociocultural channels within a given cultural context. These ideals are then internalized by individuals, resulting in satisfaction or dissatisfaction with physical appearance as a function of the extent to which the individuals meet or do not meet the prescribed ideals (Tiggemann, 2011). The internalization process plays a central role in Thompson et al.'s (1999) presentation of the tripartite influence model of body dissatisfaction. The model proposes that three sociocultural influences (parents, peers, and media) are the primary sources that impact the development of body dissatisfaction, both directly and indirectly, through two mediational processes—internalization of appearance ideals and social comparison of one's appearance to the appearances of others (Smolak & Murnen, 2007; Thompson, Schaefer, & Menzel, 2012).

Parents. Immediate and distant family members play an important role in shaping the way individuals feel about their bodies by transmitting their own attitudes and values regarding body image (Rodgers, 2012). Family may also play a crucial role in the development of a person's concern for body weight and shape, eating attitudes, and dieting behaviors. This influence can occur directly through comments about the body in the form of teasing, criticism, and/or encouragement to lose/gain weight (Hardit & Hannum, 2012). Parents can also influence their children indirectly by modeling attitudes and behaviors that reflect a preoccupation with weight, dissatisfaction with physical appearance, dieting or disordered eating, and negative references to their own bodies (Hardit & Hannum, 2012; Kluck, 2010; Lev-Ari, Baumgarten-Katz, & Zohar, 2014; Rodgers & Chabrol, 2009).

Parents are one of the first sources of influence on a child's body image and body satisfaction or dissatisfaction. Parents can communicate physical appearance norms, expectations, and values through body-related comments such as praising their child for gaining or losing weight, clothing choices, or exercise and eating habits. Although their comments may not be intentionally critical, they can still act to reinforce norms of outward appearance or efforts designed to attain social ideals (Rodgers, 2012). Research shows that young women tend to receive more general feedback about their body shape and weight from their parents (more so from mothers than fathers) than do young men (Jones, 2011; Rodgers, Faure, & Chabrol, 2009). However, internalization of ideals and appearance comparisons have been found to partially mediate body dissatisfaction for both genders, with positive and negative parental comments for women and negative

comments for men being directly related to dissatisfaction with physical appearance (Rodgers, Paxton, & Chabrol, 2009). For both men and women, communication with mothers appears to play a more important role in body satisfaction than communication with fathers (Taniguchi & Aune, 2013).

Parents also appear to influence their sons and daughters' body image by modeling weight-related attitudes and behaviors (Kluck, 2010; Lev-Ari et al., 2014). Parental expression of attitudes about appearance as well as their evaluations of their own and each other's bodies can serve as a model for how children value or critique themselves and others. Exercising and dieting can serve as behavioral examples for children to engage in similar physical activities or restriction/increase of food or daily caloric intake. Consequently, parents express their expectations and beliefs about appearance (with or without their awareness) in the lifestyle choices they make, such as eating, dieting, exercising, or evaluating their own bodies. In this way, parents impart important messages to their children concerning body image constructs (Jones, 2011; Thompson et al., 2012). Studies show that higher levels of body dissatisfaction in young women have been positively linked to levels of body dissatisfaction in their mothers, and that children's perceptions of maternal dieting are associated with their own dieting and weight concerns in sons as well as extreme weight-loss methods in both genders (Elfhag & Linne, 2005; Keery, Eisenberg, Boutelle, Neumark-Sztainer, & Story, 2006). Although there is some evidence for a relationship between fathers' body concerns and their sons' and daughters' body dissatisfaction, the evidence for this association is not strong. Only a

few relevant studies have included fathers in their investigations, and the findings have been mixed (Rodgers, 2012).

Peers. Peers have a remarkable impact on the internalization of appearance ideals, especially during adolescence. The basic human needs for approval and belonging are the primary forces that propel young men and women to form close relationships and strive for peer acceptance (Jones, 2012; Thompson et al., 2012). Peers influence the development of body image by sharing the norms and expectations of the appearance culture, modeling behaviors that reflect those standards, reinforcing obedience to the norms among their peers (through compliments, imitation, and other expressions of approval), and punishing deviations from the norms (for instance, by teasing about weight or shape). The effects of social reinforcement for adherence to social norms and achieving an ideal body are quite strong, since those individuals who are successful are considered to be high-status members of their peer groups (Jones, 2012; Thompson et al., 2012).

For women, perception of the injunctive norms regarding what one should do or not do (i.e., thinness ideals among peers and peer acceptance of disordered eating) has been found to moderate the relationship between body dissatisfaction and disordered eating patterns. This finding suggests that college women who perceive their social environment as valuing thinness and disordered eating are more likely to be at risk for eating disorders (Forney & Ward, 2013). Socially normative behaviors such as dieting have also been found to be associated with disordered eating in men (Gravener, Haedt, Heatherton, & Keel, 2008). In addition, women's and men's perception of the prevalence

of their friends' dieting behaviors appears to be related to their drive for thinness (Gravener et al., 2008). Similarly, perception of friends' and peers' weight control behaviors is associated with college women's and men's own weight control behaviors (Clemens, Thombs, Olds, & Gordon, 2008).

Peer groups create an environment in which individuals share feelings of dissatisfaction with their bodies, discuss more desirable characteristics, and compare their appearance to those around them. Conversations about body image among peers may accentuate the salience of physical appearance and further reinforce the internalization of appearance norms and standards. Likewise, peer criticism or appearance-related teasing can strengthen the internalization of thin or muscular ideals and foster body dissatisfaction by emphasizing the ways in which a person's look does not conform to the prescribed ideal (Thompson et al., 2012). Another way in which friends and peers influence body image is through discussions about appearance and body change strategies such as dieting or muscle building. The attention and reinforcement that are given to body appearance issues in these conversations establish appearance as an important quality, support the creation of appearance norms, and facilitate evaluations of the self-relative to others on physical attributes (Jones, 2011).

Current research suggests that peer influence is the most important predictor of young women's body dissatisfaction, and the second most significant predictor of their desire to lose weight (Sheldon, 2013). For men, peer encouragement to lift weights and negative verbal comments about physical appearance have both been found to be significant predictors of body dissatisfaction. Peer encouragement and modeling of body

building are also predictive of body change behaviors (Galioto, Karazsia, & Crowther, 2012), and pressure to exercise appears to be common among both men and women (Quick, Eisenberg, Bucchianeri, & Newmark-Sztainer, 2013). In particular, perceived pressure from one's dating partner to maintain physical appearance is predictive of increased "overcommitment" to exercise among men (Chalk et al., 2013, p. 102). For women, overcommitment to exercise appears to stem more from the internalization of the thin ideal than from any direct pressure from dating partners. This finding reflects the notion that Western culture places greater emphasis on the female body ideal than the male body ideal (Chalk et al., 2013; Koscinski, 2013; Willinge et al., 2006).

Media. The media is the strongest arbiter of culturally defined female beauty. The female ideal body that is presented by the media is almost universally recognized and internalized by both men and women. Over 80% of women today read fashion magazines and are exposed to countless images as they shop, glance through the newspapers, and browse online (Walker, 2015). In fact, women identify the media as a major source of perceived social pressure to maintain the idealized body image of thinness. The influence of the media in setting the standards for the ideal female body is especially problematic because many individuals do not believe that they are personally affected by the message, despite abundant evidence to the contrary. Young women in particular come to connect success and social acceptance with the image of the thin female body that is portrayed by the media as the ideal (Walker, 2015).

The Dove Campaign for Real Beauty has tried to challenge unrealistic ideals of female beauty since 2004 by promoting average-size women as their models in

television, print, and billboard advertisements. However, this more tolerant, diverse perspective on beauty and attractiveness will need to be endorsed far more broadly if it is to bring about any real changes in the culture at large. Exposure to plus-size or Dove models does not seem to reduce the gap that exists between women's perception of their actual and ideal selves (Bissell & Rask, 2010), although some individual differences do exist (Owen & Spencer, 2013). Overall, near-continuous exposure to thin-idealized images results in a cognitive and emotional body dissatisfaction that is not easily undone by occasional exposure to alternative messages (Yu, 2014).

In recent years, the thin female ideal has shown indications of morphing into another equally unrealistic ideal. The "strong is the new skinny" campaign that seems to be all over Facebook today portrays an image of a very slender woman with well-defined abs and muscles, a thigh gap, and ample breasts that defy the laws of physiology. The research on social media and body image is in its early development; however, studies show that time spent on social media networks can worsen poor body image and increase the likelihood of disordered eating patterns, especially in young women (Perloff, 2014; Vogel, 2015).

Sociocultural theorists emphasize that current social standards for attractiveness put a significant amount of pressure on men to achieve the muscular and lean mesomorphic body ideal promoted by the Western media (Gray & Ginsberg, 2007; Tylka, 2011). Historically, ideal bodies portrayed in art were romanticized and considered to be unattainable. Today, however, print and electronic media images blur the boundaries between fictionalized ideals and realistic body forms. Similarly to women,

men are exposed to multiple genres of media that send the false message that the male ideal is attainable if one just exercises enough and uses proper techniques (e.g., dieting, supplements). The message is that the muscular ideal is realistic and within reach (Dallesasse & Kluck, 2013; Sheldon, 2010).

One specific media genre that has recently come under scrutiny in body image research is reality television. Studies show that individuals who frequently view reality television featuring plastic surgery tend to see themselves as more knowledgeable about cosmetic surgery, feel that plastic surgery reality television is more similar to real life, and have favorable attitudes toward plastic surgery (Crockett, Pruzinsky, & Persin, 2007; Sperry, Thompson, Sarwer, & Cash, 2009). However, the "reality" in these programs is scripted and superficial, and the shows largely portray male cast members who are much more muscular than the average American man and embody the male body ideal (Dallesasse & Kluck, 2013).

Video games are another popular and fast growing form of media. Video games provide an artificial sense of reality that is believed to be more psychologically immersive than any other media format. Although nearly every household owns at least one video game console, and the majority of video game consumers are men, the research on the effects of video games on male body dissatisfaction is sparse (Sylvia, King, & Morse, 2014). Researchers have reported that men who played a highly realistic video game with a muscular avatar (i.e., virtual character created and controlled by human players in real time) displayed lower body satisfaction than control group participants who played the game with an avatar of average body size and shape, suggesting that the

humanistic features of these avatars have an impact on players' psyche (Sylvia et al., 2014). Related to this, video game male avatars have been found to be significantly larger than the average U. S. man, but blockier than the media ideal male body (Martins, Williams, Ratan, & Harrison, 2011).

Images of the mesomorphic ideal are prominently displayed on the covers of health, fitness, and bodybuilding magazines as well. Although magazines targeted toward male bodybuilders have been published since the 1930s, their typical audience in the past included mostly "serious" bodybuilders (Peixoto Labre, 2005, p. 188). However, this trend changed in the late 1980s when *Men's Health* and *Men's Fitness* magazines began to promote perfect pectoral muscles to average men. Today, these magazines cover a broad range of topics covering anything from physical appearance (weight, muscularity, nutrition) to career options to improving men's sexual and romantic relationships. However, the end goal of the articles and advertisements in these magazines is appearance, not fitness or physical performance (Peixoto Labre, 2005). A comparison of men's and women's magazines also revealed that representations of male muscularity differ depending on the targeted audience. The vast majority of ideal male body images in men's magazines are more muscular than the ideal male bodies marketed to women, subsequently creating a gap between what men and women think is the most attractive male form (Frederick, Fessler, & Haselton, 2005; Peixoto Labre, 2005)

Social comparisons. Women and men who are aware of social pressures to lose or gain weight, to have a thin or more muscular body, and to engage in appearance comparisons with body ideals that they see in the media are more likely to internalize

images of the these ideals than their peers who are less aware of these social messages (De Jesus et al., 2015; Hargreaves & Tiggemann, 2009; Yu, 2014). The explanation for this fact is found in social comparison theory (Festinger, 1954). The theory proposes that people have a natural tendency to compare their attributes, including physical appearance, to those of others as a means of self-evaluation and self-understanding. Upward comparisons related to appearance occur when individuals compare their bodies and features to others whom they perceive as "better" in appearance (Collins, 1996, p. 52). Downward comparisons related to appearance, on the other hand, take place when people compare themselves to those whom they see as "worse" in terms of their physical attributes (Wills, 1981, p. 245). Although comparing oneself to others is natural, repeated exposure to thin or muscular ideals seems to increase the frequency of appearance comparisons and broadens the gap between one's actual and ideal body image perceptions. Thus, women and men who are prone to making appearance-related comparisons might be at higher risk of developing or experiencing greater body dissatisfaction than individuals who make fewer comparisons (Blond, 2008; Cheney, 2011; Hargreaves & Tiggemann, 2009; Leahey, Crowther, & Ciesla, 2011; Yu, 2014).

Research suggests that individuals rely heavily on social comparisons in order to evaluate themselves on a wide range of dimensions. The process of social comparison is quite complex, and the evaluations people make depend on individual differences in comparison tendencies as well as situational and contextual factors. However, some general features of social comparisons have been outlined. Commonly, individuals compare themselves to others in order to maintain or enhance their self-esteem. The

extent to which people engage in these comparisons differs, with some people habitually making more social comparisons than others. Mainstream sociocultural beliefs about physical appearance also influence the types of appearance comparisons individuals make and are believed to foster a pattern of self-depreciating comparisons that has been seen across both genders for decades (Grogan, 2008; Halliwell, 2012).

The process of social comparison differs for men and women. Social comparisons to television characters has been found to be associated with a decrease in the body discrepancy gap (i.e., difference between current and ideal body sizes) among men but an increased gap among women. Although social comparisons have a negative impact on women's body satisfaction, the same effect does not seem to apply to men (Sohn, 2009). For women, media body comparisons also appear to mediate the relationship between self-esteem, depressed mood, dieting, magazine message exposure, BMI, and body dissatisfaction. Physical appearance comparisons to media images for men have been found to be associated with depressive mood, magazine message exposure, and weight teasing, but not related to body satisfaction (van den Berg et al., 2007). Overall, a stronger connection between social comparison and body dissatisfaction is suggested for women than men, which is not surprising considering that even though cultural messages about physical appearance are directed toward both genders, the norms for women are more homogeneous, frequent, and explicit than for men (Myers & Crowther, 2009; Strahan, Wilson, Cressman, & Buote, 2006).

Body Talk

“Fat talk” refers to communication among women about the sizes and shapes of their bodies that often carries a negative evaluative component (Nichter & Vukovic, 1994). Often, the purpose is to use weight and shape as a proxy for emotions. For example, an individual might say, “I am fat,” instead of saying, “I feel sad” or “I feel anxious.” This type of exchange among women (e.g., “I am so fat.” “No, you are not!”) solicits reassurance, encouragement, and acceptance from peers and provides a vehicle for exchanges about the shared dislike of fat and value of thinness (Sharpe, Naumann, Treasure, & Schmidt, 2013). Fat talk presupposes and is based upon the idealized body image of thinness and includes aspects of social comparison (e.g., “Look how skinny you are, and I am so fat”) (Arroyo & Hardwood, 2012; Gapinski et al., 2003).

Fat talk goes beyond making a statement about one’s body and includes comments about (a) ideal eating and exercise habits, (b) comparisons of one’s own weight, shape, and diet to others, (c) fears of becoming overweight, (d) evaluations of others’ appearances, and (e) supplements, meal replacements, and/or muscle-building strategies (Arroyo & Harwood, 2012; Ousley, Cordero, & White, 2008).The majority of these conversations tend to be negative and narrowly focused on ways in which a woman’s body fails to live up to her own desires or societal expectations. Recent studies also show that the frequency of fat talk among healthy weight college women is directly related to body dissatisfaction. In other words, the more often women engage in fat talk, the more dissatisfied they are with their bodies (Clark, Murnen, & Smolak, 2010; Salk & Engeln-Maddox, 2011, 2012).

The majority of studies relating to fat talk focus almost exclusively on women, since this idea was originally conceptualized as a phenomenon that only occurred among girls and women (Nichter & Vuckovic, 1994). Although fat talk is more common among women, recent research shows that men also report hearing fat talk "frequently" or "very frequently, and 90% of U. S. college men report wanting a more muscular frame, reflecting the ever increasing body dissatisfaction within this population (Frederick et al., 2007; Payne, Martz, Tompkins, Petroff, & Farrow, 2011, p. 562). Men's negative body talk appears to be less straightforward and more varied than body talk among women. Specifically, men seem to be dissatisfied with both ends of the weight spectrum—wanting to lose fat and gain muscle—while women tend to want to lose weight and decrease their body size in order to maintain a thinner frame. Men's body talk also appears to reflect more positive elements (i.e., speaking positively about body parts, shape, or size), demonstrating that in general it is socially acceptable for men to openly praise their physical appearance, without being considered arrogant, when the opposite is true for women (Engeln, Sladek, & Waldron, 2013).

Overall, the body talk research indicates that women tend to hear fat talk and feel pressured to participate in fat talk more frequently than men (Martz et al., 2012). Negative body talk appears to be related to body dissatisfaction in both men and women, and numerous variables such as age, body size, and employment status have been found to be associated with the perceived pressure to engage in fat talk for both genders (Martz, Petroff, Curtin, & Bazzini, 2009). Research shows that age negatively relates to pressure to engage in fat talk for both men and women. Women with higher BMI than women

with lower BMI tend to report more pressure to engage in negative body talk; however, BMI appears to be unrelated to men's negative body talk. Also, employment status (i.e., full time, part time, student, not employed) seems to be associated with more pressure to fat talk among men but not women (Martz et al., 2009).

The frequency of fat talk appears to be related not only to dissatisfaction with one's physical appearance but also disordered eating. Research shows that college students with disordered eating patterns engage in more fat talk than college students who do not struggle with the same issues. More importantly, regardless of the presence of disordered eating, both female and male college students engage in discussions about other people's shapes and appearances more than any other body-related topic, such as fear of becoming out of shape or overweight, comparison of eating and exercise habits to others, and discussions about the use of supplements, meal replacements, and/or muscle-building strategies (Ousley et al., 2008).

Body Emotions

The idealized female and male bodies are associated with distortions in body perceptions, drives for thinness and/or muscularity, and body dissatisfaction (Arroyo & Harwood, 2012; Frederick, Jafary, Gruys, & Daniels, 2012; Parent, 2013). Body dissatisfaction has a significant impact on women's as well as men's emotional and physical health and is a strong predictor of dieting, excessive exercise, and disordered eating (Ahern et al., 2011; Gravener et al., 2008; Grogan, 2008). Negative emotions such as guilt, shame, anxiety, and anger have also been found to be strongly linked to dissatisfaction with physical appearance (Cahill & Mussap, 2007; Crocker et al., 2014;

Mulgrew & Volcevski-Kostas, 2012; Owen & Spencer, 2013; Salk & Engeln-Maddox, 2012).

Self-conscious emotions (Tracy & Robins, 2004) such as shame, guilt, and pride appear to play an important role in comparisons between what a person actually looks like and what they wish they looked like. Shame is an acute and painful emotion that a person experiences when he or she fails to meet an internalized social standard (e.g., thinness, muscularity). Thus, shame is likely to be the main emotion experienced when a person fails to attain his or her ideal weight. Guilt, on the other hand, usually arises in a response to a specific behavior (e.g., physical inactivity). Pride often results from engaging in a valued behavior (e.g., exercise) or presenting with a positive characteristic (e.g., attractiveness), and two aspects of pride have been consistently identified: hubristic and authentic (Castonguay, Brunet, Ferguson, & Sabiston, 2012; Castonguay, Sabiston, Crocker, & Mack, 2014). Hubristic pride usually involves feelings of personal grandiosity and superiority to others that is typically elicited from downward social comparisons where the individual views his or her body as being superior to others (e.g., "I have a great body compared to people I know.") (Wills, 1981) This emotion has been associated with decreased self-esteem and poor relationship patterns (Castonguay et al., 2014). Authentic pride is focused on specific and achievable behaviors (e.g., "I am satisfied with eating healthy in order to maintain my weight") and is associated with feelings of achievement, increased self-esteem, and adaptive interpersonal patterns (Castonguay et al., 2014).

For women, both shame and guilt are directly related to the amount of discrepancy they perceive between their actual and ideal weight (Higgins, 1987). On the other hand, authentic pride seems to be inversely related to the actual-ideal discrepancy, reflecting the notion that authentic pride is elicited in a favorable manner when a person's actual self (e.g., current weight) matches his or her ideal self (e.g., ideal weight) (Castonguay et al., 2012; Tracy & Robins, 2004). Authentic pride also seems to occur more frequently among women and hubristic pride among men (Castonguay, Gilchrist, Mack, & Sabiston, 2013). For men, both body-related hubristic pride and authentic pride have been found to be positively correlated with levels of intrinsic motivation (i.e., participation in an activity for the inherent enjoyment and/or interest) for participation in physical activities. Emotional experiences of shame and guilt appear to relate to men's perceived pressure to fulfill unrealistic standards of muscularity as well as their motivation to engage in appearance-related behaviors in order to avoid feeling guilty about physical appearance (Castonguay, Pila, Wrosch, & Sabiston, 2015).

Basic emotions such as anger, fear, disgust, sadness, happiness, and surprise are also considered to be important to an individual's sense of self (Tracy & Robins, 2004). However, currently there is no research that examines the relationship between these emotional states and other psychological processes relating to body image. Self-conscious emotions are cognitively complex, require self-awareness and self-representations (i.e., mental representations that make up one's identity) and are highly social in nature (i.e., tend to be aroused in situations that involve interactions with others) (Parrott, 2004; Tracy & Robins, 2004). Basic emotions, on the other hand, are

biologically based, experienced across cultures, and are identified via discrete and universally recognized facial expressions, all things that self-conscious emotions are not (Ekman, 1994; Ekman, Levenson, & Friesen, 1983).

Experimental procedures that utilize visual stimuli (e.g., photographs, film clips) appear to be less effective in eliciting self-conscious emotions than basic emotions such as fear and disgust (Tracy & Robins, 2004). Recently, two studies have examined the relationship between anger and exposure to idealized bodies and found that exposure was associated with increased anger in both genders (Cahill & Mussap, 2007; Mulgrew & Vocevski-Kostas, 2012). Another study explored fat talk's impact on body dissatisfaction and experience of sadness. Researchers found that although participants who engaged in fat talk reported body dissatisfaction, fat talk did not elicit sadness (Salk & Engeln-Maddox, 2012).

Purpose

The literature on body image that was reviewed in this chapter establishes the importance of that construct in the lives of adults of both genders. Comparisons between actual physiques and socially-defined ideals are particularly important, and most studies of body image have focused on the ideal body and the actual-ideal discrepancy. However, there is more to understanding body perception than explaining how the ideal physique comes to be defined, and how that ideal influences individuals in a given cultural context.

The purpose of Study One was to explore the broader, fundamental characteristics of men's and women's perceptions of male and female bodies. Which attribute dimensions are most salient in their organization of body perceptions? How much acuity

(i.e., sensitivity to subtle physical differences) do they display? How many different body perception categories do men and women form as they look at widely varying examples of the male and female body? How broad are these categories? How do men and women define the male and female ideals? How much agreement exists among men? How much agreement exists among women? How do men and women respond emotionally to various body types? How great is the actual-ideal discrepancy and what observer characteristics are related to this discrepancy?

Study Two, a qualitative design, was used to expand the findings revealed by Study One and tap into the deeper levels of women's and men's responses to the visual stimuli. Why do individuals perceive the human body in the ways that they do? Why do men and women differ (or not) in their perception and affective responses? What is the reasoning behind men's selection of the ideals? Why do women prefer the ideals that they do? What forces (e.g., age, gender, socioeconomic status) impact men's and women's emotional reactions to the human body? Study Two used the "talk aloud" method (Ericsson & Simon, 1984, 1993) and interviews to explore participants' cognitive and affective processes as they examine and work with multiple examples of the human form.

Many previous studies of body perception used figural outlines, silhouettes, line drawings, and computer generated images as stimulus materials. None of these are the human body, though, and one must wonder what other researchers have missed by using these body representations. The present study used naturalistic photographs of 25 men and 25 women to cover the full breadth of the human physique and capture levels of detail and realism that are not matched by the currently available body stimulus materials.

The study addressed questions about men's and women's perceptions of many sorts of bodies, not just the ideals. Finally, the statistical power of the quantitative component was sufficient to allow findings of "no difference" or "no correlation" to be taken at face value, not written off as the result of Type II errors (Warner, 2008).

The overall aim of the two studies that comprised this dissertation research was to present a well-rounded understanding of adult men's and women's experiences as they are exposed to a full range of male and female bodies, stimulus variety that is currently missing in the present body of literature. The goal was to fill in other methodological gaps as well that have flawed previous research so as to offer a more complete description of the perceptual, cognitive, and affective processes that comprise human body perception. The hope was that the findings of the study might provide a broad base of knowledge that clinicians can utilize in their therapeutic work with men and women who struggle with body image issues. The results of the research offer insights into why some individuals (oftentimes men) find it difficult to seek mental health care when body dissatisfaction and body-related struggles arise. Finally, the findings provide an intimate glimpse into men's and women's thoughts and emotions as they relate to one of the most sensitive topics of all—the appearance of one's own body. This information may be useful in the design of preventive body image programs or workshops to increase awareness, promote positive body image, and decrease body-related discrepancies among young adults who are at greatest risk for developing dissatisfaction with their physical appearance and related issues.

Research Questions

Study One

Eight research questions were addressed in Study One. The measures and methodological details by which these questions were addressed are provided in Chapter Three.

Research question one. What perceptual attributes (i.e., *evaluative, potency, activity*) and affective reactions (i.e., *anger, sadness, surprise, disgust, happiness, fear*) are salient as participants organize their perceptions of the human body?

1a. Does observer gender influence the salience levels of the attributes examined in the study?

1b. Does the gender of the body stimulus influence the salience levels of the attributes examined in the study?

1c. Do observer gender and body stimulus gender interact in determining the salience of the attributes examined in the study?

Research question two. How much acuity (i.e., sensitivity to subtle differences) do participants display in their perceptions of the human body? How fine are their discriminations?

2a. Does observer gender influence acuity in human body perception?

2b. Do participants show different levels of acuity in their perceptions of the female and male bodies?

2c. Do observer gender and body stimulus gender interact to influence levels of acuity in body perception?

Research question three. What is the "ideal female" body?

3a. Do men and women agree?

3b. How much consensus exists among men?

3c. How much consensus exists among women?

Research question four. What is the "ideal male" body?

4a. Do men and women agree?

4b. How much consensus exists among men?

4c. How much consensus exists among women?

Research question five. At the individual level, how broad are participants' "ideal body" perceptual categories?

5a. Does observer gender influence category width?

5b. Does the gender of the body stimulus influence category width?

5c. Do observer gender and body stimulus gender interact in determining the width of the category for "ideal body?"

Research question six. How do participants react emotionally to examples of the "ideal female" and "ideal male" bodies?

6a. Do these emotions differ as a function of observer gender?

6b. Do these emotions differ as a function of body stimulus gender?

6c. Do observer gender and body stimulus gender interact in determining emotional reactions?

Research question seven. How satisfied or dissatisfied are participants with their bodies? Do men and women differ in levels of body dissatisfaction?

Research question eight. Are personal fitness characteristics predictive of body perception characteristics?

Study Two

Study Two attempted to further explain and extend the results that emerged from Study One, that is, *why* did women and men respond to visual stimuli the way they did? Six questions were addressed in Study Two. Details by which these questions were addressed are provided in Chapter Three.

Research question one. What cognitions emerge as men and women are exposed to and work with images of male and female bodies?

Research question two. What emotions develop as men and women are presented and work with images of male and female bodies?

Research question three. How aware are men and women of the cognitive processes that are involved in exposure to images of male and female bodies?

Research question four. How aware are men and women of emotional processes that occur during exposure to images of male and female bodies?

Research question five. What factors influence men and women's cognitive responses to male and female bodies?

Research question six. What factors impact men and women's emotional reactions to male and female bodies?

CHAPTER III

METHOD

The present research involved both quantitative and qualitative components. The Proposal was defended and approved by the committee on October 27th, 2015. The quantitative component (Study One) analyzed archival data and the qualitative component (Study Two) expanded and enriched the findings that emerged from Study One. Quantitative data collection activities took place at Midwestern State University during the period March 2011 through March 2015. Research protocols were reviewed and approved by the Midwestern State University Institutional Review Board under three project numbers: 11031001 (March 10, 2011), 13090601 (September 13, 2013), and 15012701 (February 2, 2015) (Appendix A), and the analyses reported here were approved by both the Midwestern State University IRB (15120201, December 8, 2015) and the Texas Woman's University IRB (18837, January 15, 2016; 18907, January 6, 2017) (Appendix A). Portions of the data have been analyzed in previous work (Danilova, Diekhoff, Cuellar, Holland, & LaMere, 2012; Danilova, Diekhoff, & Vandehey, 2013; Danilova, Diekhoff, Vandehey, & Cuellar, 2013; Danilova et al., 2014; Danilova, Diekhoff, Bray, & Dallas, 2015), but the full dataset has not been previously analyzed as is here. Study Two qualitative data collection took place at Midwestern State University, under the direction of Dr. Claudia Pyland and Dr. Sally D. Stabb during the period March through April, 2016. The Study Two research protocol was reviewed and approved by both the Midwestern State University IRB (16011102, January 12, 2016)

and the Texas Woman's University IRB (FWA00000178, March 1, 2016; FWA00000178, January 6, 2017) (Appendix A).

Study One quantitative analyses were guided by the research questions posed in Chapter Two and by the available data. Although quantitative research can tell us *what* happened, it often falls short in explaining *why* it happened. Explaining the *why* was the goal of Study Two, the qualitative portion of the present research. The methods that were used in Study One and Study Two are presented in separate sections of this chapter.

Study One: Quantitative Component

Study One used a series of quantitative analyses designed to explore men's and women's perceptions of male and female bodies, focusing on perceptions of ideal, average, and actual bodies. Study One data were collected using a 2 x 2 between-subjects factorial design as depicted in Figure 7. Observer Gender was one factor, with two levels: women and men. The second factor was Body Stimulus Gender, with two levels: female bodies and male bodies. Simply put, samples of women (n = 227) and men (n = 163) viewed photographs of male or female bodies and completed a series of tasks designed to gather data on their perceptions of and reactions to those bodies. A wide variety of dependent variables measuring different aspects of body perception and affective responses were available for analysis and are discussed in detail later in this chapter.

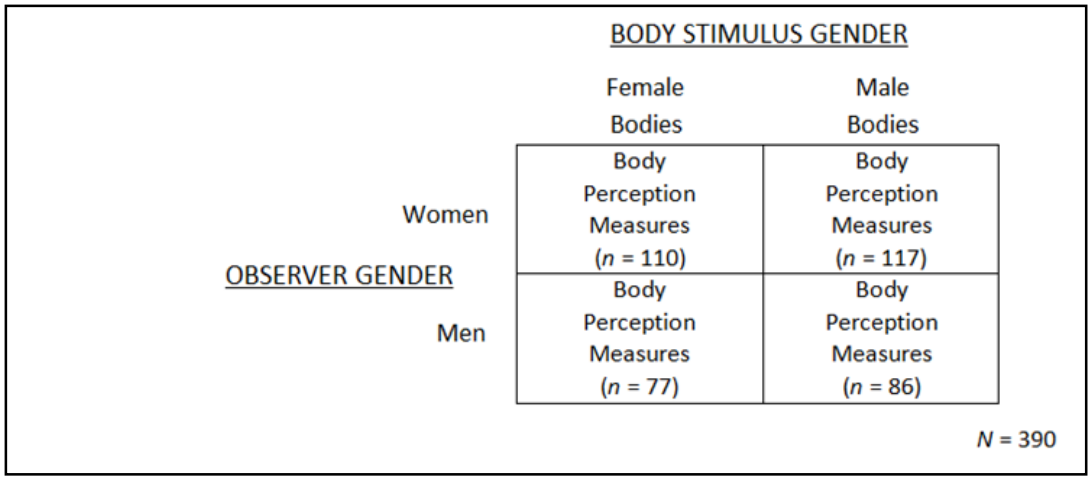


Figure 7. The 2 x 2 between-subjects factorial design.

Factorial research provides the opportunity to examine the effects of two (or more) independent variables within a single study (the main effects), and also allows one to determine if the effect of one of these independent variables is moderated by the second independent variable—the interaction effect (Rosenthal & Rosnow, 1991). The present study evaluated the main effects of Observer Gender and Body Stimulus Gender as well as the Observer Gender x Body Stimulus Gender interaction effect using multiple dependent measures of body perception. The factorial approach offers two advantages compared to performing separate analyses of the effects of each independent variable. First, only a factorial design offers the opportunity to explore interaction (moderator) effects that occur when the effects of one independent variable are different at different levels of the second independent variable. Second, by looking at two independent variables within one study, factorial designs can account for more variance in the dependent variable than is possible with a single factor design. This leaves less unexplained "error" variance in the dependent variable in the factorial approach and

improves the power of the tests of the effects relative to what would be available using one-way analyses (Diekhoff, 1992).

Superior statistical power could have been achieved with a smaller sample size by using a mixed-subjects design (i.e., repeated measures) rather than the between-subjects design that was used in this study (Kirk, 1968). In a mixed-subjects design both female and male observers (the between-subjects factor) would have viewed and responded to both female and male stimulus photos (the within-subjects factor). That design approach was not utilized in order to avoid over-burdening study participants. About half of the participants in this study took up to half an hour to complete the protocol, and another one-third took up to an hour. Doubling the time required to complete the study by requiring that participants work with both female photos and male photos would have made the task quite onerous and would have made recruitment more difficult.

Sampling and Participants

Sampling. Convenience and snowball sampling were used to gather quantitative data. Convenience sampling is a matter of taking whoever will agree to participate. Snowball sampling gathers participants through word of mouth, as those who have already participated tell their friends or acquaintances about the study (Ray, 2000; Salkind, 2000). Participants between the ages of 18 and 55 were recruited to participate in the study using announcements in college classes, flyers posted at a university wellness center, commercial health clubs and gyms, person-to-person solicitations at these gyms, and word-of-mouth. Individuals older than 55 years of age were not recruited because it was anticipated that the age disparity between these older participants and the apparent

ages of the stimulus photo models could introduce additional error variance into the study. Because of changes in funding for the study over time, incentives offered for participation also changed. Some participants received $25 for participating, some were entered into a drawing for $20 gift cards, and many more completed the study to fulfill a research requirement, to receive bonus points in college classes, or simply out of interest.

Quality screening. As surveys were completed, they were screened for quality as described below, and low-quality surveys were discarded without further processing. No records were kept of the number of surveys that were discarded because respondents failed to follow instructions or there were other quality issues, but it is estimated that about one in every six or seven surveys returned was discarded. Surveys were discarded if large portions were not completed, if the respondent clearly did not understand or follow instructions (e.g., in sorting body stimulus photos into piles based on similarity, some participants reported that the Ideal Body card was included in all piles), or if intra-rater reliability was low. Although no records were kept of exactly how many surveys were discarded or for what reasons, most discards were due to low intra-rater reliability, followed by obvious failures to understand or follow instructions.

Intra-rater reliability was assessed by asking each participant to re-rate a subset of 10 rating scale items repeated from the much larger set of items composing the survey (Miller, Lovler, & McIntire, 2013). An intra-rater reliability correlation was calculated for each participant using these ratings and re-ratings on the theory that participants who responded consistently to the 10 randomly chosen items were likely to have been similarly consistent throughout the rest of the protocol. Analyses of data obtained in an

early phase of the study (Danilova, Diekhoff, & Vandehey, 2013) showed that the distribution of intra-rater reliability coefficients was negatively skewed by a few low-reliability cases. This low-reliability tail of the distribution was well defined by a cutoff value of $r = .50$. Consequently, an intra-rater reliability of $r < .50$ was used as the criterion for discarding data throughout all remaining portions of the study. Surveys were first examined visually to see if they were complete and appeared to be valid and then the intra-rater reliability coefficient was calculated. Surveys that failed to pass these quality checks were discarded without any further analysis.

Participants. The 390 participants who passed the data quality checks described above populated the four cells of the 2 x 2 factorial design in a manner described in Figure 7. These participants' self-reported demographic characteristics are summarized in Table 1, but some cases were lost and a small number of data entries were corrected during data cleaning and screening for out-of-range values and univariate, bivariate, and multivariate outliers (as described in Chapter Four). Consequently, sample descriptive analyses were performed again following complete data screening and cleaning and are reported in Chapter Four.

Because Study One participants were not randomly assigned to the four conditions in the 2 x 2 factorial design, Study One is not a true experimental design, so no causal conclusions can be drawn (Sommer & Sommer, 2002). For instance, differences in body perceptions between men and women may be said to be *related* to observer gender but not *caused* by observer gender.

Table 1

Participant Characteristics Prior to Data Cleaning and Screening

Continuous Variables	*N*	Range	*M*	*SD*
Age	382	18-54	22.38	5.95
Body-Mass Index	388	14.06-50.27	25.51	5.58
Avg. Minutes/Week Exercise	366	0-2,100	240.29	258.06
Number Dieting Days/Week	386	0-7.0	1.60	2.45
Number of Supplement Days/Week	386	0-7.0	1.30	2.55
Categorical Variables	***f***	**%**		
Gender				
Females	227	58.2		
Males	163	41.8		
Total	390	100.0		
Race/Ethnicity				
Caucasian	262	67.2		
Hispanic	35	9.0		
African American	27	6.9		
Asian	14	3.6		
Native American	2	0.5		
Other	37	9.5		
Missing	13	3.3		
Total	390	100.0		
Relationship Status				
Single	213	54.6		
In a Relationship	134	34.4		
Married	41	10.5		
Missing	2	0.5		
Total	390	100.0		

Similarly, differences in perceptions associated with male and female stimulus photos can be said to be *related* to the gender of the stimulus photos but not *caused* by stimulus gender. Nonrandom assignment of participants to experimental conditions also means that it cannot be assumed that the groups were equivalent in all respects prior to exposure to their treatment combinations (Sommer & Sommer, 2002). Nonrandom assignment of participants to conditions could result in between-group treatment

differences being confounded with between-group participant characteristics (Kantowitz, Roediger, & Elmes, 2001). For example, if male participants were significantly older than female participants, Observer Gender would be confounded with Observer Age. Given this fact, it was important to evaluate the equivalence of groups on as many variables as possible (e.g., age, ethnicity, relationship status, body mass index, exercise intensity). Those comparisons were performed and the results are reported in Chapter Four. Two personal fitness variables, exercise intensity and use of supplements to enhance appearance, were found to be strongly associated with Observer Gender and group nonequivalence on these variables was corrected statistically using covariance analyses in addressing the research questions.

Sample size and power analyses. Warner (2008) has defined statistical power as "the probability of obtaining a test statistic [e.g., the *F* statistic in ANOVAs, R^2 in multiple regression] that is large enough to reject the null hypothesis when the null hypothesis is actually false" (p. 1021). In other words, statistical power is the probability of *avoiding* a Type II error (also called a β error). In the context of the present study, a Type II error would occur if a main or interaction effect that actually exists in the population failed to be detected as significant in an ANOVA or ANCOVA analysis of sample data or if a correlation that actually exists in the population failed to be detected as significant in a correlational analysis of sample data.

Of all of the factors that influence the statistical power of an analysis, sample size is the one that is most important *and* most likely to be under the control of the researcher. Although the overall sample size available in this study was fairly large, $N = 390$, data

cleaning and screening (reported in Chapter Four) reduced this sample size to 370 cases. Moreover, some analyses did not use the entire sample and were thus substantially smaller (e.g., analyses of actual-ideal distance that required participants to work with same-gender stimulus photos). Therefore, it was important to determine from one analysis to the next how much statistical power was available to support the analysis based on the size of the sample in the analysis. A-priori power analyses were performed to evaluate the statistical power available for the analyses that were used to address the study's research questions. IBM SamplePower software (Version 3.0) and G*Power (Version 3.1) software (Faul, Erdfelder, Lang, & Buchner, 2007) were both used for this purpose. Redundant power analyses were avoided, i.e., if two analyses used the same statistical technique with sample sizes that were not exactly equal, but very similar, the analysis was not repeated for all different sample sizes.

The statistical power for any statistical analysis is determined by a combination of factors, including sample size, the level of significance being used, and the strength of the effect in the population. In the power analyses performed for this study, level of significance was always set at $\alpha = .05$ and sample size was determined by data availability, but a decision had to be made about the strength of the population effect. In all cases, the power analyses assumed effects of medium strength. Effect size is measured by a variety of statistics (e.g., *d*, *f*, f^2, η^2, *r*, R^2). Many writers have suggested numerical values of these various measures that can be thought of as representing "weak," "medium," and "strong" effects (Cohen, 1988; Dattalo, 2008; Warner, 2008). In the

power analyses performed for this study, the analyses always began with an assumption that the population effect was of medium strength.

The results of the power analyses are presented in Chapter Four along with the results of the statistical procedures used to address the study's research questions. The statistical power offered by many of the analyses that were performed in the present study was superior in comparison to previous studies of body perception simply because this study had the benefit of a larger sample. As noted in Chapter Two, many previous studies of body perception were seriously underpowered due to their small sample sizes. In these underpowered studies, the probability of Type II errors was substantial, so the absence of significant effects (e.g., finding no difference between men's and women's perceptions of the ideal male or ideal female) might mean either that (a) there really was no effect to be detected, or (b) the study simply failed to notice an effect that exists (i.e., a Type II error). Given the small sample sizes that characterize much of the literature on body perception, this second option is not unlikely. In the present study, some analyses carried statistical power on the order of 99%, so the probability of Type II error was actually lower than the probability of Type I error ($\alpha = .05$). In those analyses, the absence of a significant effect can be taken at face value as indicating that there was no effect to detect, at least not one that was of a magnitude to have any practical importance.

Materials

Informed consent. All participants read and agreed to an informed consent statement prior to beginning the study that described the general purpose of the study, guaranteed confidentiality, listed contact information, and provided information

regarding IRB approval of the study. The specifics of these informed consent statements varied slightly over time, depending on the incentives being offered at the time, whether participants were men or women, whether participants were working with male or female stimulus photos, whether or not the deck of stimulus photos included cards representing the Average Body and Myself (as explained later), and whether participants were paid to participate. A typical sample informed consent is provided in Appendix A. It should be noted that all materials used in Study One are contained together in this Appendix.

Male stimulus photos. A Google Images Internet search (e.g., "slim men," "large men," "muscular men") yielded an abundance of photos of men that were appropriate for this study and covered a wide range of body types varying in muscularity, fitness, weight, leanness, and other physical characteristics. All stimulus photos depicted light-skinned individuals of otherwise indeterminate race/ethnicity (e.g., Caucasian, Hispanic, Native American, Asian). As illustrated in Figure 1 in Chapter One, other studies of body perception have also used body stimuli that intentionally lack cues to racial/ethnic identity (Segura-Garcia, Papaianni, Rizza, Flora, & Fazio, 2012; Stewart et al., 2009; Stunkard, Sorensen, & Schulsinger, 1983; Swami et al., 2008). This dissertation research was a study of how observer gender and body stimulus gender, not race or ethnicity, affected body perception. A set of 25 photos, covering the full variability of the male physique, were selected for use in this study. These photos appear in Figure 8.

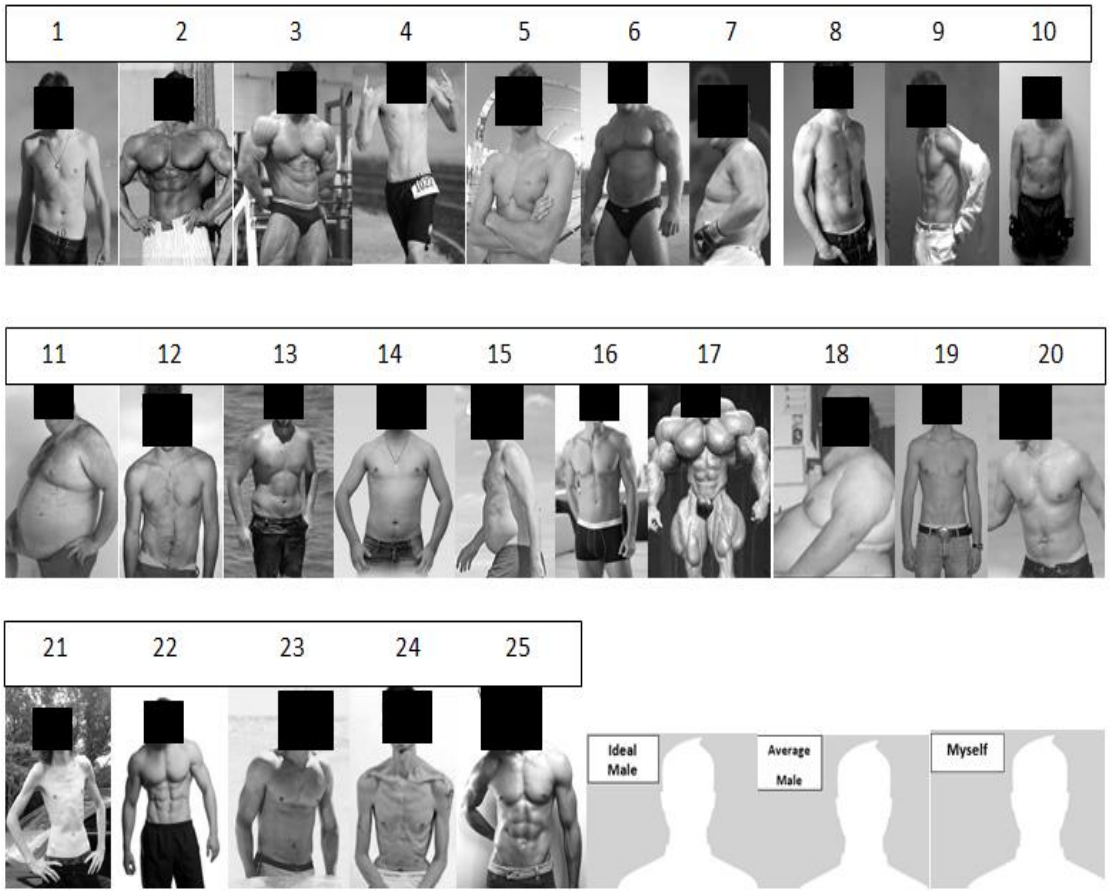


Figure 8. Male stimulus photos used in the research. The stimulus card deck also included three cards labeled Ideal Male, Average Male, and Myself.

Actual stimulus photos were approximately 2 inches wide and 3 inches tall. The men depicted were all shirtless. Faces were blacked out and extraneous backgrounds were cropped. Photos were printed in black and white and were assigned identifying numbers at random. In addition to these 25 photos, the deck of stimulus materials included three cards, also shown in Figure 8, with printed labels: Ideal Male, Average Male, and Myself.

Female stimulus photos. Another Google Images Internet search (e.g., "slim women," "large women," "muscular women") was used to develop a collection of 25

photographs of women of varying body types, all clothed in bikini style bathing suits (Figure 9). As with the male stimulus photos, and for the same reasons, all female stimulus photos depicted light-skinned individuals of otherwise indeterminate race/ethnicity. Faces were blacked out and extraneous backgrounds were cropped. Actual stimulus photos were all about 3 inches tall and varied in width from about 1.25 inches to 2 inches. Photos were printed in black and white and were assigned identifying numbers at random. In addition to these 25 photos, the deck of stimulus materials included three cards, also shown in Figure 9, with printed labels: Ideal Female, Average Female, and Myself.

While the naturalistic photos used as stimuli in the present study were not perfect (several problems with the stimulus materials are discussed at length in Chapter Five), they were consistent with the purposes of the study: (1) to examine perceptions of the natural male and female bodies, (2) to learn more about some of the more salient categories of body perception (i.e., the ideal, average, and own), and (3) to examine how characteristics of body perception covary with the Observer Gender, Body Stimulus Gender, characteristics of the participants' physique, and variables related to personal fitness.

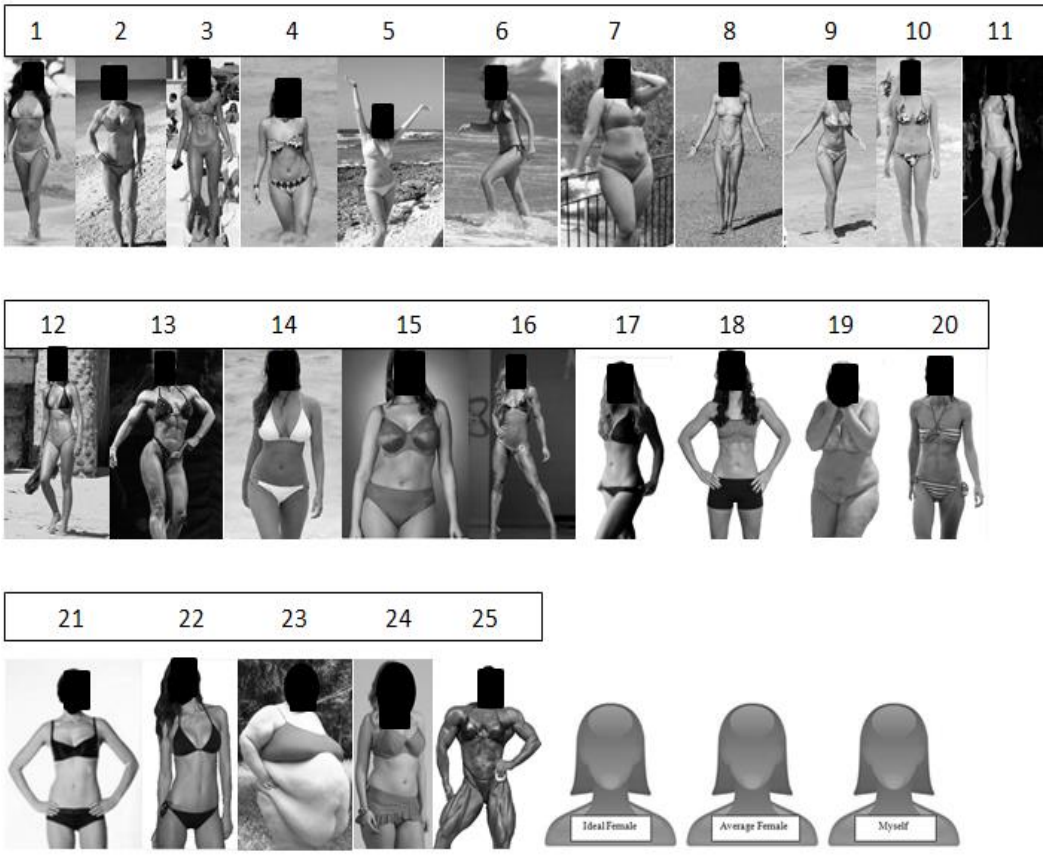


Figure 9. Female stimulus photos used in the research. The stimulus card deck also included three cards labeled Ideal Female, Average Female, and Myself.

Attribute rating scales. Materials used in the study included rating scales that allowed participants to rate their assigned stimulus photos (i.e., male or female photos) along each of several attribute dimensions. Previous research has shown that three semantic differential dimensions emerge repeatedly across studies as salient in organizing perceptions of a wide variety of stimuli: the *evaluative, potency,* and *activity* dimensions (Osgood, Suci, & Tannenbaum, 1957). Based on this fact, these three semantic differential attributes were represented in the present study by nine bipolar rating scales—three rating scales for each of the attribute dimensions as follows: (a) The *evaluative* semantic differential attribute was represented by the following bipolar rating

scales: *good-bad*, *beautiful-ugly*, and *healthy-sick*; (b) the *potency* semantic differential attribute was represented by the following bipolar rating scales: *large-small*, *strong-weak,* and *masculine-feminine*; and (c) the *activity* semantic differential attribute was represented by the following bipolar rating scales: *active-passive*, *fast-slow*, and *hot-cold*. Each of these nine scales was rated along a 5-point scale anchored at three points. A rating of 1 strongly denoted the first adjective in the pair, a rating of 5 strongly denoted the second adjective in the pair, and a rating of 3 denoting neutrality on that dimension. As recommended by Osgood et al. (1957), ratings on the three bipolar rating scales representing each of the three semantic differential dimensions were averaged to produce more stable measures of those three dimensions.

In addition to these three semantic differential dimensions, participants also rated stimulus photos according to the degree to which they evoked affective reactions of: *anger*, *sadness, surprise*, *disgust, happiness,* and *fear*. These emotions were selected as representing a cross-culturally common collection of basic affective experiences (Ekman, Friesen, & Ellsworth, 1982). The emotion rating scales were unipolar, rated along a 5-point scale that was anchored at three points: 1 = *no reaction;* 3 = *moderate reaction;* 5 = *strong reaction.*

Demographic questionnaire. Demographic, diet, and exercise information was obtained using a questionnaire that asked participants about their age, gender, weight, height, race/ethnicity, current relationship status, frequency and intensity of exercise, frequency of dieting behavior, and use of nutritional supplements to improve physical

appearance. Height and weight information was combined to calculate a body mass index (BMI) for each case as follows: BMI = (weight in pounds x 703) / (height in inches^2).

Procedure

Data were collected using surveys completed by participants as they worked through the tasks composing the research protocol. A sample survey is shown in Appendix A. Most surveys (321) were administered online to participants who received stimulus photos and instructions in the mail, but a few surveys (49) were completed with supervision in a laboratory setting. Laboratory and online participants were compared on two measures that might reflect thought and effort invested in the task: intra-rater reliability and number of photo piles created. There was no significant difference on either measure. Live participants completed the study in a laboratory room, typically in groups of two to six participants working independently. This live protocol was used exclusively during the initial stages of data collection to ensure that instructions were clear and that all problems that subsequent online participants might encounter would be understood by the researcher in advance and addressed fully in the written instructions provided to online participants. Online participants received the stimulus photos and written instructions in the mail and then went online to complete the research protocol hosted by SurveyMonkey©. After examining the appropriate stimulus photographs (i.e., male or female stimulus photos, depending on the participant's condition), both live and online participants completed the remaining tasks of the research protocol as described below and provided data by completing a survey as they worked. Specific instructions varied depending on factors such as whether the participant was working with male or

female stimuli; however, Appendix A provides an example of the kinds of instructions participants received with their stimulus materials

The research protocol is described in detail in subsequent sections, but a few preliminary comments here will be helpful. Participants began the protocol by sorting the deck of stimulus cards into piles based on similarity. The Ideal Body, Average Body, and Myself cards were treated as stimuli during this sorting task and were sorted into piles along with the actual photos in the deck. The Myself card was not included in the decks of men working with female photos or in the decks of women working with male photos. In addition, because data collection took place over a period of four years, during which the aims of the study evolved, the Average Body and Myself cards were not included in all participants' stimulus materials. The Average Male card was included in the decks of 63 out of 117 women and 21 out of 86 men. The Myself card was included in the decks of 55 out of 86 men who viewed male photos. With those exceptions, all participants received all stimulus cards. Following the card sort task, participants judged the similarity between all possible pairs of photo piles as is described below. The purpose of the card sorting and similarity judgments tasks is explained next.

Card sorting and similarity judgments. The first two tasks performed by participants—card sorting and similarity judgments—were used to gather information about participants' perceptions of body similarities and differences, what is often called proximity data (in the sense that similar bodies can be thought of as close together or proximate, while dissimilar bodies can be thought of as more distant). These proximity data were analyzed using multidimensional scaling analysis (Meyers, Gamst, & Guarino,

2013) to produce several measures of body perception that were used in this study. That application of multidimensional scaling (MDS) will be described later, but here the focus here is on how the proximity data were gathered.

The input to MDS is called a proximity matrix. This proximity matrix contains numerical judgments of the similarity between all possible pairs of stimuli—bodies in the present study (Meyers et al., 2013). Although it is common in MDS for observers to judge the similarity of all possible pairs of stimuli, to have done so in this study, involving this large a number of stimuli (25 photos plus Ideal Body, Average Body, and Myself), would have required a series of 378 judgments—well beyond the motivational limits of most participants. An alternative approach to generating proximity matrices was designed as follows.

In the first step of the procedure, participants were instructed to sort the deck of stimulus photos into between four and nine piles based on their similarity. This range was suggested by findings from a pilot study. No additional instructions were provided to participants to clarify the definition of "similarity." Rather, the intention was for participants to be free to use whatever dimensions, features, or characteristics were salient in their own minds (consciously or implicitly) as they sorted the photos for similarity. Participants were allowed to make a pile of a single photo, including the Ideal Body, Average Body, or Myself cards, if they believed the lone stimulus was sufficiently unique to require its own pile.

Sorting photos into piles like this provides a binary measure of proximity in this sense: If two photos are in the same pile, they are "similar," and if the photos are in

different piles, they are "different." Whaley and Longoria (2009) provided an excellent review of how card sort data like these can be prepared for analysis using MDS. It is possible to directly analyze a matrix of binary proximity data, but binary proximities provide a coarse measure of inter-stimulus similarity at best. All stimuli within a given pile are treated as equally similar, when they probably are not, and stimuli in different piles are treated as equally dissimilar, when they probably are not. There is no "fix" to the first problem, but in an attempt to rectify the second problem, participants completed a second step after sorting photos into piles.

Once photo piles were created, participants used an 8-point scale (1 = *very different* to 8 = *very similar*) to judge the similarity between of all possible pairs of photo *piles*, and all photo pairs from two piles were assumed to carry the same degree of similarity as the piles from which the photos came. For example, if Pile A (containing photos 1 and 2) and Pile B (containing photos 3 and 4) received a similarity judgment of 5, then photo pairs 1-3, 1-4, 2-3, and 2-4 were all assumed to have a similarity level of 5. Since the similarity of stimuli within a pile must logically be greater than the similarity between stimuli in separate piles, the similarity of photos within any given pile was set at 9, one unit greater than the maximum value of 8 that participants were allowed to use in judging the similarity between photo piles. Thus, in the example above, photo pairs 1-2 (in Pile A) and 3-4 (in Pile B) would each be assigned similarity ratings of 9. This method of generating proximities was a compromise, chosen to achieve a balance between several considerations: (a) using a sufficient number of stimulus photos to cover

the variability of the human physique; (b) controlling the work load on study participants; while (c) still obtaining as much inter-stimulus proximity data as possible.

Attribute ratings. MDS studies often have observers rate the stimuli being studied (bodies) on each of a series of attribute rating scales (Diekhoff, 1992). These ratings can be used in evaluating the importance of the attributes in organizing perceptions of the stimuli. How this is accomplished is explained later. The focus here is still on how the data were gathered.

In the present study, with 28 body stimuli (including 25 photos and Ideal Body, Average Body, and Myself cards) and 15 attribute rating scales (nine 5-point bipolar rating scales representing the three semantic differential dimensions *evaluative, potency,* and *activity* and six 5-point emotional reaction rating scales *anger, sadness, surprise, disgust, happiness,* and *fear*), the work load (420 ratings) would have been excessive. An alternative procedure was developed as follows. Instead of rating each photo on each attribute, participants rated each of their photo *piles* on each of the 15 attribute rating scales. All of the photos in a pile were then assumed to take on the same attribute ratings as the pile within which the photos were members.

Intra-rater reliability assessment. After completing the card sort task, pile similarity judgments, and attribute ratings, participants closed and submitted their surveys. They were then automatically redirected to another survey (Appendix A), where they were instructed to re-rate a series of 10 items from the earlier survey. It was in this last step of the research protocol that data were gathered to evaluate intra-rater reliability.

Responses given to the first and second sets of items were used to calculate intra-rater reliability coefficients as described previously.

Dependent Variables

Multidimensional scaling analysis. As indicated previously, several of the body perception dependent variables in this study were obtained using multidimensional scaling analysis (MDS) (Meyers et al., 2013). Before describing those variables it will be helpful to describe how they were obtained. All of the MDS analyses discussed here were performed previous to the present study, and the body perception variables that were created were already a part of the archival data file that was analyzed for this study

MDS is often used in perception psychology and was used in this study to analyze the proximity data that were produced by the card sort and pile similarity rating tasks. MDS graphically summarizes a proximity matrix by representing each stimulus (body) as a point in space, separated from the other stimulus points (bodies) by physical distances that correspond to the judged inter-stimulus proximities. What is created is a map of stimulus points in a space of one, two, or more dimensions (Meyers et al., 2013). In order to choose the appropriate number of spatial dimensions into which the stimulus points are mapped, one's aim is to balance the dual goals of: (a) maximizing the fidelity or goodness-of-fit between the original numerical proximity judgments and the physical distances between points in the stimulus map (sometimes referred to as minimizing the "stress" of the solution), and (b) achieving parsimony by using the smallest number of dimensions that will adequately represent the observer's similarity judgments (Diekhoff, 1992).

In the present study, two-dimensional solutions were deemed to be sufficient for all individual maps for the following three reasons. First, Kruskal and Wish (1978) have suggested that the maximum useful dimensionality of an MDS solution, *D*, is equal to:

$$D \leq (k - 1) / 4$$

where,
D = the number of dimensions and *k* = the number of stimulus elements being mapped

Although 28 stimulus elements were mapped (25 photographs, Ideal Body, Average Body, and Myself), proximities were generated by instructing observers to rate the similarity between 4-9 *piles* of stimulus photos. Thus, even with $k = 9$ piles, the maximum possible, $D = 2$ map dimensions. Second, each successive dimension provides less and less reduction of stress, with the first one or two dimensions typically capturing most of the essential information contained in the individual's similarity judgments (Diekhoff, 1992). Third, two-dimensional solutions produced good to excellent goodness-of-fit for all cases analyzed. In this study, the goodness-of-fit between an individual's similarity judgments and the mapped distances was measured using the squared correlation between inter-stimulus similarity judgments and inter-stimulus mapped distances. Using two-dimensional solutions, these squared correlations ranged from $r^2 = .73$ to $r^2 = 1.00$ with an average $r^2 = .94$ ($SD = .05$).

The "stimulus map" that is produced using MDS summarizes the observer's judgments of inter-stimulus similarity and also provides a way of identifying which stimulus attributes the observer relied upon (knowingly or otherwise) in judging these

similarities (Diekhoff, 1992). In the present study of body perceptions, MDS was used to determine which attributes and affective reactions served as perceptual filters by men and women observers tasked with evaluating the similarity of photographs of male or females in the card sorting and similarity judgment tasks. By examining correlations between the ordering of stimuli as they are configured in the stimulus map with the observer's numerical ratings of the stimuli on a series of potentially relevant stimulus attribute dimensions, one can identify which attributes were more important and which were less important in guiding the observer's similarity judgments.

Stimulus attribute salience. Schiffman, Reynolds, and Young (1981) explained in more specific terms how regression analysis can be used to determine the degree to which any given attribute was important in guiding the similarity judgments that are reflected in an individual's MDS stimulus map, and they also explain how to plot the most salient attributes into the stimulus map as vectors. To illustrate, Figure 10 shows the stimulus map for a male participant in the present study, along with five vectors representing some of the attributes that most salient for him.

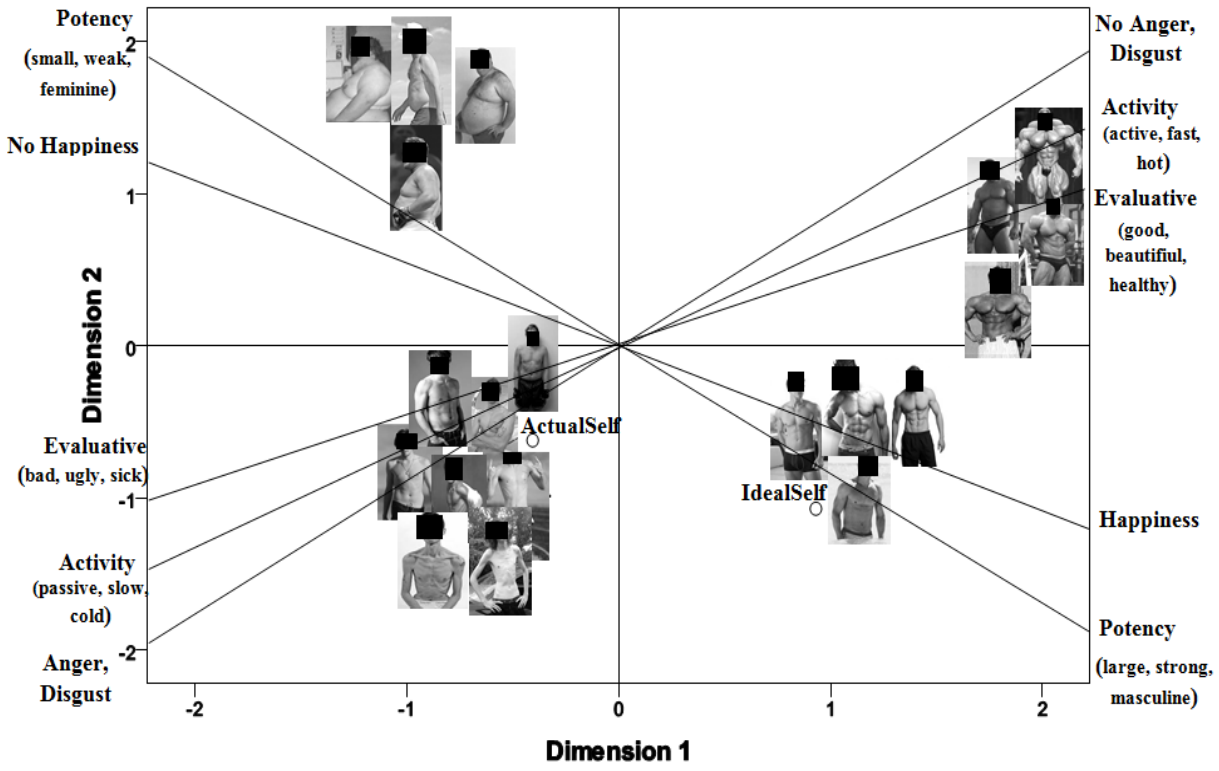


Figure 10. Example of a multidimensional scaling stimulus map for a male participant working with male body stimuli. Some overlapping stimulus photos are not shown (Danilova, Diekhoff, & Vandehey, 2013).

In any MDS stimulus map, the locations of stimulus points are captured by their numerical coordinates along the horizontal and vertical dimensions of the map. Taken collectively, these coordinates serve as a numerical analog of the visual map. If the individual whose map is being examined has also rated each stimulus in that map on several attributes, then regressing the attribute ratings (the dependent variable in the regression analysis) on the Dimension 1 and Dimension 2 map coordinates of the stimuli (the independent variables in the regression analysis) will produce a squared multiple correlation, R^2, which indicates the proportion of variance in the mapped locations of stimuli that was explained by the attribute that served as the dependent variable in the

analysis. As such, the R^2 value calculated for each attribute rating scale measures the importance or salience of that attribute in influencing the individual's similarity judgments of the mapped stimulus objects (Diekhoff, 1992).

In the present study, all nine attributes rated by participants—three semantic differential attributes (*evaluative, potency, activity*) and six emotional reaction attributes (*anger, sadness, surprise, disgust, happiness,* and *fear*)—were evaluated for their salience in organizing body perceptions. Thus, body perception variables included in the archival dataset included measures of the salience of each of the nine attributes for each of the cases in the dataset. These variables tell us how important each of the nine attributes were in organizing the body perceptions of each of the participants.

Body perception acuity. Another body perception variable that was available in the dataset was a record of the number of photo piles created by each participant as he or she sorted the body stimulus photos into piles. Participants were allowed to use between four and nine piles and the number of piles used by an individual can be thought of as a measure of body perception acuity (i.e., sensitivity to subtle physical differences). The idea is that an observer who has viewed a collection of 25 body stimulus photos and identified only four or five groupings of similar photos was probably not as attuned to subtle stimulus differences as an observer who grouped those 25 photo stimuli into eight or nine piles.

Ideal body selections. All participants, whether they sorted male or female stimulus photos, were asked to include the Ideal Body card in one of the piles. Although the Ideal Body card could have been placed into a pile by itself (indicating that none of

the photos was similar to the observer's notion of the "ideal" body), this happened only once, with a female participant who was working with female body stimuli. For all other participants, the placement of the Ideal Body card served to identify which of the 25 photos each participant considered to be ideal. Knowing which stimuli were identified as ideal by each observer enabled exploring those choices as a function of other variables (e.g., Observer Gender).

Ideal body category width. It makes more sense to think of the ideal body as a perceptual category that is represented by multiple examples rather than to think of the ideal body as a specific, single body. The fact that participants in this study routinely included multiple photos in the same pile with the Ideal Body card supports this conclusion. And once we think of the ideal body as a perceptual category rather than as a single stimulus, it becomes important to measure the width, breadth, or variability of that category. How broad or narrow is each observer's definition of the ideal body? In this study, the number of stimulus photos that were included in the same pile with the participant's Ideal Body card served as a measure of the ideal body category width for that individual. This dependent variable must be used cautiously, however, since the number of photo piles an observer created would affect the number of photos appearing in each pile, including the Ideal pile. Therefore, when ideal body category width is used as a dependent variable, number of piles must be used as a covariate.

Ideal body consensus. Knowing which body stimuli were identified as "ideal" by each participant not only gives insight into that individual observer's perceptions but also provides the data for examining *group* perceptions of the ideal. Looking *across* the

individuals in any particular group, how many different body types were collectively selected as ideal? In this study, the number of body stimuli selected as ideal by at least 20% of any given group served as a measure of that group's consensus (actually, *lack* of consensus) regarding the ideal body. For instance, if 5 out of 25 photos were identified as ideal by at least 20% of the members of Group A, and 10 out of 25 photos were identified as ideal by at least 20% of the members of Group B, Group A would be viewed as displaying greater consensus or person-to-person agreement regarding what constitutes the ideal body. Or, viewed from another perspective, Group B would be viewed as more displaying more diversity or flexibility as a group in what is taken as ideal.

Emotional reactions to ideal body. Each participant rated each of his or her stimulus piles for evoked *anger, sadness, surprise, disgust, happiness*, and *fear*. In addition to evaluating the importance of those emotional attributes in organizing body perceptions (as described earlier), it was also possible to look at observers' emotional ratings to stimulus bodies defined as "ideal," thus producing the following dependent variables for each observer: Ideal Body Anger, Ideal Body Sadness, Ideal Body Surprise, Ideal Body Disgust, Ideal Body Happiness, and Ideal Body Fear. Each of these measures provides an index of the degree to which observers experienced the corresponding emotion when viewing body stimuli grouped together as ideal.

Emotional reactions to myself (i.e., actual body). Participants' ratings of their emotional reactions to the various piles of body stimuli included ratings of bodies that were viewed as similar to their own bodies. That produced the following dependent

variables for each observer: Actual Body Anger, Actual Body Sadness, Actual Body Surprise, Actual Body Disgust, Actual Body Happiness, and Actual Body Fear.

Ideal-actual discrepancy. The MDS stimulus maps created for study participants who worked with stimuli of the same gender (i.e., women viewing female bodies and men viewing male bodies) included as stimulus points both the Ideal Body and Myself. The squared Euclidean distance (d^2) between the Ideal Body and Myself was calculated and recorded in the archival data file using the coordinates of these two stimulus points on Dimensions 1 and 2 of the stimulus map as follows:

$$d^2_{\text{Ideal-Myself}} = (\text{Dim1}_{\text{Ideal}} - \text{Dim1}_{\text{Myself}})^2 + (\text{Dim2}_{\text{Ideal}} - \text{Dim2}_{\text{Myself}})^2$$

The Ideal-Actual distance can be taken as a measure of dissatisfaction with one's own body, or at least an indication of the degree to which each participant viewed his or her body as deviating from the gender ideal. The greater the mapped distance between the Ideal Body and Myself, the greater the body dissatisfaction.

Statistical Analyses

Analyses of the archival quantitative data fell into three categories. First, analyses were used in data cleaning and screening. Second, descriptive analyses were used to summarize the characteristics of study participants, followed by comparisons of samples to evaluate potential nonequivalence caused by nonrandom assignment to conditions. Third, analyses were performed that directly addressed the research questions posed in the proposed study.

Data screening and cleaning. Tabachnick and Fidell (2013) have recommended that data screening and cleaning activities proceed in the following order: evaluate the

accuracy of the data, deal with missing data, identify univariate outliers, and assess the normality of distributions on continuous variables. Accuracy of data entry was evaluated in this study by generating frequency distributions for all variables. These distributions were examined for the presence of any impossible or out-of-range values which were addressed by going back to the raw data. Entries identified as inaccurate were either corrected, if possible, or treated as missing data when it was impossible to determine the correct value.

The archival dataset analyzed in Study One contained a considerable amount of missing data, but data were not missing because one or another group of participants selectively refused to provide those data. Rather, missing data were primarily a result of the fact that certain types of data were not collected throughout the entire period that data were collected. For instance, more information is missing about men's perceptions of the Average Male body than the Ideal Male body. That is not because men refused to answer questions put to them about the Average Male. Rather, they were *not asked* those questions until later in the data collection process. The vast majority of missing data is due to this same cause.

Tabachnick and Fidell (2007) offered several alternatives by which missing data can be imputed or restored (e.g., by using a group mean or using regression analysis to predict the missing value from scores on other variables), but they concluded that any decision one makes in regards to handling missing data is "a choice among several bad alternatives" (p. 63). No data imputation was attempted in this study. Rather, the study used listwise deletion of cases with missing data such that in a particular analysis,

involving a specific set of variables, cases will be eliminated entirely for whom complete data were not available.

Univariate outliers were identified by standardizing scores on continuous variables and screening for cases with *z*-scores exceeding $\pm$3.30 ($p < .001$ in a normal distribution) (Warner, 2008). Scores identified in this fashion in the present study were treated as missing data, but the case's scores on other variables were retained for analysis, provided of course that those other scores were not also outliers.

The normality of distributions of continuous variables was evaluated both visually, by examining frequency histograms, and statistically, by calculating statistical indices of skewness and kurtosis and screening for values exceeding $\pm$1.0 (Meyers et al., 2013). Tabachnick and Fidell (2013) recommended several data transforms that reduce skewness and leptokurtosis, including the log10 transform, square root transform, and reciprocal transform. All of these transforms were found to be necessary in the present study with various variables, as was dichotomizing a continuous variable with a distribution that could not be normalized using any of the transforms.

Other data screening measures were also called for prior to performing certain analyses, including: (a) looking for multivariate outliers prior to running multivariate procedures, (b) assessing homogeneity of variance and homogeneity of variance-covariance matrices assumptions in ANCOVAs and MANCOVAs, (c) testing for multicollinearity in multiple regression, and (d) evaluating relationships for nonlinearity in several multivariate procedures (Meyers et al., 2013). Procedure-specific data

screening procedures were performed prior to conducting those analyses and are presented in Chapter Four.

Analysis of participant characteristics. After data were cleaned and screened, participant characteristics were summarized using descriptive statistics as appropriate (i.e., means and standard deviations for continuous variables, frequency counts and percentages for categorical variables). As noted previously, it was also important to compare samples assigned to the various treatment combinations in the 2 x 2 design (i.e., men exposed to female photos versus men exposed to male photos and women exposed to female photos versus women exposed to male photos) to evaluate the assumption that the samples are equivalent. A series of 2 (Observer Gender) x 2 (Body Stimulus Gender) between-subjects factorial ANOVAs were used for that purpose, with one ANOVA for each of the following demographic dependent variables: age, BMI, exercise, diet, and use of supplements. Chi-square tests were used to compare samples in the four cells on demographic variables that are categorical (i.e., race/ethnicity and relationship status).

Given the large sample sizes available in this study, even small, unimportant demographic differences are likely to be found to be statistically significant, therefore a very stringent level of significance was used in identifying potential sample nonequivalence ($p < .001$) and measures of effect strength ($\eta^2$with ANOVAs and Cramer's V statistic with χ^2 analyses) were used to help evaluate the practical importance of any significant differences that were identified. The sample equivalence analyses identified two personal fitness variables that differed strongly and significantly between men and women participants: exercise intensity and the use of supplements to enhance

physical appearance. These two variables were statistically controlled in subsequent analyses by using the variables as covariates.

Research questions. Eight research questions to be addressed by this study were listed in Chapter One. Those questions and the statistical analyses that were used to address them are summarized in Table 2.

Table 2

Summary of Statistical Analyses Proposed to Address the Eight Research Questions

Research Questions	Analyses
1. What perceptual attributes (i.e., *evaluative*, *potency*, *activity*) and affective reactions (i.e., *anger*, *sadness*, *surprise*, *disgust*, *happiness*, *fear*) are salient as participants organize their perceptions of the human body?	1a – 1c. Two 2 x 2 between-subjects factorial MANCOVAs for two sets of DVs IVs: Observer Gender, Body Stimulus Gender
1a. Does observer gender influence the salience levels of the attributes examined in the study?	Covariates: Exercise Intensity and Supplement Use DVs (first analysis): *Evaluative*, *Potency*, and *Activity*
1b. Does the gender of the body stimulus influence the salience levels of the attributes examined in the study?	DVs (second analysis): *Anger*, *Sadness*, *Surprise*, *Disgust* *Happiness*, and *Fear*
1c. Do observer gender and body stimulus gender interact in determining the salience of the attributes examined in the study?	Univariate ANCOVAs to explore effects Bonferroni-adjusted post-hoc comparisons
2. How much acuity (i.e., sensitivity to physical differences) do participants display in their perceptions of the human body?	2a – 2c. One 2 x 2 between-subjects ANCOVA IVs: Observer Gender, Body Stimulus Gender

(continued)

2a. Does observer gender influence acuity in human body perception?	Covariates: Exercise Intensity and Supplement Use
2b. Do participants show different levels of acuity in their perceptions of the female and male bodies?	DV: Number of photo piles created
2c. Do observer gender and body stimulus gender interact to influence levels of acuity?	Bonferroni-adjusted post-hoc comparisons
3. What is the "ideal female" body?	3 and 3a.
3a. Do men and women agree?	A series of 25 *z*-tests for independent proportions will identity: (1) female body stimuli chosen as ideal more often by men than women; (2) female body stimuli chosen as ideal more often by women than men.
3b. How much consensus exists among men?	
3c. How much consensus exists among women?	
	Visual inspection of these body stimuli will be used in describing the features of the female body preference.
	3b – 3c
	Calculate two proportions: (1) proportion of the 25 female bodies chosen as "ideal" by at least 20% of female participants; (2) proportion of the 25 female bodies chosen as "ideal" by at least 20% of male participants.
	z-test for independent proportions to identify significant difference in proportion levels among men and women.
4. What is the "ideal male" body?	4 and 4a.
4a. Do men and women agree?	A series of 25 *z*-tests for independent proportions to identify: (1) male body stimuli chosen as ideal more often by men than women; (2) male body stimuli chosen as ideal more often by women than men.
	Visual inspection of these body stimuli will be used in describing the features of the male body preferences of women and men.

(continued)

4b. How much consensus exists among men?	
4c. How much consensus exists among women?	4b – 4c Calculate two proportions: (1) proportion of the 25 male bodies chosen as "ideal" by at least 20% of female participants; (2) proportion of the 25 male bodies chosen as "ideal" by at least 20% of male participants. *z*-test for independent proportions to identify significant difference in proportion levels among men and women.
5. At the individual level, how broad are participants' "ideal body" perceptual categories? 5a. Does observer gender influence category width? 5b. Does the gender of the body stimulus Influence category width? 5c. Do observer gender and body stimulus gender interact in determining the width of the category for "ideal body?"	5a – 5c. 2 x 2 between-subjects ANCOVA IVs: Observer Gender, Body Stimulus Gender Covariates: Number of photo piles DV: Number of photos in the "ideal" pile Bonferroni-adjusted post-hoc comparisons
6. How do participants react emotionally to Examples of the "ideal female" and "ideal male" bodies? 6a. Do these emotions differ as a function of Observer gender? 6b. Do these emotions differ as a function of body stimulus gender?	6a – 6c. 2 x 2 between-subjects factorial MANOVA IVs: Observer Gender, Body Stimulus Gender Covariates: Exercise Intensity, Supplement Use

(continued)

6c. Do observer gender and body stimulus gender Interact in determining emotional reactions?	DVs: *Anger*, *Sadness*, *Surprise*, *Disgust*, *Happiness*, and *Fear* Univariate ANCOVA to explore effects Bonferroni-adjusted post-hoc comparisons
7. How satisfied or dissatisfied are Participants with their bodies? Do men and women differ in levels of body dissatisfaction?	7. One-way between-groups ANCOVA IV: Observer Gender Covariate: Exercise Intensity, Supplement Use DV: Actual-Ideal distance
8. Are fitness or demographic characteristics predictive of body perception characteristics?	8. A series of standard multiple regression analyses, one for each DV IVs: Exercise Intensity, Dieting Behavior, Supplement Use, BMI DVs: Actual-Ideal distance, emotional reactions to "myself," emotional to "ideal," body perception acuity, salience of the three semantic differential dimensions, salience of the six emotional attributes

Study Two: Qualitative Component

Two distinct qualitative methods were used in Study Two to shed light on the cognitive and affective processes involved in men's and women's perceptions of male and female bodies, with a special focus on body ideals. The first was the "think aloud" method (Ericsson & Simon, 1984, 1993). Second, when the think aloud portion of the interview was completed, open-ended questions were used to further explore participants' awareness of the body perception process. Although Study Two also involved collecting

numerical ratings of specific emotional reactions—*anger, sadness, surprise, disgust, happiness,* and *fear*—in response to Ideal, Average, and Myself body categories, the purpose of that exercise was to give participants a task that would direct their attention toward their emotional responses in the situation. These numerical ratings were not analyzed and served only to stimulate discussion of emotional responses to various body types. The overall purpose of Study Two was to complement the findings from Study One in a way that explained *how* and *why* those findings might have emerged. It was proposed that such explanations could be obtained by delving into the underlying processes involved using a new sample of participants engaged in a parallel task to those participants who completed Study One.

Data Collection

Participants

A typical cases sampling strategy was used. This sampling method focuses on selecting and studying several cases that represent the average of the population of interest in order to better understand the typical processes that take place in that population (Patton, 2015). In order to ensure consistency, representation, and generalizability to the sample in Study One, a new sample of male and female participants was recruited for Study Two using flyers (Appendix B) from the same university where the quantitative data were collected. In addition, the study was listed online in the research options menu for students at Midwestern State University (Appendix C). Upon completion of Study Two, participants received credit for their research participation as well as a $25 monetary reward.

Sample size requirements in qualitative research depend on whether the researcher is interested in depth or breadth in the information that is collected (O'Reilly & Parker, 2012; Patton, 2015). The use of 8-15 participants has been recommended as an optimal number for studies that use one or two interviews per participant (Hill, Thompson, & Williams, 1997). With this in mind, a sample of 10 participants was selected, including five women and five men.

Instruments

Informed consent form. Participants read an informed consent form (Appendix D) prior to participating in Study Two. A single informed consent covered both participation in an initial demographic screening (see below) as well as participation in the interview for those participants who were selected for the interview. Participants were informed that they might or might not be selected for the interview portion of the project.

Demographic questionnaire. Demographic information was collected from study volunteers using a brief online survey hosted by SurveyMonkey© (Appendix E). The data collected included information about age, sex/gender, current relationship status, race/ethnicity, sexual orientation, socioeconomic status, weight, height, exercise frequency and intensity, dieting behavior, and use of nutritional supplements. This information was used to approximately match the characteristics of Study Two participants to those of Study One participants from whom the same information was collected. The purpose of collecting information about sexual orientation and socioeconomic status was to create opportunities to explore diversity factors in ways that

were not included in Study One but were an important consideration in understanding men's and women's perceptions and emotional reactions to male and female bodies.

Visual stimuli. Male and female body photographs used in Study Two were identical to those used in Study One.

Interview protocol. A semi-structured interview format, consisting of 11 scripted questions, was used to ensure standardization and consistency across all interviews. The open-ended questions asked (Appendix F) as well as follow-up prompts and clarifications were based on the researcher's own experience of the interview process as well as the conceptual map that she created (Appendix G). The researcher measured emotional reactions to the stimulus photos using a 5-point Likert scale (1 = weak emotion, 5 = strong emotion). The purpose of these emotional ratings was not only to capture participants' responses to a particular group of pictures but also to create a starting point for exploring the participants' emotional responses.

Procedure

The protocol for Study Two was reviewed by both the TWU and MSU Institutional Review Boards.

Recruitment. Several professors at MSU were asked to offer their students the opportunity to earn bonus points by participating in this and other research studies that were available to them at the time. Additional participants were recruited through recruitment flyers posted in allowable MSU locations. Finally, the study was posted online on the MSU Psychology Department research participation options menu, which is frequently visited by students in certain MSU psychology courses who are required to

complete 90 minutes of research participation (or read an article on research ethics and write a short summary of the article). If personal solicitation of participants appeared to be necessary, the researcher asked permission to visit classes and encouraged participation in the study using Appendix C as a script outline.

Recruitment of participants for Study Two took place in a two-step process. At step one, individuals who volunteered to participate in the study were screened using their responses to the demographic survey to identify samples of five men and five women who had characteristics roughly similar to those of Study One participants. At step two, those identified as potential participants were contacted by email to arrange individual appointments to complete the study. Many more participants (i.e., 53) completed the demographic survey than the 10 who were ultimately selected to take part in the interview process.

Participants who completed only the demographic survey earned 10 minutes of credit toward their 90-minute research participation requirement. Participants who completed the demographic survey and went on to also complete the interview earned 110 minutes of research participation credits and were also paid $25 upon completion of the study.

Interviews. Individual face-to-face interviews were conducted by the researcher in the private office space available in the university psychology laboratory. Each interview was expected to take about 90 minutes. Audio recording equipment and other materials were in place when participants arrived.

Upon arrival, the purpose of the study was reviewed, and participants were asked if they had any questions. Participants were asked to read and sign a printed copy of the informed consent form previously completed online so that they could keep a copy of the informed consent as suggested by the guidelines of the Texas Woman's University IRB. Following this, participants' first task was to sort the stimulus photos, including the Ideal, Average, and Myself cards, into between four and nine piles based on similarity. If participants requested clarification of the meaning of "similarity," they were told to define it in any manner they preferred. Once the photos were sorted into piles, each pile was labeled with a letter (i.e., A, B, C, D, E, etc.) to make it easier to identify piles as they were discussed later. Half of the participants worked with male photos first, and half worked with female photos first in order to counterbalance any potential order effects (Rosenthal & Rosnow, 1991). Participants were instructed to think aloud continuously while sorting photo stimuli. The "think aloud" method is described by Ericsson and Simon (1993) as a method of gaining access into the mental activities that take place as individuals engage in any of a variety of tasks. Participants who use the method are instructed to try to make a direct connection between their thoughts and their verbalizations, talking at all times and pausing only when necessary to collect their thoughts.

The researcher provided prompts as needed to keep participants talking throughout the sorting task. Thinking aloud has been used to shed light on a wide variety of cognitive processes, including decision making, second-language learning, text comprehension and writing, problem solving, and in dozens of additional areas of

research (Ericsson & Simon, 1984, 1993). In the present context, thinking aloud provided a spontaneous look at the thoughts and emotions that occurred as participants sorted body stimuli according to similarity and rated their ideal, average, and actual body categories for the emotions they elicited.

When the card sorting task was completed, the piles containing the Ideal, Average, and Myself cards were identified, and participants were asked to explain why they placed the photos they did into those piles. They were also queried about their perceptions of the differences between the photos in the Ideal, Average, and Myself piles.

Next, the three piles—Ideal, Average, and Myself—were rated according to the strength of the emotional reactions they elicited. Each participant was asked to rate his or her emotional reaction (i.e., anger, sadness, surprise, disgust, happiness, and fear).

The interview procedure that has just been described was then repeated using either male or female photos—whichever photos were not already used in the first half of the interview. At the conclusion of the interview, participants were thanked for their assistance and were asked for current contact information to facilitate the final phase of the protocol, the follow-up. Participants were also provided with a list of counseling referral sources should they have experienced distress during or after the interview (see Appendix K).

Interview transcription. A professional transcription service was used to convert audio recordings to printed form. The transcription service was provided with no information regarding the source of the recordings. Consequently, they only knew what

they heard on the tapes. Only the participant's first name was known to the researcher and only this first name was heard in the audio recordings.

Follow up. In order to establish credibility and trustworthiness of the method, data collection and data analyses were closely monitored and documented. Researcher thoughts, reactions, analytical hunches, and process observations prior, during, and after each of the interviews were recorded. Deviations from protocol were noted and explained, and ideas for modifying future interviews were considered. These deviations were relatively common in the initial interviews as participants frequently went on tangents. The researcher became increasingly proficient at keeping interviews on track. Once interviews were transcribed verbatim, each participant received a copy of the original version of his or her transcript in order to make sure that the transcripts were accurate and to provide an opportunity for each individual to voice his or her desire to omit any sensitive information from the transcript. Participants were given a final opportunity to provide feedback on the accuracy of the transcripts when they received a brief summary of results after the last step of coding was finalized (Miles, Huberman, & Saldaña, 2014).

Data Analysis

Thematic Analysis

Thematic analysis is an empirical method for identifying, analyzing, and interpreting patterns of meaning, or themes, in a given data set (Braun & Clarke, 2006, 2012). A *theme* is a specific pattern of meaning that is found in the data containing both semantic (explicit) and latent (implicit) contents, and the overall goal is to illustrate the

most salient constellations of meanings that are present in the data along cognitive, affective, and symbolic dimensions (Joffe, 2012). Thematic analysis is rooted in a historically quantitative tradition of content analysis and shares many of its principles and procedures. Content analysis encompasses establishing categories and then counting the number of times content appears in each category. The method is appealing because it offers a model for a synthesized analysis of both elicited and naturally occurring data. Thematic analysis was originally developed to take content analysis one step further: to go beyond the observable into more implicit and thematic structures that guide people's meaning making (Holton, 1973; Joffe, 2012).

One of the advantages of thematic analysis is its flexibility, in the sense that it is a method but not a methodology (Braun & Clark, 2006, 2012). Many other qualitative approaches *are* methodologies (e.g., grounded theory, interpretive phenomenological analysis) in that they provide a theoretically informed framework for collecting and analyzing data. Thematic analysis, on the other hand, is an atheoretical method for the coding and discovery of themes which can be applied across a broad range of theories and epistemological approaches (Braun, Clark, & Terry, 2015; Joffe, 2012). Thematic analysis can be a realist method, for example, which reflects experiences, meanings, and the reality of participants, or it can be a constructionist method that examines the ways in which events, realities, meanings, and experiences are constructed within a given societal construct (Braun & Clark, 2006, 2012).

One of the major criticisms of thematic analysis is that because it is atheoretical, it is an unsophisticated method that simply describes and summarizes the obtained data.

This criticism is based upon a misunderstanding of the method and the false assumption that the application of a method that is theoretical flexibility is equal to unsophisticated theoretical absence. This is not the case at all. In fact, when using thematic analysis, the researcher must begin by answering these questions (Braun, Clark, & Terry, 2015):

- What broad ontological and epistemological frameworks will underpin the use of thematic analysis?
- Will thematic analysis be used inductively (bottom up) or deductively (top down)?
- What type of coding, semantic (explicit) or latent (implicit) will be used in order to produce meaningful patterns?

The present study utilized a social constructivist view, which states that the world of human perception is not real in an absolute sense because any notion of "truth" is matter of shared meanings and consensus, interpersonally and intersubjectively created within a specific context (Patton, 2015). Constructionist philosophy is built on the notion of ontological relativity that holds that all plausible statements about existence depend on one's worldview and that no worldview is uniquely determined by empirical evidence about the world. Constructionist philosophy is also epistemologically subjectivist in the sense that the qualitative researcher is also continuously engaged in the social construction of reality as opposed to objectively depicting such reality (Patton, 2015). The inductive method (from the raw data itself) was utilized in the present study, and both semantic and latent themes were inferred from the transcribed interviews by using

descriptive coding (Miles et al., 2014). In order to ensure trustworthiness and credibility of the study, each step of thematic analysis followed the guidelines outlined in Table 3.

Table 3

A 15-Point Checklist for High Quality Thematic Analysis

Process	No.	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for accuracy
Coding	2	Each data item has been given equal attention in the coding process
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive
	4	All relevant extracts for each theme have been collated
	5	Themes have been checked against each other and back to the original data set
	6	Themes are internally coherent, consistent and distinctive
Analysis	7	Data have been analyzed – made sense of – rather than just paraphrased or described
	8	Analysis and data match each other – the extracts illustrate the analytic claims
	9	Analysis tells a convincing and well-organized story about the data and topic
	10	A good balance between analytic narrative and illustrative extracts is provided
Overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly

(continued)

Written report	12	The assumptions about, the specific approach to, thematic analysis are clearly explicate
	13	There is a good fit and consistency between the described method and reported analysis
	14	The language and concepts used are consistent with the epistemological position in the analysis
	15	The researcher is positioned as active in the research 5rocess; themes do just ‘emerge’

Note. Adapted from Braun and Clarke (2006, p. 96).

Steps in Thematic Analysis

Phase one: Familiarization with the data. The first step in the analysis was familiarization with the data, accomplished through researcher immersion by reading and re-reading the entire dataset in order to familiarize herself with the depth and breadth of the content (Braun, Clarke, & Terry, 2015). Although this process can be time-consuming and seemingly unnecessary, Braun and Clark (2006, 2012) strongly advise against skipping this step, as it provides the bedrock for the rest of the analysis. Active engagement with the data is also important during this phase of the analysis. The researcher does not simply read through transcripts but engages in the content with deep processing, thinking about the assumptions and ideas that are being articulated in the dataset, and noting elements that are particularly interesting or significant (Braun, Clarke, & Rance, 2015). The purpose of *active* reading was twofold. First, it was imperative in order to understand what was in the data and to begin to notice various semantic themes that were being communicated by each participant. Second, active engagement with the

data allowed for the emergence of the bigger picture commonalities that united seemingly disparate (at least at first) data content (Braun, Clarke, & Terry, 2015).

Phase two: Coding the data. The second step of the thematic analysis involved the development of the initial codes (Braun & Clark, 2006, 2012). A *code* is "the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon" (Boyatzis, 1998, p. 63). At this stage of the analysis, the researcher followed the three suggestions proposed by Braun and Clark (2006, 2012): (1) to code for as many potential patterns/themes as possible, (2) to code extracts of data inclusively if relevant, and (3) to remember that individual extracts of data can be divided into as many different patterns/themes as they fit into. A good code must convey the *keyness* of a theme, or capture something important in relation to the overall research question. Codes can be descriptive in nature, summarizing the semantic content of the data excerpt, or they can be interpretive, indicating an analytical insight on the part of the researcher. In order to ensure thoroughness and consistency, the researcher performed three rounds of coding as well as going back and re-coding earlier data excerpts (Braun & Clarke, 2006, 2012; Braun, Clarke, & Terry, 2015).

Phase three: Search for themes. The third step involved sorting and collating the different codes into identifiable themes. The conceptual (or thematic) map that the researcher created prior to the coding phase was found to be helpful, not only in organizing codes into themes but also in figuring out how the themes were interrelated (Braun & Clark, 2006, 2012). Some codes formed main overarching themes, others created sub-themes, and some did not fit at all. Braun and Clark (2006, 2012) recommend

against discarding anything at this stage of the analysis, but rather, to create a theme called ‘miscellaneous,’ since some of these codes may be refined and combined later as the thematic map changes over time. Braun, Clarke, and Terry (2015) also advise thinking of the emerging themes as ‘candidate’ themes at the beginning of the theme identification step. Thematic analysis is an organic and reflective process, and thus, it was important for this researcher not to get too attached to the early themes but rather to keep an open mind. In order to sift through this process, the researcher kept the following questions in mind: Is this candidate theme essentially relevant to answering the research question? Is this candidate theme evident across more than one or two of data items? Can a central organizing concept be easily identified for each candidate theme (Braun, Clarke, & Terry, 2015)?

Phase four: Revising themes. The fourth step in thematic analysis involved checking the candidate themes in order to see if they provide a good fit to the coded data and further refine the themes so that they accurately described the full story of the relevant data (Braun & Clark, 2006, 2012; Braun, Clarke, & Terry, 2015). It was during this phase that it became apparent that some candidate themes were not really themes, either because there were not enough data to support them or the data were too diverse. This step in thematic analysis comprised of two levels of revision and refinement of themes (Braun & Clark, 2006, 2012).

The first level included revision of the coded data extracts, meaning that the researcher needed to read through all the collated extracts for each theme and determine whether they were cohesive. If the candidate themes did hold together, then the

researcher moved on to the second level. If, however, the candidate theme did not fit the data, a decision had to be made to either rework the theme, create a new theme, attempt to fit the extracts into an already-existing theme, or discard extracts from the analysis altogether (Braun & Clark, 2006, 2012).

The second level of revision and refinement were similar to the first, except this time the entire data set was taken into account and themes were considered instead of individual codes. At this level, the researcher considered the validity of individual themes and their relation to the data set as well as whether the candidate conceptual map accurately reflected the meanings present in the data as a whole (Braun & Clark, 2006, 2012). During this part of the phase, the researcher re-read the entire data set and once again made a decision of whether to split one theme into two or more themes, or combine two or more themes into one, or reject a theme entirely if it did not seem to fit with the data set as a whole and/or was not relevant to the research questions (Braun, Clarke, & Terry, 2015).

Phase five: Defining and naming themes. The fifth step began with a satisfactory conceptual map of the data. The individual themes were further refined, defined, and the essence of each was identified in order to determine the "story" of the data (Braun & Clark, 2006, 2012). The definition of a theme was conceptualized as an extended central organizing notion that highlighted the analytical interpretation of the data and described the key concept embedded in the theme (Braun, Clarke, & Terry, 2015). The process of defining and naming themes involved considerable writing. The researcher selected the data quotations that were presented in the last step (report writing)

of the thematic analysis and situated these quotes within an analytic narrative that informs the reader as to what was found in the data, why this was interesting and important, and how the story of the data related to the research questions (Braun, Clarke, & Rance, 2015). This part of the process was also a helpful exercise in writing definitions of themes and to ensure that there was a clear, central organizing concept for each of the themes. Defining themes further facilitated giving them names, which ranged from simple descriptive titles to the use of a brief data quotes (Braun, Clarke, & Rance, 2015).

Phase six: Producing the report. The last step of the thematic analysis began with a set of fully worked-out themes and included the final analysis and writing of the report. It was important that the analysis presented a concise, coherent, logical, non-repetitive, and interesting story as stated by the data within and across themes. The write-up also provided sufficient evidence (i.e., enough extracts) to demonstrate the prevalence of the themes. The researcher intentionally picked especially vivid examples that captured the essence of the point she tried to make without unnecessary complexity. However, the write-up needed to do more than just provide data. Data extracts were embedded within the analytical narrative in a way that clearly illustrated the story that the researcher was telling (Braun & Clark, 2006, 2012) In presenting the analysis, the researcher had a balance of at least 50:50, data:analysis narrative. The researcher also made sure that she actually made sense of the data for the reader and clearly explained how the data answered the research questions. Thus, the final step of the analysis involved going beyond merely describing the data to include synthesizing and

contextualizing in relation to the research questions and the existing research (Braun, Clarke, & Rance, 2015; Braun, Clarke, & Terry, 2015).

Triangulation

Triangulation is an approach to enhancing qualitative research credibility and trustworthiness that uses multiple methods and the integration of information from multiple sources in order to develop a comprehensive understanding of a phenomenon and provide validity and consistency of the obtained results (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014; Patton, 2015). The rationale of triangulation is that no single method or source of information can adequately yield enough information to fully explain the issue at hand because each method reveals different aspects of a person's sense of reality and perception. Although a common misconception about using multiple sources or inquiries is that they will produce essentially the same results, the actual purpose of triangulation is to test for consistency, verification, and validity across different kinds of data (Patton, 2015).

Two types of triangulation were used in the current qualitative study: analyst triangulation and method triangulation (Patton, 2015). The analyst triangulation includes the participation of two or more researchers in the same study who provide multiple observations or conclusions about the same phenomenon. Analyst triangulation helps reduce the potential bias that can result when one individual does all the data collection and analysis. Analyst triangulation can bring about both confirmation of findings as well as different perspectives, consequently providing both a direct assessment of the

consistency of the gathered data and a mechanism for adding breadth to the analysis (Carter et al., 2014; Patton, 2015).

One of the main issues in the qualitative design is the trade-off between breadth and depth. The present study was depth-oriented, hence the number of participants was small (N = 10). However, the addition of a second analyst was to gather greater breadth of information within the sample, something that would be less likely if only one researcher were to analyze the data (Patton, 2015). Two different types of analyst triangulation were utilized in this study, a cross-coder and a member check. A second analyst was used to cross-code data; she is a peer of the researcher with experience in qualitative coding methods. Her conceptual map (Appendix H) was utilized to further inform the coding and themes development process and as another way of looking at the emerging data. Member checking served as an additional form of validation and accuracy with which the researcher has represented each participant's subjective perceptual and emotional experience (Koelsch, 2013). Participants in the proposed study were contacted twice in order to ensure that the members check component was thoroughly followed.

Method triangulation encompasses the use of several methods of data collection about the same phenomenon. Method triangulation often includes comparing and synthesizing data that have been collected through both qualitative and qualitative methods (Patton, 2015). In the current investigation, the researcher used both qualitative (Study Two) and quantitative (Study One) methods to obtain more in-depth and detailed meanings of participants' perceptions and emotional reactions to body stimuli. Thus, the overall purpose of utilizing a mixed-method approach was to take what were seemingly

two different approaches and to use their complimentary aspects in order to create a generalized impression of individuals' cognitive and emotional processes (Patton, 2015). The in-depth interviews and use of open-ended questions provided the necessary freedom and flexibility for participants to fully explore their individual attitudes, beliefs, and feelings during the interview process. In addition, in-depth interviews offered the advantage of allowing participants to spontaneously discuss topics that the researcher may not have considered that were nonetheless salient to understanding the phenomenon under investigation (Carter et al., 2014; Howson, 2015).

Researcher Qualifications

The subjective nature of qualitative research means that the researcher becomes an integral part of the research method. Therefore, just as one would evaluate the psychometric qualities of a measure used in quantitative research, it is important in a qualitative study to consider the qualities, experience, and potential biases of the researcher. The researcher in the proposed study is a fourth-year doctoral student in counseling psychology. Over the last seven years, she has presented seven conference posters and authored or coauthored two published articles in peer-reviewed journals (Danilova, Diekhoff, & Vandehey, 2013; Gross, Danilova, Vandehey, & Diekhoff, 2015). The investigator has been actively involved in body perception research since fall 2009 and most of her research has involved body image and gender issues. Part of her counseling experience has included working with young women (but not men) who struggled with body image issues and disordered eating patterns. Lastly, the researcher has gathered extensive experience conducting structured, semi-structured, and

unstructured face-to-face interviews as part of her two-year counseling training at Texas Woman's University and prior clinical training at Midwestern State University.

Before coming to Texas Woman's University, the researcher earned a master's degree in clinical/counseling psychology at Midwestern State University after successfully completing her thesis on men's perceptions of the male body with a focus on body dissatisfaction pertaining specifically to muscle dysmorphia. Her thesis was subsequently published (Danilova, Diekhoff, & Vandehey, 2013) and became the starting point for a larger quantitative project using a factorial research design to examine men's and women's perceptions of the male and female bodies. The researcher contributed to the design of the research, assisted in the preparation of surveys and study materials, developed the protocol to gather, process, and enter data from the completed surveys, and designed a training program to prepare undergraduate research assistants to do data gathering, processing, and data entry. Before leaving Midwestern State University, the researcher trained the first group of research assistants for the body perception project. This first group of assistants subsequently trained the next group and the project continued in like manner to collect data through spring 2015. Those data comprise the quantitative dataset to be analyzed as Study One in this proposed dissertation research.

The researcher has less experience with qualitative research. She completed a graduate level course in qualitative research methods and conducted a qualitative research project as a course requirement. That project was designed to be a pilot study for the qualitative component of the current study. The researcher's own inexperience with qualitative research is offset by the much greater experience of two members of the

dissertation committee who both have a well-rounded understanding of qualitative design, data collection, analyses, interpretation, and report writing.

Researcher Biases

In order to ensure awareness of her biases, the researcher completed the qualitative protocol herself, documenting her perceptions, thoughts, and affective reactions to the process. In addition, to give better structure to the qualitative investigation the researcher constructed a conceptual map (Appendix G) of various factors (e.g., sociocultural values, media influence) that affected her perceptions, thoughts, and emotional reactions during her self-participation (Miles et al., 2014).This exercise also created a greater mindfulness of the researcher's potential biases: (a) personal experiences and cultural upbringing, (b) prior familiarity with the topic, (c) heavy personal investment in the study, and (d) privileged worldview as a woman of small body size. These potential sources of bias are elaborated in the following paragraph and the potential for bias is also discussed as a limitation of the qualitative component of the dissertation in Chapter Five.

I am a 37-year old Russian Jewish woman who self-identifies as non-Caucasian, heterosexual, and able-bodied. I am also someone of small body size and have been invested in the topic of body perception for seven years. I immigrated to the United States from Soviet Belarus as a 16-year old adolescent speaking little English. Over the period of several years I self-taught the native language and completed a bachelors and master's degrees by adhering to three native cultural virtues: discipline, determination, and persistence. I apply these virtues to my personal and professional lives and, consequently,

practice mental and physical lifestyles reflective of my idea of fitness and health. However, such virtues did not come naturally. My own struggle with body image began when I was about six years old. After years of attempting to dance professionally throughout early and middle school, I stopped due to constant negative appraisals of my physical appearance from teachers and family members. My physical features (i.e., dark hair, dark eyes, and olive skin), due to my Ashkinazi heritage, were sometimes a daily topic among my teachers and peers regarding how such features were reflective of someone less of as a person, lacking in intelligence, considered culturally unattractive, and in need of "purification."

Throughout my adolescent years, my body image perceptions worsened as a result of my constant hypervigilance and awareness of what I looked like, and by the time I moved to the United States, I could no longer take the pressure and began to engage in disordered eating behaviors. After seeking therapy from three different mental health professionals and getting no results, I decided to take matters into my own hands and make healthier choices (e.g., regular exercise, nutritious diet). Naturally, the process of putting this research together is a personal topic for me and the research questions posed as well as interpretations of the study's findings reflect a view that is biased and based on my own experiences. My biases also stem from a deep investment in this topic, which is reflected in my constant attempt to stay on top of body image research, news in the media, attendance of conferences, workshops, and continuing presentations and education of others on the issues relating to body image.

Growing up in a relatively poor working class family in the Soviet Union has taught me the work ethic that I apply to all aspects of my life. Consequently, my life experiences, cultural upbringing, and self-sufficient nature may lead me on occasion to see outcomes as more determined by an individual's own efforts and persistence than is entirely fair. My culture of origin is based on perfectionism and, as a result, the lens through which I view myself, others, and the environment at times is based on what I may unrealistically consider to be healthy. My prior familiarity with the topic and the personal investment I have made in studying body image may bias me to ask the same questions as have previous researchers and to interpret the data in a fashion that is shaped by the previous literature. What others describe as my small stature and attractive physical features would seem almost certain to have affected the interactions I had with participants in Study Two. Although my physical characteristics give me a degree of privilege in some situations, I have also experienced discrimination, objectification, micro and macro aggressions from other men and women whose reactions to my physical appearance were based on their own assumptions about me that were not justified by the facts. Over the years, I have learned how to navigate such situations by managing my thoughts, emotions, and actions and not allowing such instances to fully trigger my body image issues and disordered eating patterns. Nevertheless, the struggle of maintaining a balanced lifestyle and continuing recovery is an ongoing and daily process for me.

The coding partner is a 32-year old American woman who self-identifies as Caucasian, heterosexual, and able-bodied. Similar to the primary researcher, she is of small body size and reported having limited knowledge of the topic area. In order to

ensure continuation of awareness and bracketing of biases, the coding partner completed a conceptual map as well (Miles et al., 2014). Other biases that stemmed from the obvious similarities and differences (e.g., personal experiences, individual differences) of the cross-coder and the researcher are discussed and noted as part of the ongoing documentation throughout the qualitative process of the study.

Ethical Considerations

In order to ensure confidentiality, the researcher removed all identifiable information from the transcripts. Participants' initials were used to keep track of documentation and their first names were changed for the purpose of writing the results. All field notes and data were kept in a locked file cabinet to which only the researcher had access. The informed consent forms were used as a way to provide transparency, assure voluntary participation, and outline possible risks (e.g., discomfort) as well as benefits (i.e., knowledge and monetary compensation). In order to establish honesty and trust, the researcher's overall goal for each of the interviews was to provide a non-judgmental and safe space in which participants could feel comfortable and free to share their experiences. Since this was only the researcher's second attempt at conducting qualitative research, she was intentional about seeking help and asking for feedback from her chair and other dissertation committee members.

CHAPTER IV

RESULTS

Study One Results: Quantitative Component

Study One focused on quantitative statistical analyses which are presented in the first part of the chapter. The researcher used IBM SPSS (Version 22.0) statistical software and G*Power power analysis software (Version 3.1.9.2) (Faul et al., 2007) for all analyses unless otherwise noted. In this portion of Chapter Four, the researcher will first describe the processes by which data screening and cleaning were accomplished, followed second by descriptive analyses of participant demographic and other personal characteristics. Because participants were not randomly assigned to treatment conditions, the researcher evaluated groups for equivalence on several demographic and personal fitness variables that might be expected to affect body perception, and the results of those group equivalence analyses are presented third. During the data cleaning and screening process, the researcher identified several important study variables that were strongly non-normal and data transforms were used to either improve the normality of these variables or to obviate the normality assumption by dichotomizing the variables. These data transforms are described and evaluated fourth. Finally, the researcher presents results that address the primary research questions posed in Chapter Three, with careful attention given to checks on the statistical assumptions associated with each analysis.

Data Screening and Cleaning

Data entry errors and out-of-range values. As recommended by Tabachnick and Fidell (2013), the researcher first evaluated study data for accuracy by examining

frequency distributions for all variables with an eye for out-of-range values. Several such values were identified, but examination of the raw data enabled entering corrected values. Only two values (on the exercise intensity variable) could not be corrected and so were subsequently treated as missing.

Univariate outliers. The researcher next screened for atypical participants by searching for outliers on continuous variables measuring participants' demographic and personal fitness characteristics. Univariate outliers on seven continuous variables (age, weight, height, exercise intensity, diet days per week, supplement use, and BMI) were identified by standardizing the variables and screening for *z*-scores exceeding ± 3.3 ($p \leq .001$). Variables that reflected physical characteristics that might be expected to vary as a function of gender (i.e., weight, height, and BMI) were standardized separately for men and women. On the variable age, the researcher identified seven outliers with *z*-scores of 3.46 and higher (43 years and older). On the variable weight, four women showed *z*-scores of 3.33 or higher (278 pounds), and one man presented a *z*-score of 4.21 (338 pounds). On the variable exercise intensity, the researcher identified three cases with *z*-scores of 3.72 and higher (20 hours a week and more). On the variable BMI, four women showed *z*-scores of 3.46 and higher (BMI values of 45.34 and greater) and one male presented a *z*-score of 4.44 (a BMI of 48.49). In accordance with statistical best practices, the researcher deleted the 16 outliers as statistically aberrant. Outliers are unrepresentative of the rest of the sample and distort the results of a wide spectrum of statistical procedures. It should be noted that while data from older participants and extremely heavy participants are both conceptually and clinically as relevant as all other

data (and in many instances are more interesting), not enough older or heavier cases were available in the data file to support a separate analysis of these individuals in the present study.

Multivariate outliers. The researcher next screened for multivariate outliers on the same seven demographic and personal fitness variables. Multivariate outliers are not marked by unusual scores on any single variable, but their *combination* of scores across a series of variables marks these cases as different from the rest of the sample. Each participant's deviation from the average score profile was evaluated in this study using the Mahalanobis distance statistic, evaluated against the chi-square distribution with df = 7 (the number of variables used in calculating the distances) and a stringent level of significance ($p \leq .001$). Mahalanobis distances were calculated using z-scores on age, weight, height, exercise intensity, dieting behavior, supplement use, and BMI (with z-scores calculated separately for women and men on the variables weight, height, and BMI). The researcher deleted four cases as multivariate outliers whose Mahalanobis distance values exceeding the critical value of $\chi^2 = 24.32$.

Summary. In total, the researcher deleted 20 cases (5.1% of the original sample of 390 cases) as univariate or multivariate outliers, leaving a remaining sample size of N = 370 distributed across the four cells of the 2 x 2 factorial design as shown in Figure 11. Percentage losses in sample sizes due to the elimination of outliers varied from cell to cell, ranging from 3.4% (males viewing female body stimuli) to 7.0% (males viewing male body stimuli).

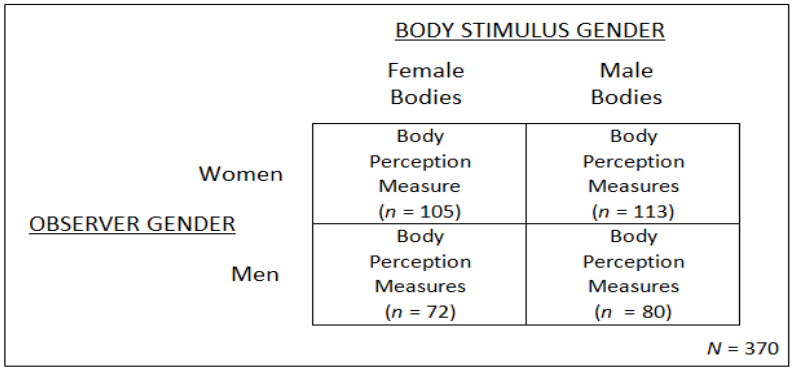


Figure 11. Sample sizes shown in the 2 x 2 factorial research design are following removal of univariate and multivariate outliers on demographic and personal fitness variables age, weight, height, exercise intensity, dieting behavior, supplement use, and BMI.

Participant Characteristics

The characteristics of Study One participants (following data cleaning and screening) are summarized in Table 4. Descriptive statistics are presented separately for men and women on variables measuring physical characteristics on which men and women might be expected to differ (i.e., weight, height, and BMI). On all other variables, data are aggregated across gender levels.

Table 4

Participant Characteristics Following Data Cleaning and Screening

Continuous Variables	*N*	Range	*M*	*SD*
Age	362	18-42	21.86	4.95
Weight				
Females	216	72-250	148.34	33.12
Males	152	125-275	181.93	34.46
Overall	368	72-275	162.21	37.49

(continued)

Height				
Females	216	59-73	65.18	2.66
Males	152	62-79	70.16	2.99
Overall	368	59-79	67.24	3.72
Body-Mass Index				
Females	216	14.06-42.06	24.50	5.06
Males	152	18.65-41.05	25.98	4.76
Overall	368	14.06-42.06	25.11	4.99
Exercise Intensity[1]	346	0-1,080	231.90	216.22
Dieting Behavior [2]	366	0-7.0	1.59	2.44
Supplement Use[3]	366	0-7.0	1.25	2.32

Categorical Variables	*f*	%
Gender		
Females	218	58.9%
Males	152	41.1%
Overall	370	100.0%
Race/Ethnicity		
Caucasian	248	67.0%
Hispanic	33	8.9%
African American	26	7.0%
Asian	14	3.8%
Native American	1	0.3%
Other	36	9.7%
Missing	12	3.2%
Overall	370	100.0%
Relationship Status		
Single	205	55.4%
In a Relationship	127	34.3%
Married	36	9.7%

(continued)

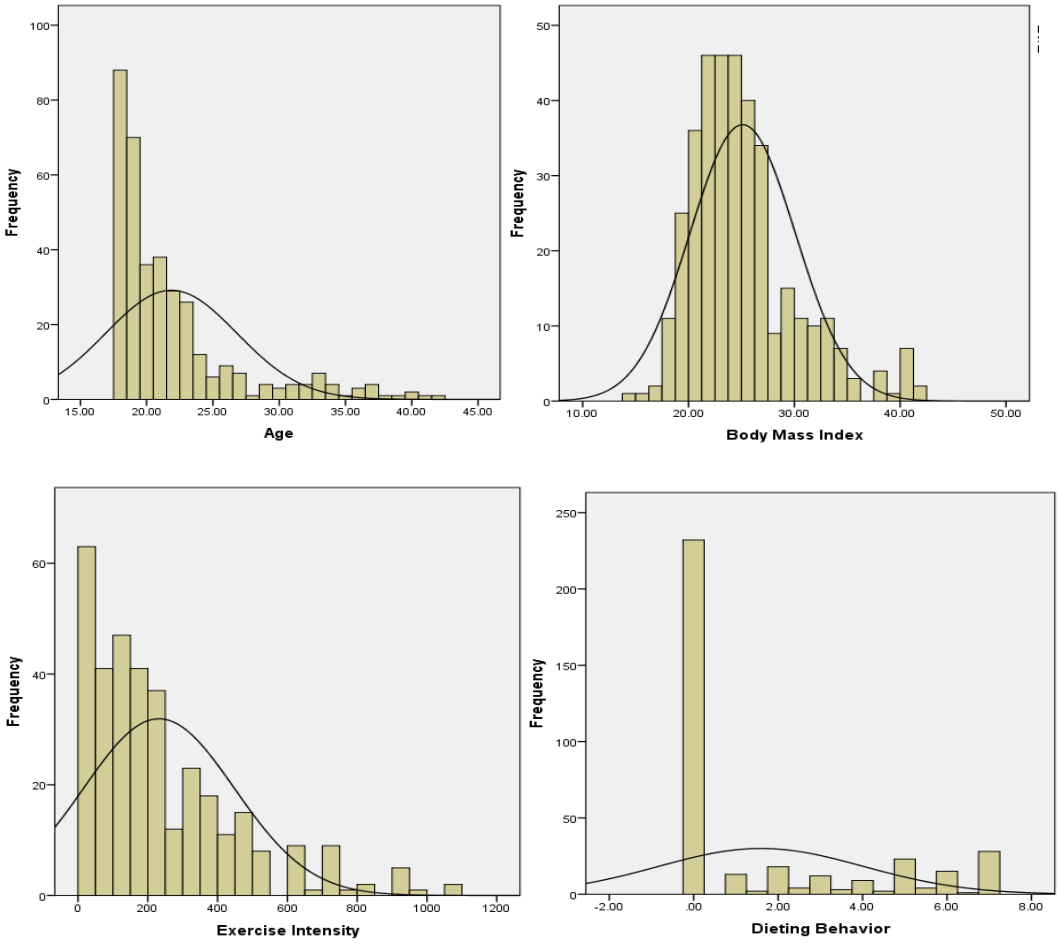
Missing	2	0.5%
Overall	370	100.0%

Note. [1]Exercise intensity was measured as reported minutes exercise per week. [2]Dieting behavior was measured as reported number of days of dieting per week. [3]Supplement use was measured as reported number of days per week supplements were used.

Evaluations of group equivalence. Participants were not randomly assigned to treatment conditions in this 2 x 2 factorial design, and therefore the samples could not be assumed to be equivalent. As a result, treatment differences were potentially confounded with differences in participant characteristics. The researcher used a series of 2 (Observer Gender) x 2 (Body Stimulus Gender) between-subjects factorial ANOVAs to evaluate the equivalence of the samples on demographic and personal fitness variables that were measured at the interval or ratio scale level. Chi-square analyses were used to identify differences on nominal scale demographic and personal fitness variables. Given the large sample sizes available in this study, even small, unimportant differences in demographic and personal fitness characteristics were likely to be found statistically significant. Thus, the researcher used a stringent level of significance ($p \leq .001$) and measures of effect strength (η^2 with the ANOVAs, and Cramer's *V* statistic with the χ^2 analyses) to assist in evaluating the practical importance of statistically significant effects.

Before performing the factorial ANOVAs, the researcher examined continuous dependent variables for normality (one of the assumptions of the ANOVAs) both visually, by inspecting frequency histograms of the distributions, and statistically, by calculating descriptive statistics for skewness and kurtosis. Frequency histograms for age, BMI, exercise intensity, dieting behavior, and supplement use are shown in Figure 12 and

measure of skewness and kurtosis are shown in Table 5. All variables were positively skewed, with values of skewness exceeding the benchmark value ±1.0 that Meyers et al. (2013) have recommended using to identify excessive skewness. In addition, age, BMI, and exercise intensity were found to be excessively leptokurtic using the same standard (kurtosis > ±1.0) for interpreting kurtosis provided by Meyers et al. (2013). Significance tests involving dependent variables that deviate substantially from normality can suffer from distorted alpha and beta probabilities.



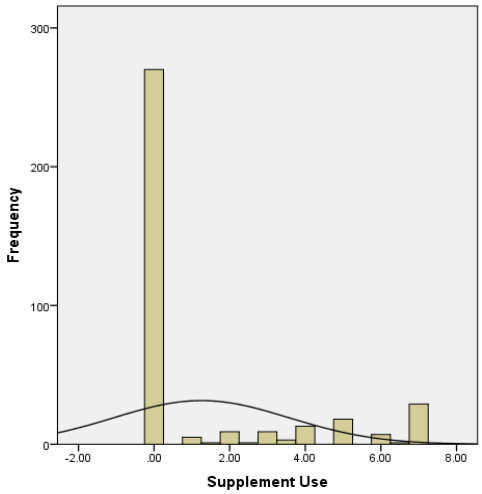


Figure 12. From top left to bottom right: frequency histograms for age, BMI, exercise intensity, dieting behavior, and supplement use.

Table 5

Measures of Skewness and Kurtosis for Age, BMI, Exercise Intensity, Dieting Behavior, and Supplement Use

Variable	*N*	Skewness	Kurtosis
Age	362	1.92	3.33
BMI	368	1.16	1.43
Exercise Intensity	346	1.40	1.96
Dieting Behavior	366	1.20	-0.16
Supplement Use	366	1.58	0.25

Tabachnick and Fidell (2013) have strongly encouraged the use of data transforms that improve distribution characteristics saying, "With almost every data set in which we have used transformations, the results of the analysis have been substantially improved" (p. 87). Accordingly, the researcher performed square root, log10, and reciprocal data transforms on age, BMI, exercise intensity, and dieting behavior, and supplement use.

The results of these transforms were evaluated for effectiveness visually, with frequency histograms, and statistically, by calculating descriptive statistics measuring skewness and kurtosis. Statistics measuring skewness and kurtosis are presented in Table 6.

Table 6

Measures of Skewness and Kurtosis for Age, BMI, Exercise Intensity, Dieting Behavior, and Supplement Use: Raw Scores, Square Root Transform, Log10 Transform, and Reciprocal Transform

Variable	Type of Transform	*N*	Skewness	Kurtosis
Age				
	Raw Scores	362	1.92	3.33
	Square Root Transform	362	1.70	2.39
	Log10 Transform	362	1.49	1.61
	Reciprocal Transform	362	-1.10	0.43
BMI				
	Raw Scores	368	1.16	1.43
	Square Root Transform	368	0.88	0.80
	Log10 Transform	368	0.13	0.40
	Reciprocal Transform	368	0.59	0.41
Exercise Intensity				
	Raw Scores	346	1.40	1.96
	Square Root Transform	346	0.10	-0.33
	Log10 Transform	346	-1.50	1.00
	Reciprocal Transform	346	2.03	2.13
Dieting Behavior				
	Raw Scores	366	1.20	-0.16
	Square Root Transform	366	1.58	0.25
	Log10 Transform	366	1.00	-0.67
	Reciprocal Transform	366	-0.65	-1.50

(continued)

Supplement Use			
Raw Scores	366	1.58	0.92
Square Root Transform	366	1.28	-0.16
Log10 Transform	366	1.28	-0.17
Reciprocal Transform	366	-1.14	-0.64

For the variable age, none of the data transforms was successful in bringing values of both skewness and kurtosis under $\pm$1.0, but the reciprocal transform was the most effective of the group. The reciprocal transform has the effect of reflecting score value (i.e., low raw scores become high transformed scores and high raw scores become low transformed scores). To avoid the interpretive difficulties that can result from this score reflection, Tabachnick and Fidell (2013) have suggested re-reflecting the data following the reciprocal data transform and the researcher took that step in the present study. Following the re-reflection, smaller transformed age scores once again indicated lower ages and larger transformed age scores again indicated higher ages. For BMI scores, the log10 transform was most successful in normalizing the distribution. The log10 transform does not cause score reflection, so small log10-transformed BMI scores still correspond to low BMI raw scores and large log10-transformed BMI scores correspond to high BMI raw scores. On the exercise intensity variable, the square root transform was most successful in normalizing the distribution. The square root transform also does not cause score reflection, so low square root transformed exercise intensity scores correspond to low exercise intensity raw scores, and high square root-transformed exercise intensity scores correspond to high exercise intensity raw scores. None of the

data transforms attempted were helpful in normalizing distributions on the dieting behavior and supplement use variables. Therefore the researcher decided to dichotomize these variables, obviating the normality requirement by replacing the continuous variables with binary variables. Dieting behavior was dichotomized so that participants who reported *no diet days per week* received a score of 0 and those who reported *one or more dieting days per week* received a score of 1. Supplement use was also dichotomized so that participants who reported *no supplement use* were scored 0 and those who *used supplements one or more days per week* were scored 1. Figure 13 shows the distributions of scores on age, BMI, and exercise intensity following the data transformations just described. All subsequent analyses involving these variables were performed using transformed data. Although there is little resemblance between raw and transformed scores, data interpretation is facilitated by remembering that, in all cases, larger scores mean more of the attribute and smaller scores mean less of the attribute.

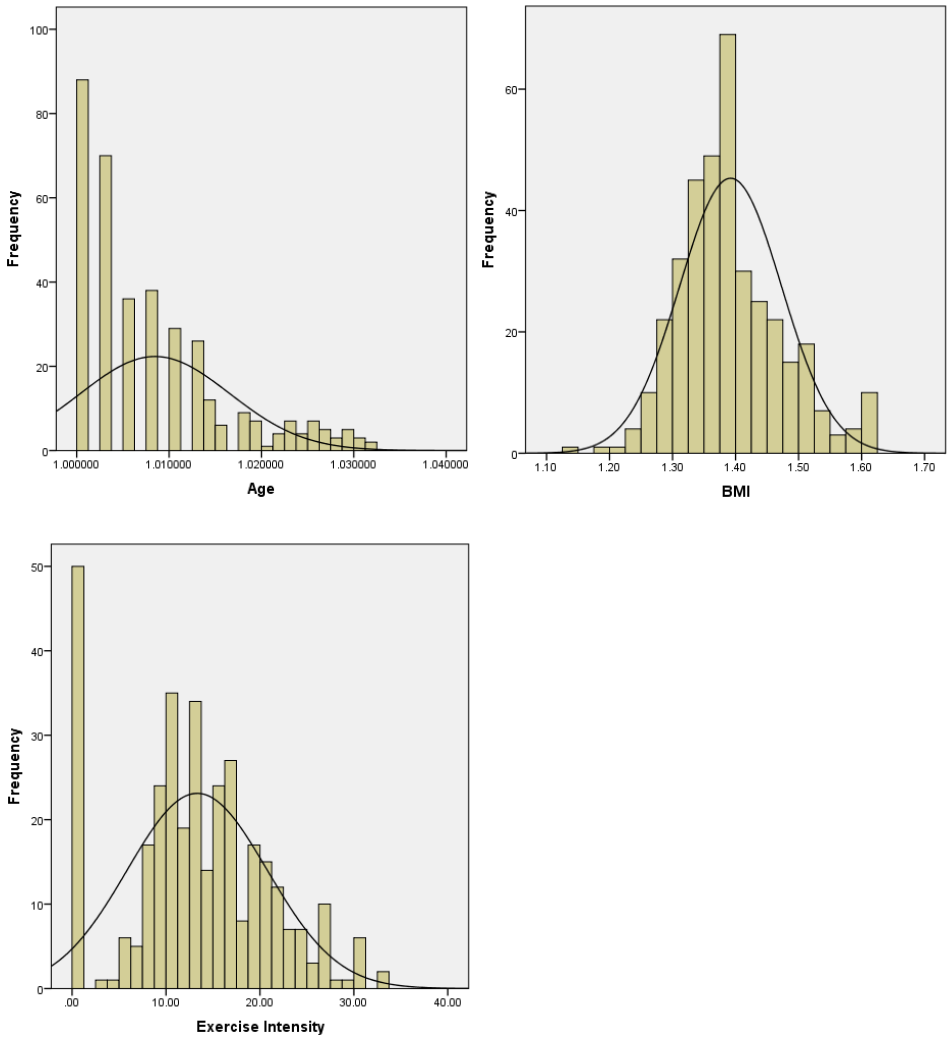


Figure 13. Age, BMI, and exercise intensity following data transformations.

With the dependent variables transformed, the researcher went ahead with analyses to evaluate sample equivalence. A series of 2 (Observer Gender) x 2 (Body Stimulus Gender) between-subjects factorial ANOVAs were performed using age, BMI, and exercise intensity as dependent variables (in their transformed forms) to determine if the samples were equivalent on these variables. The researcher identified one demographic variable, age, which was found to differ significantly as a function of Body

Stimulus Gender: Participants who worked with female stimuli were significantly younger (n = 173, M = 1.11, SD = .01) than participants who worked with male stimuli (n = 189, M = 1.01, SD = .01), F (1, 358) = 30.43, $p < .001$, $\eta^2 = .078$. The effect was of medium strength by Cohen's (1988) standards, but the magnitude of the difference was quite small in absolute terms, only about two years of age. The researcher determined, therefore, that sample age differences would be ignored in subsequent analyses of the effects of Body Stimulus Gender on body perception.

The researcher identified two personal fitness variables which differed significantly as a function of Observer Gender. The first of these was exercise intensity: Women reported exercising significantly fewer minutes per week (n = 204, M = 11.50, SD = 6.83) than did men (n = 142, M = 15.92, SD = 7.59), F (1, 342) = 32.59, $p < .001$, $\eta^2 = .087$. This difference was accompanied by a medium effect size and was substantial in absolute terms (approximately 132 minutes per week in raw score form). It is reasonable to suppose that an individual's personal investment in exercise might influence his or her body perception characteristics and so the researcher decided that exercise intensity would be controlled statistically as a covariate in subsequent examinations of the influence of Observer Gender on body perception. A second personal fitness variable, supplement use, also differed significantly as a function of Observer Gender: Men were significantly more likely (42.1%) than women (16.5%) to report using supplements in an effort to enhance their physical appearance, $\chi^2(1, N = 370) = 29.74$, Cramer's V = .28). This difference was also substantial in absolute terms and was accompanied by a measure of effect strength that was moderate to large. The researcher

therefore determined that supplement use would be included along with exercise intensity as covariates in subsequent analyses involving Observer Gender effects on body perception. No other demographic or personal fitness variables varied significantly ($p \leq .001$) as a function of Observer Gender or Body Stimulus Gender.

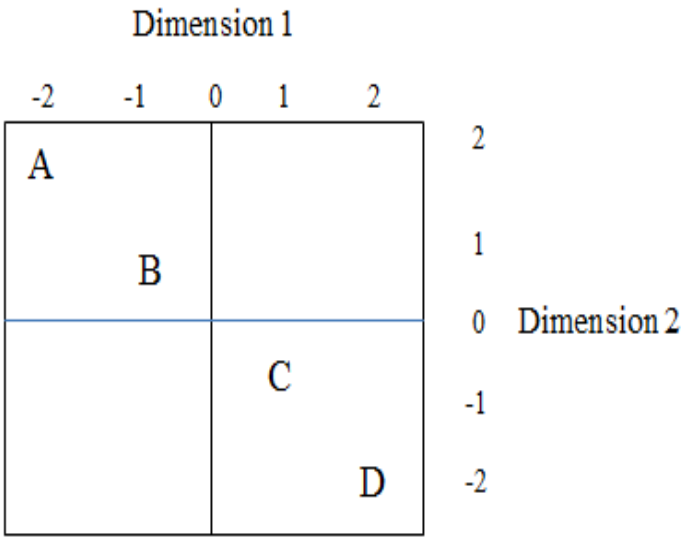
Research Question One

Research Question One asked what perceptual attributes and affective reactions are salient as study participants organized their perceptions of the human body: observer gender, body stimulus gender, or an Observer Gender x Body Stimulus Gender interaction effect. As was described in greater detail in Chapter Three, participants sorted stimulus photos and cards representing the ideal body, average body, and their own body into piles based on similarity. Next, they rated the similarities of the piles and then they rated the photo piles on each of three semantic differential attributes and six affective reactions. These tasks provided the data needed to answer Research Question One. The photo sorting and pile similarity judgment tasks produced a matrix of numerical inter-stimulus proximities, with one proximity matrix for each participant. Prior to the beginning of this dissertation research, each matrix was analyzed using multidimensional scaling (MDS) analysis, which plotted stimuli (bodies) as points in a two-dimensional space, with the points (bodies) separated by distances that were determined by the participant's similarity judgments. The resulting stimulus maps graphically captured each participant's body perception data, i.e., which bodies were seen as similar and which were seen as different, as well as their degrees of similarity and difference. Participants next rated each of their piles of body stimulus photos on three semantic differential

dimensions (*evaluative, potency,* and *activity*) and on six affective reactions (*anger, sadness, surprise, disgust, happiness,* and *fear*). All of these data were stored in the archival data file which the researcher used to support her dissertation research.

Next, and also before the beginning of the dissertation research, multiple regression analyses were performed using the method described by Schiffman et al. (1981) to evaluate the degree to which each of the semantic differential attributes and affective reactions were salient as "perceptual filters" to participants as they judged the similarities of the body stimuli. That methodology is described here, followed by an example. In each of these multiple regression analyses, the two independent variables were the dimension coordinates of the body stimuli from a participant's MDS-produced stimulus map and the dependent variable was the participant's ratings of the body stimuli on the attribute being evaluated for perceptual salience. The squared multiple correlation (R^2) from the regression analysis indicated the proportion of variance in the mapped locations of body stimuli that was explained by the attribute that served as the dependent variable in the analysis. A strong R^2 value for an attribute indicated that a participant's ratings of body stimuli on that attribute were strongly related to the arrangement of body stimulus points in the stimulus map (i.e., the attribute was an important perceptual filter as the participant judged body similarities and differences). A weak R^2 value indicated that the configuration of body stimuli in the participant's stimulus map was unrelated to ratings on the attribute (i.e., the attribute didn't serve an important role in the participant's judgments of body similarities and differences).

An example may be helpful in clarifying how multiple regression analysis was used to generate attribute salience data. Suppose that a participant's judgments of the similarities of four bodies (A, B, C, and D) produced the MDS stimulus map shown below. In this map, similar body stimuli are located close together and dissimilar body stimuli are located further apart. Thus, the map summarizes visually the participant's perceptions of body similarities and dissimilarities, and the dimension coordinates of those body stimuli capture the participant's perceptions in a numerical fashion.



Here are those dimensional coordinates from the MDS map:

Body Stimulus	Dim. 1	Dim. 2
A	-2	2
B	-1	1
C	1	-1
D	2	-2

After providing the similarity judgements used to create this stimulus map, suppose that the participant then rated each of the body stimuli on the attribute of *strength*, with 1 = a

little of the attribute, 3 = *a moderate amount of the attribut*e, and 5 = *a large amount of the attribute* . Here are those ratings:

Body Stimulus	*Strength*
A	5
B	4
C	3
D	2

It is obvious that as one moves across the map from left to right, i.e., from bodies A to B to C to D, the *strength* ratings of the bodies decrease steadily. Using the procedure described by Schiffman et al. (1981), we can more precisely measure the degree to which ratings of *strength* correspond to the locations of the bodies in the map, and thus, the degree to which the attribute of *strength* was used, consciously or implicitly, when the participant first judged the bodies for similarity. This is done by calculating the correlation (*R*) between the locations of body stimuli in the map (given by their Dimension I and II coordinates) and the *strength* ratings given to those body stimuli. To do this, the body coordinates on Dimensions I and II serve as independent variables in a multiple regression analysis and body *strength* ratings serve as the dependent variable. In the present example, $R = .99$, thus, $R^2 = .98$, which means that 98% of the variability in the locations of body stimulus points in the map is explained by the participant's ratings of *strength.* For this imaginary participant, *strength* was a very salient consideration when she judged body similarities and the strength of that salience is measured by $R^2 = .98$. We could say that *strength* served as a sort of perceptual filter for this participant as she

judged the similarities of the bodies. To continue the example, suppose the participant also rated the body stimuli on a second attribute, *size*, with 1 = *very small*, 3 = *moderate si*ze, and 5 = *very large*. Here are those ratings

Body Stimulus	*Size*
A	5
B	2
C	4
D	3

Using multiple regression analysis with dimension coordinates as the independent variables and *size* ratings as the dependent variable, we get $R = .28$, thus $R^2 = .08$, and we would conclude that only 8% of the variance in the positioning of body stimuli in the map was explained by the participant's perception of the *size* of those bodies. For this imaginary participant, *size* was not an important perceptual filter when judging body similarities, but *strength* was quite important.

In the same manner that is illustrated in the preceding example, hundreds of multiple regression analyses were performed before this dissertation research was initiated and the results of these many analyses, stored in the archival data file, provided the attribute perceptual salience data that were analyzed in this dissertation. In all cases, when a participant's R^2 value for an attribute is a low value, it means that that attribute was not particularly salient for that participant when he or she sorted body stimuli into piles and judged those piles for similarity. A large R^2 value for an attribute, in contrast,

means that the attribute was an important perceptual filter for that participant, consciously or implicitly, as the participant worked with the body stimuli.

The researcher performed two analyses to address Research Question One, with each analysis examining a different set of conceptually-related dependent variables. The first analysis focused on the perceptual salience of the semantic differential perceptual attributes *evaluative, potency,* and *activity.* The second analysis focused on the perceptual salience of affective reactions *anger, sadness, surprise, disgust, happiness,* and *fear*.

Salience of the semantic differential perceptual attributes. The researcher used a 2 x 2 between-subjects MANCOVA to determine if the perceptual salience of the three semantic differential attributes, *evaluative, potency,* and *activity* (the dependent variables in the analysis) varied as a function of Observer Gender and Body Stimulus Gender (the independent variables), after controlling statistically for exercise intensity and supplement use (the covariates). Following listwise deletion of cases with missing values on one or more of the dependent variables or covariates, 341 cases remained in the analysis. The researcher performed an a-priori power analysis using G*Power software in the manner described by Dattalo (2008) to evaluate the statistical power available for the MANCOVA with the available sample size. The analysis estimated that for $N = 341$ and $\alpha = .05$, an effect of medium size (Cohen's $f^2 = .15$) would be detected as statistically significant with a probability of $1 - \beta > .99$. Statistical power was estimated at $1 - \beta = .80$ for an effect as small as $f^2 = .02$, considered a weak effect (Cohen, 1988).

Prior to performing the MANCOVA, the researcher evaluated the statistical assumptions of the technique. One of those assumptions is multivariate normality (i.e.,

normality of the dependent variate). IBM SPSS does not provide a method for testing multivariate normality, but Meyers et al. (2013) have pointed out that if the individual variables are normally distributed, multivariate normality is much more likely. Accordingly, the researcher assessed the normality of *evaluative, potency,* and *activity* salience visually, by plotting frequency histograms, and statistically, by calculating descriptive statistics measuring distribution skewness and kurtosis. The histograms, shown in Figure 14, displayed good variability, with values across the full possible range from 0 to 1, and with no obvious outliers. The distributions showed some indications of negative skewness, but values of the skewness statistic were not extreme: for *evaluative* R^2, skewness = -.49; for *potency* R^2, skewness = -.46; and for *activity* R^2, skewness = -.69. None of these skewness values exceeded the benchmark values of $\pm$1.0 suggested by Meyers et al. (2013) as marking a data distribution that is strongly non-normal. The histograms also showed indications of platykurtosis, and this impression was confirmed statistically: for *evaluative* R^2, kurtosis = -.90; for *potency* R^2, kurtosis = -1.09; for *activity* R^2, kurtosis = -.39. Only the distribution of *potency* R^2 values exceeded the criterion values $\pm$1.0 suggested by Meyers et al. (2013) to mark a distribution as strongly non-normal.

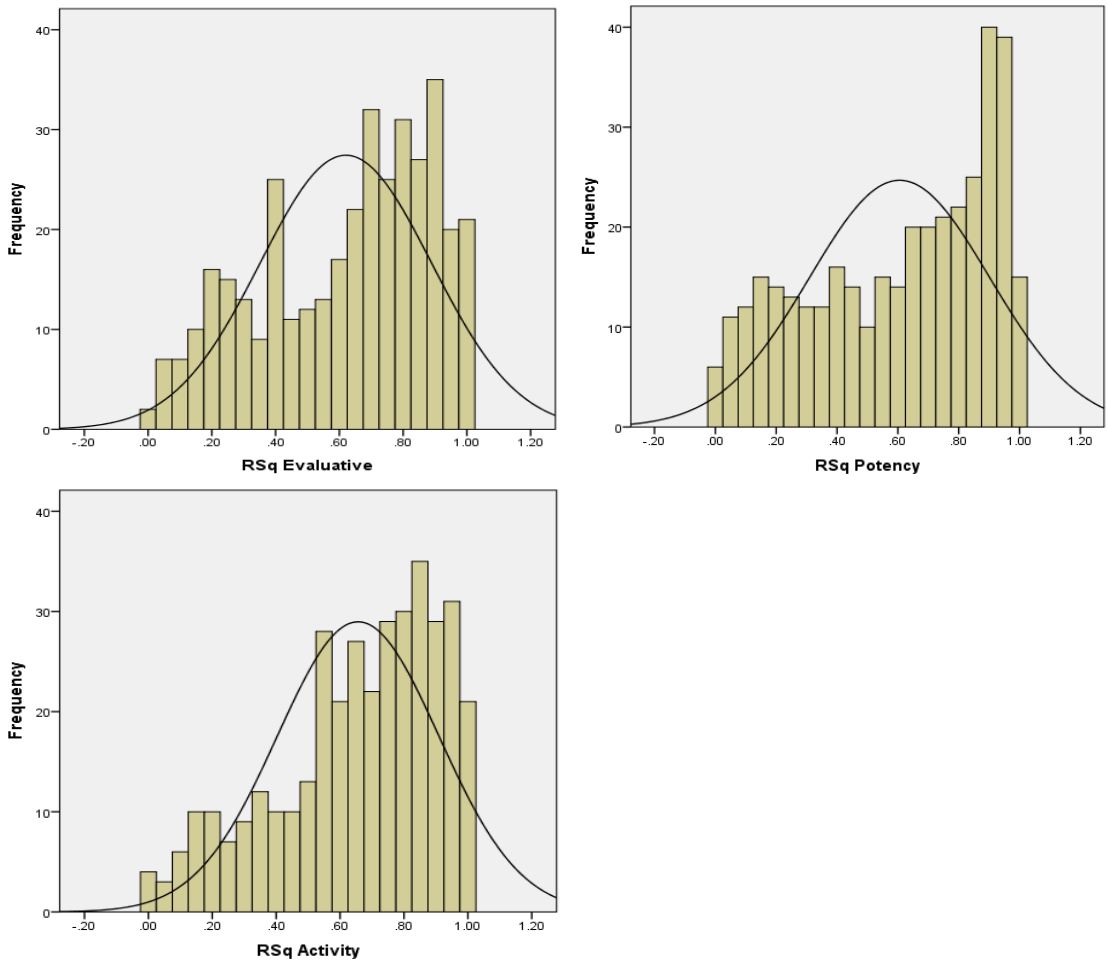


Figure 14. Frequency histograms of perceptual salience distributions (RSq or R^2) for the semantic differential attributes *evaluative* (left), *potency* (middle), and *activity* (right).

Given the notable degree of platykurtosis seen in the *potency* R^2 distribution, the researcher considered both square-root and log10 data transforms (Tabachnick & Fidell, 2013). Both of these data transforms reduced the skewness of the distribution somewhat, but actually worsened the platykurtosis that was the intended target of the transform. In the absence of an effective data transform for platykurtosis, and given Tabachnick and Fidell's (2013) observation that the Central Limit Theorem offers some protection from non-normal sample distributions if sample sizes are large, the researcher decided that the

perceptual salience measures for the *evaluative, potency*, and *activity* semantic differential attributes would be analyzed without any data transform, but using a slightly more stringent level of significance ($p \leq .01$) for effects involving the excessively platykurtic *potency* salience variable.

The researcher used Box's M statistic to evaluate the assumption of equality of covariance matrices. Box's M was statistically significant (Box's M = 50.59, $p < .001$), indicating heterogeneity of covariance matrices. This is the multivariate equivalent of violating the homogeneity of variance assumption that accompanies many univariate procedures and can have the effect of distorting significance levels (Tabachnick & Fidell, 2013). Because of this, the researcher used the more statistically conservative Pillai's trace statistic in place of Wilks' lambda to evaluate the multivariate effects (Meyers et al., 2013) and all effects were evaluated for significance using a more stringent level of significance ($p \leq .01$). The MANCOVA also assumes that the dependent variables are moderately, but not strongly, correlated. The researcher used Bartlett's test of sphericity in evaluating this assumption. Evaluated against the chi-square distribution, the test was statistically significant, $\chi^2 (5) = 115.08$, $p < .001$, indicating that the dependent variables were sufficiently correlated to support the multivariate analysis. Finally, Tabachnick and Fidell (2013) have recommended evaluating for nonlinearity not only the relationships between dependent variables, but also relationships between dependent variables and covariates, because severe nonlinearity can decrease the statistical power of the MANCOVA. The researcher accomplished that by examining the matrix of scatterplots

between the dependent variables and covariates. None of the relationships involving continuous variables showed any evidence of nonlinearity.

Table 7 provides descriptive statistics that summarize the salience of each of the semantic differential attributes, *evaluative*, *potency*, and *activity*, as a function of Observer Gender and Body Stimulus Gender. Included in this table are unadjusted means as well as standard deviations, covariate-adjusted estimated marginal means, and values of the standard error of the mean. The estimated marginal means and standard error statistics have been adjusted for the influence of the covariates exercise intensity and supplement use, which were evaluated at their means: exercise intensity = 13.30; supplement use = .26. In other words, if one could achieve *experimental* control over the covariates, it would be reasonable to hold these variables constant at their means for all participants. That is what is done *statistically* in covariance analysis. The estimated marginal means in Table 7 represent the values of the dependent variables that one would expect to observe at the various levels of the independent variables if the covariates exercise intensity and supplement were held constant at their means for all participants.

The results of the MANCOVA, summarized in Table 8, showed that one covariate, supplement use, exerted a significant multivariate effect on the salience of the *evaluative, potency,* and *activity* attribute dimensions, Pillai's trace = .03, $F(3, 333) = 3.39$, $p = .02$, $\eta^2 = .030$, but the only significant effect of interest was the moderately strong main effect of Body Stimulus Gender, $F(3, 333) = 10.77$, $p < .001$, $\eta^2 = .088$, indicating that, after controlling statistically for the influence of exercise intensity and

supplement use, different attributes were used by study participants in organizing body perceptions depending on whether those bodies were female or male.

Table 7

Descriptive Statistics for the Salience of the Evaluative, Potency, and Activity Semantic Differential Attributes in Organizing Body Perceptions as a Function of Observer Gender and Body Stimulus Gender, Controlled for Exercise Intensity and Supplement Use

		Body Stimulus Gender								
		Female Body Stimuli			Male Body Stimuli			Row Statistics (Observer Gender)		
		M	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*
	Evaluative	.63	.29	95	.56	.27	105	.59	.28	200
		(.64)	(.03)		(.56)	(.03)		(.60)	(.02)	
Female Observers	Potency	.525	.296	95	.64	.27	105	.59	.29	200
		(.54)	(.03)		(.65)	(.03)		(.59)	(.02)	
	Activity	.636	.26	95	.65	.23	105	.64	.24	200
		(.66)	(.03)		(.65)	(.03)		(.66)	(.02)	
Observer Gender										
	Evaluative	.71	.25	68	.60	.25	73	.66	.25	141
		(.70)	(.03)		(.59)	(.03)		(.65)	(.02)	
Male Observers	Potency	.52	.31	68	.72	.26	73	.63	.30	141
		(.52)	(.04)		(.71)	(.03)		(.61)	(.03)	
	Activity	.67	.26	68	.66	.27	73	.67	.27	141
		(.66)	(.03)		(.63)	(.03)		(.65)	(.02)	
	Evaluative	.66	.27	163	.57	.26	178			
		(.67)	(.02)		(.57)	(.02)				
Column Statistics	Potency	.53	.30	163	.67	.26	178			
(Body Stimulus Gender)		(.53)	(.02)		(.67)	(.02)				
	Activity	.65	.26	163	.65	.24	178			
		(.66)	(.02)		(.64)	(.01)				

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

Table 8

2 x 2 MANCOVA Summary Table: Salience of the Semantic Differential Attributes Evaluative, Potency, and Activity as a Function of Observer Gender and Body Stimulus Gender, Controlling Statistically for Exercise Intensity and Supplement Use

Effect	Pillai's Trace	*F*	Hypothesis *df*	Error *df*	Sig.	Partial Eta Squared
Exercise Intensity (Covariate)	.002	0.22	3.00	333.00	.882	.002
Supplement Use (Covariate)	.030	30.39	3.00	333.00	.018	.030
Observer Gender	.014	1.60	3.00	333.00	.190	.014
Body Stimulus Gender	.088	10.77	3.00	333.00	.000	.088
Observer Gender x Body Stimulus Gender	.006	0.65	3.00	333.00	.584	.006

The researcher used three univariate ANCOVAs to explore the source of this significant multivariate main effect. Levene's tests indicated that two dependent variables, R^2 for *evaluative*, F (3, 337) = 3.22, p = .023, and R^2 for *potency*, F (3, 337) = 4.10, p = .007, violated the homogeneity of variance assumption. Because of this, and to control the Type I error rate across the three ANCOVAs (and also recalling the excessively platykurtic distribution of values on the *potency* R^2 variable), the researcher used a more stringent level of significance ($p \leq .01$) in these univariate analyses. The results of the univariate ANCOVAs are summarized in Table 9.

Table 9

2 x 2 ANCOVA Summary Tables: Tests of the Univariate Effects of Observer Gender and Body Stimulus Gender on the Salience of the Semantic Differential Attributes Evaluative, Potency, and Activity, Controlling Statistically for Exercise Intensity and Supplement Use

Source	Dependent Variable	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Exercise	RSq Evaluative	.00	1	.01	.09	.761	.000
Intensity	RSq Potency	.01	1	.00	.06	.806	.000
(Covariate)	RSq Activity	.04	1	.04	.63	.426	.002
Supplements	RSq Evaluative	.12	1	.12	1.71	.191	.005
Use	RSq Potency	.14	1	.14	1.76	.185	.005
(Covariate)	RSq Activity	.58	1	.58	9.30	.002	.027
Observer	RSq Evaluative	.16	1	.16	2.34	.127	.007
Gender	RSq Potency	.02	1	.02	.30	.584	.001
	RSq Activity	.01	1	.01	.13	.710	.000
Body	RSq Evaluative	.69	1	.69	9.67	.002	.028
Stimulus	RSq Potency	1.89	1	1.89	23.54	.000	.066
Gender	RSq Activity	.01	1	.01	.30	.580	.001
Observer	RSq Evaluative	.02	1	.02	.37	.540	.001
Gender x	RSq Potency	.12	1	.12	1.57	.210	.005
Body	RSq Activity	.01	1	.01	.08	.768	.000
Stimulus Gender							
Error	RSq Evaluative	24.06	335	.07			
	RSq Potency	27.00	335	.08			
	RSq Activity	20.96	335	.06			
Corrected	RSq Evaluative	25.20	340				
Total	RSq Potency	29.37	340				
	RSq Activity	21.81	340				

Note. RSq means R^2

These analyses indicated that two semantic differential attributes differed in salience as a function of Body Stimulus Gender: the *evaluative* attribute, F (1, 335) = 9.67, p = .002, η^2 = .028, and the *potency* attribute, F (1, 335) = 23.55, p < .001, η^2 = .066. The *evaluative* salience was relatively weak but the effect for *potency* was of medium strength. The descriptive statistics provided in Table 7 suggest the following description of the significant main effect of Body Stimulus Gender. After controlling statistically for exercise intensity and supplement use, the *evaluative* attribute was significantly more salient in participants' judgments of female bodies (M = .67, SE = .02) than male bodies (M = .58, SE = .02). The *potency* attribute was significantly more salient in participants' judgments of male bodies (M = .68, SE = .02) than female bodies (M = .53, SE = .02). There were no significant differences in the *activity* attribute's salience based on Body Stimulus Gender. In other words, the *activity* attribute was about equally salient in participants' judgments of female bodies (M = .66, SE = .02) and male bodies (M = .64, SE = .02).

Salience of the affective reaction attributes. The researcher used a second 2 x 2 between-subjects MANCOVA to determine if the perceptual salience of the six affective reactions (the dependent variables in the analysis) varied as a function of Observer Gender or Body Stimulus Gender (the independent variables), after controlling statistically for exercise intensity and supplement use (the covariates). Following listwise deletion of cases with missing data on one or more variables, 229 cases remained in the analysis. Given that there were 370 cases in the dataset following screening and cleaning, this represents a substantial loss of data—141 cases or 38.1% of the original dataset—and

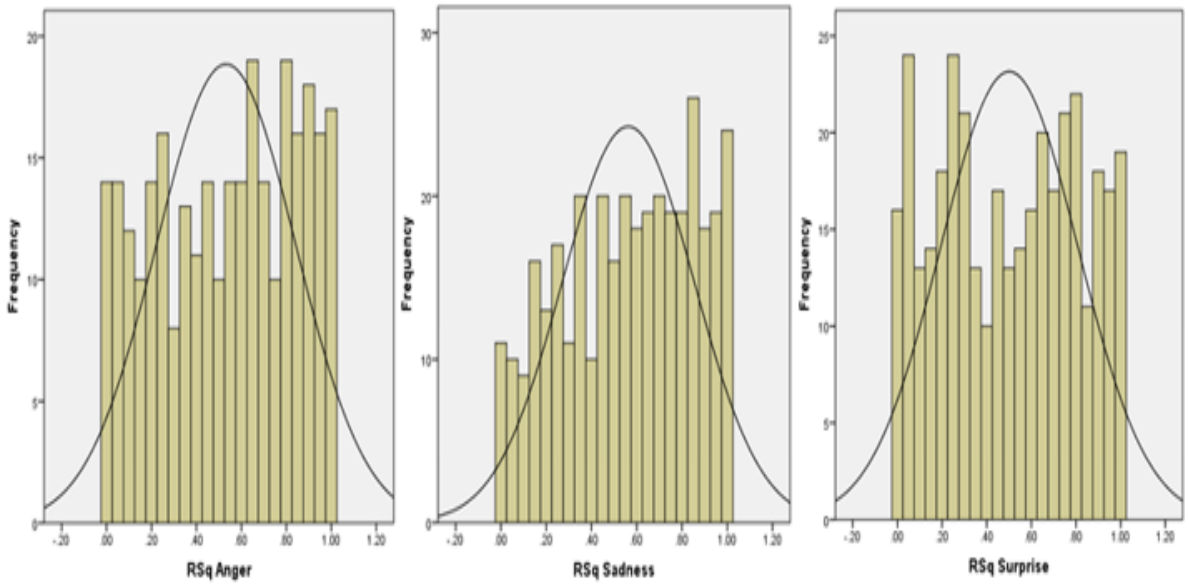
requires an explanation. The loss of affective reaction salience data was due primarily to the fact that some participants tended to report the same level of evoked emotion—often "none"—across all body stimuli. For example, a participant asked to rate how much *anger* was evoked by each of the stimulus photo piles he or she had created might give all piles the same rating, most often 1 = *none*. It was impossible to use the Schiffman et al. (1981) multiple regression method to calculate the salience of an emotion in organizing an individual's perceptions of bodies if that emotion showed no variance in ratings across different bodies. Thus, in situations where a participant showed no variance in his or her emotion ratings across body stimuli, it created missing data for the salience of that emotion.

There were 24 cases excluded from the MANCOVA due to missing data on the exercise intensity covariate and 128 cases were excluded due to missing data on the perceptual salience of one or more emotions, with 11 cases missing data on both the covariate and one or more emotional salience measures. A series of comparisons were performed to determine if participants who were excluded from the MANCOVA due to missing data differed significantly from those who were included in the MANCOVA. The groups did not differ on any of the variables on which they were compared: gender, $\chi^2(1, N = 370) = 2.97$, $p = .085$; race/ethnicity, $\chi^2(5, N = 370) = 1.01$, $p = .962$; marital status, $\chi^2(2, N = 370) = 2.50$, $p = .286$; minutes to complete the protocol (available only for online participants), $t(319) = 0.08$, $p = .939$; number of photo piles created, $t(368) = 1.96$, $p = .051$; intra-rater reliability, $t(368) = 0.77$, $p = .441$; age, $t(360) = 0.13$, $p = .895$; BMI, $t(366) = 1.09$, $p = .276$; ideal body category width, $t(368) = 1.40$, $p = .162$; or ideal-

actual distance, $t(154) = 1.06$, $p = .290$. However, the majority of those excluded from the MANCOVA did differ from those who were included in one obvious way: Those who were excluded reported muted and/or constant affective reactions to the bodies with which they worked. Consequently, conclusions about the perceptual salience of affective dimensions in body perception must be limited to those who experience at least minimal affective reactions to body stimuli and whose affective reactions vary across widely different body stimuli. Given the substantial reduction in sample size available for this analysis, as well as the increased number of dependent variables (six) in comparison to the preceding analysis (three), the researcher performed another a-priori power analysis to estimate the statistical power available for the MANCOVA. With $N = 229$ and $\alpha = .05$, the statistical power available to detect a medium sized effect (Cohen's $f^2 = .15$) was estimated at $1 - \beta > .99$. Statistical power of $1 - \beta = .80$ was estimated for an effect as weak as $f^2 = .03$.

Prior to conducting the MANCOVA, the researcher evaluated the statistical assumptions of the procedure. First, the dependent variables were evaluated for normality both visually, using frequency histograms, and statistically, using descriptive statistics for skewness and kurtosis. The histograms, shown in Figure 15, displayed good variability, with values across the full possible range from 0 to 1, with no obvious outliers. There was no appreciable skewness visible in any of the affective reaction salience distributions and this was confirmed by skewness statistics: R^2 for *anger*, skewness = -.17; R^2 for *sadness*, skewness = -.25; R^2 for *surprise*, skewness = -.01; R^2 for *disgust*, skewness = -.33; R^2 for *happiness*, skewness = .03; and R^2 for *fear*, skewness = -.13. The frequency histograms

also indicated, however, the presence of substantial platykurtosis in most of the distributions, and this was confirmed statistically: R^2 for *anger*, kurtosis = -1.24; R^2 for *sadness*, kurtosis = -1.10; R^2 for *surprise*, kurtosis = -1.28; R^2 for *disgust*, kurtosis = -1.18; R^2 for *happiness*, kurtosis = -1.19; and R^2 for *fear*, kurtosis = -.98. Given the ineffectiveness of data transforms in correcting platykurtosis, and given that the Central Limit Theorem provides some robustness with respect to violations of the assumption of multivariate (and univariate) normality when sample sizes are large (Tabachnick & Fidell, 2013), the researcher decided that the affective reaction salience variables would be analyzed without benefit of data transforms, but that a somewhat more stringent significance level ($p \leq .01$) would be used in evaluating effects involving those variables.



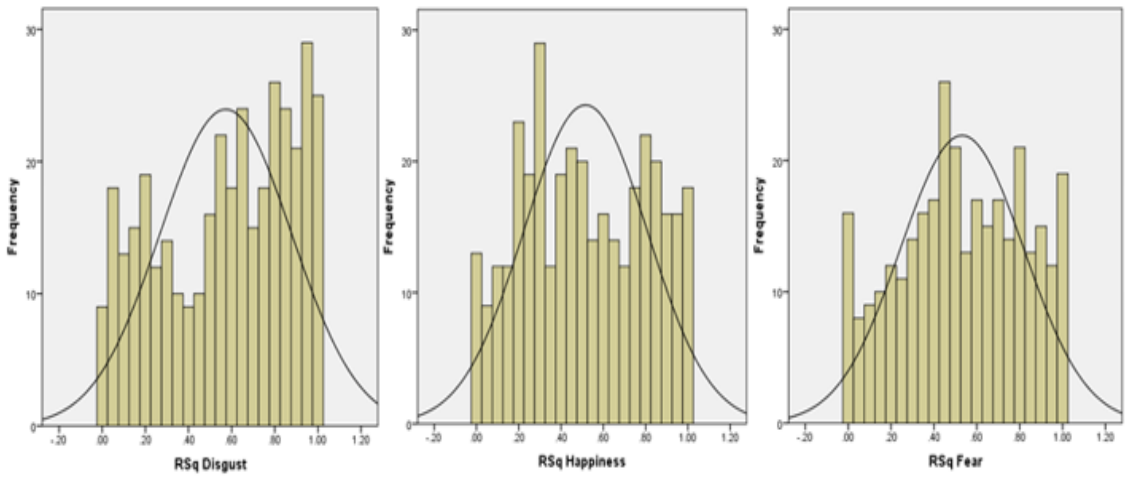


Figure 15. From top left to bottom right: frequency histograms for the perceptual salience (RSq or R^2) of *anger, sadness, surprise, disgust, happiness,* and *fear.*

The researcher used Box's test of equality of covariance matrices to evaluate the assumption of homogeneity of covariance matrices. That test was non-significant, Box's M = 73.72, p = .255, indicating that the assumption was met. Consequently, as recommended by Meyers at al. (2013), the researcher used Wilks' lambda statistic to evaluate the multivariate effects in the MANCOVA. Bartlett's test of sphericity was statistically significant, χ^2 (20) = 370.21, p < .001, indicating that the dependent variables were sufficiently correlated to support the multivariate analysis. Finally, the researcher evaluated the relationships between the dependent variables and the dependent variables and covariates for nonlinearity by generating a matrix of scatterplots. There were no obvious indications of nonlinearity in relationships involving continuous variables in those scatterplots.

Table 10 provides descriptive statistics that summarize the perceptual salience of each of the six affective reactions, *anger, sadness, surprise, disgust, happiness,* and *fear,*

as a function of Observer Gender and Body Stimulus Gender. Included in the table are unadjusted means as well as standard deviations, covariate-adjusted estimated marginal means, and standard error values. The estimated marginal means and standard error statistics have been adjusted for the influence of the covariates exercise intensity and supplement use which were evaluated at their means: exercise intensity = 13.57; supplement use = .28.

Table 10

Descriptive Statistics for the Salience of the Six Affective Reactions in Organizing Body Perceptions as a Function of Observer Gender and Body Stimulus Gender, Controlled for Exercise Intensity and Supplement Use

		Body Stimulus Gender						Row Statistics		
		Female Body Stimuli			Male Body Stimuli			(Observer Gender)		
		M	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*
Female Observers	Anger	.52 (.521)	.27 (.04)	62	.49 (.48)	.28 (.03)	65	.50 (.50)	.28 (.02)	127
	Sadness	.52 (.53)	.29 (.03)	62	.52 (.52)	.29 (.03)	65	.52 (.53)	.29 (.02)	127
	Surprise	.55 (.54)	.30 (.04)	62	.43 (.42)	.30 (.03)	65	.49 (.48)	.30 (.02)	127
	Disgust	.60 (.60)	.31 (.03)	62	.48 (.48)	.29 (.03)	65	.54 (.54)	.31 (.02)	127
	Happiness	.53 (.53)	.27 (.03)	62	.47 (.48)	.27 (.03)	65	.50 (.50)	.27 (.02)	127
	Fear	.60 (.60)	.27 (.03)	62	.44 (.44)	.25 (.03)	65	.52 (.52)	.27 (.02)	127

(continued)

	Anger	.62	.29	37	.46	.34	65	.52	.33	102
		(.63)	(.05)		(.47)	(.03)		(.55)	(.03)	
	Sadness	.69	.28	37	.49	.28	65	.56	.29	102
		(.68)	(.04)		(.48)	(.03)		(.58)	(.03)	
	Surprise	.57	.29	37	.42	.32	65	.48	.31	102
Male Observers		(.58)	(.051		(.44)	(.04)		(.51)	(.03)	
	Disgust	.67	.27	37	.49	.28	65	.55	.29	102
		(.67)	(.05)		(.49)	(.03)		(.58)	(.03)	
	Happiness	.60	.27	37	.40	.30	65	.47	.31	102
		(.60)	(.04)		(.39)	(.03)		(.50)	(.03)	
	Fear	.62	.26	37	.42	.32	65	.49	.32	102
		(.62)	(.04)		(.42)	(.03)		(.527)	(.03)	
	Anger	.56	.28	99	.47	.31	130			
		(.57)	(.03)		(.47)	(.02)				
	Sadness	.58	.30	99	.50	.28	130			
		(.60)	(.03)		(.50)	(.02)				
Column Statistics	Surprise	.56	.30	99	.43	.31	130			
(Body Stimulus Gender)		(.56)	(.03)		(.43)	(.02)				
	Disgust	.62	.30	99	.49	.290	130			
		(.636)	(.03)		(.49)	(.02)				
	Happiness	.55	.27	99	.43	.29	130			
		(.57)	(.03)		(.43)	(.02)				
	Fear	.61	.26	99	.43	.28	130			
		(.61)	(.02)		(.43)	(.02)				

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

The results of the MANCOVA, summarized in Table 11, showed that neither of the covariates exerted a significant multivariate effect on the perceptual salience of the affective reaction dependent variables, but there was a moderately strong main effect of Body Stimulus Gender, Wilks lambda = .893, $F(6, 218) = 4.37$, $p < .001$, $\eta^2 = .107$, indicating that the salience of the affective reactions in organizing body perceptions were differentially salient depending on whether participants worked with female or male body stimuli.

Table 11

2 x 2 MANCOVA Summary Table: Salience of the Affective Reactions, Anger, Sadness, Surprise, Disgust, Happiness, and Fear, as a Function of Observer Gender and Body Stimulus Gender, Controlling Statistically for Exercise Intensity and Supplement Use

Effect	Wilk's Lambda	*F*	Hypothesis *df*	Error *df*	Sig.	Partial Eta Squared
Exercise Intensity (Covariate)	.975	0.94	6.00	218.00	.467	.025
Supplement Use (Covariate)	.965	1.32	6.00	218.00	.246	.035
Observer Gender	.983	0.61	6.00	218.00	.719	.017
Body Stimulus	.893	4.37	6.00	218.00	.000	.107
Observer Gender Gender x Stimulus Gender	.958	1.57	6.00	218.00	.156	.042

The researcher used six univariate ANCOVAs to explore the source of this significant multivariate main effect. Levene's tests indicated that one dependent variable, R^2 for *anger*, violated the homogeneity of variance assumption, F (3, 225) = 2.91, p = .035, but the effect was not strongly significant, and, given the large sample size, the decision was made to ignore the violation in evaluating the results of the univariate ANCOVAs. The results of these analyses are summarized in Table 12. A Bonferroni

adjusted significance level of $p \leq .008$ was used to evaluate these univariate tests so that the family-wise Type I error rate for the six analyses would be kept at $\alpha = .05$. Results of the univariate ANCOVAs showed that four affective reaction attributes, R^2 for *surprise,* R^2 for *disgust,* R^2 for *happiness,* and R^2 for *fear*, met the Bonferroni-adjusted criterion for statistical significance and differed in perceptual salience as a function of Body Stimulus Gender: *surprise*, F (1, 223) = 9.01, $p = .003$, $\eta^2 = .039$; *disgust*, F (1, 223) = 12.95, $p < .001$, $\eta^2 = .055$; *happiness*, F (1, 223) = 11.64, $p = .001$, $\eta^2 = .050$; and *fear*, F (1, 223) = 21.41, $p < .001$, $\eta^2 = .088$. Examination of Table 10 showing descriptive statistics for the analysis provides the following summary of the significant main effect of Body Stimulus Gender on the perceptual salience of the six affective reactions examined in this study, controlling statistically for exercise intensity and supplement use. For both female and male study participants, *surprise* was significantly more salient in organizing perceptions of female body stimuli ($M = .56$, $SE = .03$) than male body stimuli ($M = .43$, $SE = .02$). *Disgust* was significantly more salient in organizing perceptions of female body stimuli ($M = .63$, $SE = .03$) than male body stimuli ($M = .49$, $SE = .02$). *Happiness* was significantly more salient in organizing perceptions of female body stimuli ($M = .57$, $SE = .03$) than male body stimuli ($M = .43$, $SE = .02$). *Fear* was significantly more salient in organizing perceptions of female body stimuli ($M = .61$, $SE = .029$) than male body stimuli ($M = .43$, $SE = .02$). *Anger* and *sadness* showed no statistically significant differences based on Body Stimulus Gender. In other words, *anger* and *sadness* were of approximately equal perceptual salience whether working with either female or male body stimuli.

Table 12

2 x 2 ANCOVA Summary Tables: Tests of the Univariate Effects of Observer Gender and Body Stimulus Gender on the Salience of the Affective Reactions, Anger, Sadness, Surprise, Disgust, Happiness, and Fear, Controlling Statistically for Exercise Intensity and Supplement Use

Source	Dependent Variable	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Exercise	RSq Anger	.15	1	.15	1.65	.199	.007
Intensity	RSq Sadness	.15	1	.15	1.80	.18	.008
(Covariate)	RSq Surprise	.001	.00	.00	.927	.000	
	RSq Disgust	.00	1	.00	.00	.948	.000
	RSq Happiness	.00	1	.00	.01	.899	.000
	RSq Fear	.01	1	.01	.12	.726	.001
Supplement	RSq Anger	.12	1	.12	1.31	.254	.006
Use	RSq Sadnes	.04	1	.04	.52	.471	.002
(Covariate)	RSq Surprise	.27	1	.27	2.98	.085	.013
	RSq Disgust	.00	1	.00	.00	.996	.000
	RSq Happiness	.04	1	.04	.54	.459	.002
	RSq Fear	.05	1	.05	.63	.427	.003
Observer	RSq Anger	.09	1	.09	1.06	.304	.005
Gender	RSq Sadness	.13	1	.13	1.60	.207	.007
	RSq Surprise	.04	1	.04	.42	.515	.002
	RSq Disgust	.06	1	.06	.71	.399	.003
	RSq Happiness	.00	1	.00	.00	.857	.000
	RSq Fear	.00	1	.00	.00	.932	.000
Body	RSq Anger	.51	1	.51	5.64	.018	.025
Stimulus	RSq Sadness	.53	1	.53	6.33	.013	.028
Gender	RSq Surprise	.84	1	.84	9.01	.003	.039
	RSq Disgust	1.14	1	1.14	12.95	.000	.055
	RSq Happiness	.94	1	.94	11.64	.001	.050
	RSq Fear	1.71	1	1.71	21.41	.000	.088

(continued)

Observer	RSq Anger	.22	1	.22	2.43	.120	.011
Gender x	RSq Sadness	.51	1	.51	6.08	.014	.027
Body	RSq Surprise	.00	1	.00	.08	.776	.000
Stimulus	RSq Disgust	.05	1	.05	.66	.415	.003
Gender	RSq Happiness	.32	1	.32	4.00	.047	.018
	RSq Fear	.02	1	.02	.30	.580	.001
Error	RSq Anger	20.40	223	.09			
	RSq Sadness	18.83	223	.08			
	RSq Surprise	20.83	223	.09			
	RSq Disgust	19.67	223	.08			
	RSq Happiness	18.12	223	.08			
	RSq Fear	17.81	223	.08			
Corrected	RSq Anger	21.27	228				
Total	RSq Sadness	20.00	228				
	RSq Surprise	22.11	228				
	RSq Disgust	20.84	228				
	RSq Happiness	19.31	228				
	RSq Fear	19.67	228				

Note. RSq refers to the R^2 measure of perceptual salience.

Research Question Two

Research Question Two asked how much acuity (i.e., sensitivity to subtle differences) study participants displayed in their perceptions of the human body, and whether acuity was affected by: Observer Gender, Body Stimulus Gender, or an Observer Gender x Body Stimulus Gender interaction effect. Body perception acuity was measured in the present study by the number of stimulus photo piles created by each participant. The logic was that a participant who sorted 25 stimulus photos into four or five piles based on body similarity was showing less sensitivity to subtle physical differences than a participant who sorted the same photos into eight or nine piles. The researcher used a 2 x 2 between-subjects ANCOVA to address Research Question Two in which the

independent variables were Observer Gender and Body Stimulus Gender, the dependent variable was number of photo piles, and covariates were exercise intensity and supplement use. Following listwise deletion of cases with missing data on the dependent variable or either of the covariates, 346 cases remained in the analysis.

The researcher used G*Power software to evaluate the statistical power available for this univariate ANCOVA. For $N = 346$ and $\alpha = .05$, the power to detect an effect of medium strength (Cohen's $f^2 = .15$) was estimated at $1 - \beta > .99$. Statistical power of $1 - \beta = .80$ was estimated for an effect as weak as $f^2 = .03$. The ANCOVA was preceded by tests of the assumptions of the procedure. A frequency histogram of the dependent variable, used in evaluating the normality assumption, is shown in Figure 16.

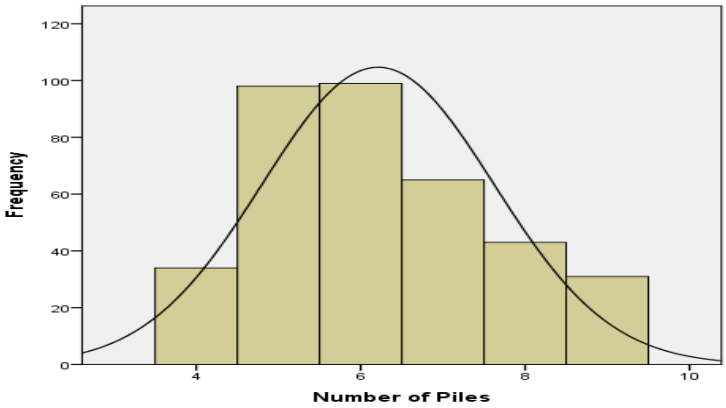


Figure 16. Frequency histogram of the body perception acuity variable and number of photo piles created.

The distribution was slightly positively skewed, but provided a reasonable approximation to the normal curve. These observations were confirmed by the statistics: skewness = .39; kurtosis = -.67. Levene's test of the homogeneity of variance assumption was non-significant, F (3, 342) = 1.37, p = .251, indicating that the assumption was met.

The scatterplot depicting the relationship between exercise intensity and number of photo piles created showed no evidence of nonlinearity.

Table 13 presents descriptive statistics for the dependent variable, number of photo piles, as a function of Observer Gender and Body Stimulus Gender. Included in the table are unadjusted means as well as standard deviations, covariate-adjusted estimated marginal means, adjusted for the influence of the covariates exercise intensity and supplement use which were evaluated at their means: exercise intensity = 13.31; supplement use = .26.

Table 13

Number of Photo Piles Created as a Function of Observer Gender and Body Stimulus Gender

	Body Stimulus Gender								
	Female Body Stimuli			Male Body Stimuli			Row Statistics (Observer Gender)		
	M	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*
Female Observers	6.15 (6.11)	1.33 (0.15)	96	6.49 (6.48)	1.43 (0.14)	108	6.33 (6.31)	1.39 (0.10)	204
Observer Gender									
Male Observers	5.87 (5.89)	1.42 (0.17)	68	6.43 (6.47)	1.41 (0.17)	74	6.16 (6.16)	1.44 (0.12)	142
Column Statistics (Body Stimulus Gender)	6.03 (6.01)	1.37 (0.11)	164	6.47 (6.46)	1.42 (0.11)	182			

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

Results of the ANCOVA are summarized in Table 14. Neither of the covariates was significantly related to the number of photo piles created. There was a weak, but

statistically significant main effect of Body Stimulus Gender, $F(1, 340) = 8.74$, $p = .003$, $\eta^2 = .025$, indicating that, after controlling for exercise intensity and supplement use, significantly fewer piles were created by participants who worked with female stimuli ($M = 6.01$, $SE = 0.11$) than those who worked with male stimuli ($M = 6.46$, SE = 0.11). Neither the Observer Gender x Body Stimulus Gender interaction effect nor the main effect of Observer Gender was significant. Given the relatively high statistical power of the analysis, it is reasonable to accept the observed absence of effects at face value: Female and male study participants showed equal perceptual acuity with respect to body perceptions.

Table 14

ANCOVA Summary Table: Number of Photo Piles as a Function of Observer Gender and Body Stimulus Gender, Controlling Statistically for Exercise Intensity and Use of Supplements

Source	Type III Sum	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Exercise Intensity (Covariate)	.62	1	.62	.31	.573	.001
Supplemental Use (Covariate)	.92	1	.92	.47	.493	.001
Observer Gender	1.81	1	1.81	.92	.337	.003
Body Stimulus Gender	17.11	1	17.11	8.74	.003	.025
Observer Gender x Body Stimulus Gender	.92	1	.92	.47	.493	.001
Error	665.717	340	1.95			
Corrected Total	686.590	345				

Research Question Three

Research Question Three asked, what is the ideal female body, whether men and women agreed, how much consensus existed among men, and how much consensus existed among women? Study participants who worked with female stimulus photos were instructed to sort those photos into piles along with a card that contained only the verbal label "Ideal Female." Although participants were allowed to place the ideal female card (or any other card) into a pile by itself, only one participant chose to do so. (This individual was a woman who commented, "Who am I to judge?") The placement of the ideal female card enabled identifying which female stimulus photos were seen as more or less ideal by each participant. Table 15 lists the proportions of women and men who identified each of the 25 female body stimuli as ideal. Also shown in that table are the results of *z*-test comparisons of proportions for independent samples. These tests show which stimuli were selected as ideal by significantly different proportions of women and men. Given the inflated likelihood of Type I errors in a series of 25 significance tests like this (i.e., with $\alpha = .05$, one or two significant results would be expected to result from Type I error in a series of 25 tests), one should be cautious in taking the results of these significance tests at face value. Instead, statistical significance in Table 15 can be thought of as simply a criterion for identifying for closer visual inspection the female stimulus photos that were chosen more often by women or by men and those female body stimuli that produced the greatest disagreement between women and men.

Figure 17 shows the five female stimulus photos that were chosen as ideal most frequently by women (photos 12, 22, 17, 6, and 18, in decreasing order of preference) and

by men (photos 22, 1, 14, 17, and 12, also in decreasing order of preference). There is considerable overlap between the lists, as both include three images in common (12, 17, and 22), but it is instructive to compare the photos that were unique to each list to see where women's and men's notions of the ideal female body differed. Photos that were unique to the women's top-five list were stimuli 6 and 18. Photos that were unique to the men's top-five list were stimuli 1 and 14. It is visually apparent that the photos that were unique to the women's top-five list were of thinner women with greater muscle definition, and that the photos that were unique to the men's top-five list were of curvier women with classic hourglass figures and less muscle definition.

Table 15

Proportions of Women and Men Who Identified Each of the 25 Female Stimulus Photos as Ideal

Female Body Stimulus	Proportion of Women (n = 105) Identifying Stimulus as "Ideal"	Proportion of Men (n = 72) Identifying Stimulus as "Ideal"	z	2-tail sig.
1	.52	.72	2.65	.008
2	.21	.13	1.45	
3	.36	.13	3.51	<.001
4	.09	.17	1.64	
5	.10	.21	1.91	
6	.58	.49	1.24	
7	.01	.04	1.41	
8	.22	.18	0.62	
9	.33	.57	3.12	.002
10	.15	.24	1.41	
11	.23	.14	1.49	
12	.77	.58	2.67	.008
13	.03	.01	0.65	
14	.30	.65	4.58	<.001
15	.01	.08	2.48	.013

(continued)

16	.16	.10	1.23	
17	.68	.64	0.51	
18	.53	.31	3.00	.003
19	.02	.01	0.26	
20	.19	.07	2.27	.023
21	.29	.18	1.60	
22	.69	.76	1.13	
23	.01	.00	0.83	
24	.03	.04	0.47	
25	.02	.00	1.18	

Figure 18 shows the stimulus photos that were chosen as ideal by significantly ($p \leq .05$) different proportions of women and men. These are not necessarily photos that participants *often* chose as ideal; rather, photos that were chosen as ideal *more* often by women than men, or *more* often by men than women. All four stimulus photos chosen more frequently by women than by men (photos 3, 12, 18, and 20) were noticeably thinner, with smaller breasts, and greater muscle definition. It might also be noted that the woman in photo 18 is more conservatively dressed.

In contrast, the photos that were chosen more frequently by men than by women (photos1, 9, 14, and 15) depict women who are fuller-figured with larger breasts and less muscle definition. Figure 18 confirms what was seen previously in Figure 17, i.e., women participants tended to prefer female bodies that are thinner, more athletic, toned, with greater muscle definition, and men were more apt to choose larger, fuller-figured female forms, with larger breasts and less muscle definition.

Female Photos Chosen as Ideal Most Frequently by Women	Female Photos Chosen as Ideal Most Frequently by Men

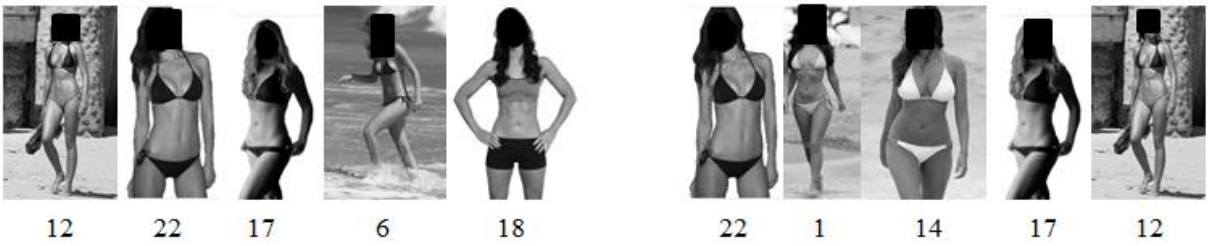


Figure 17. Five most frequently chosen ideal female body stimuli identified by women (on the left) and by men (on the right), in order of preference.

Stimulus Photos Chosen as Ideal Significantly More Often by Women than Men	Stimulus Photos Chosen as Ideal Significantly More Often by Men than Women

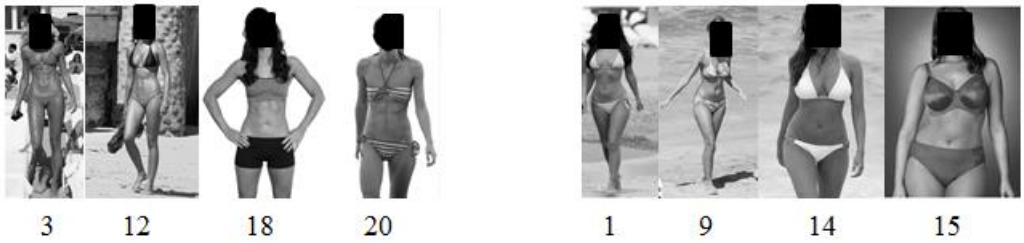


Figure 18. Female body stimuli chosen as ideal significantly more frequently by women than men (on the left) and by men than women (on the right).

Men's and women's consensus regarding the ideal female body. Data on participants' choices for the ideal female body served in the preceding section to illustrate differences *between* gender groups in what constitutes the ideal female body. Those data also enabled assessing differences or diversity of opinions *within* each gender group regarding what defines the ideal female body. In this study, within-group diversity on what is the female body ideal was measured as the percentage of 25 female body stimuli that were identified as ideal by at least 20% of each gender group. The logic of this measure was detailed in Chapter Three and is summarized here: The more photos a

sizeable (e.g., 20%) portion of group selects as ideal, the more diversity and less consensus the group members are showing. Conversely, the fewer different photos a sizeable portion of a group selects as ideal, the less diversity and greater the consensus among the group members. Looking back at Table 15, it can be seen that 20% or more of women participants identified 13 out of 25 (52%) female stimulus photos as ideal. In comparison, 20% or more of men identified only 10 out of 25 (40%) female stimulus photos as ideal. However, a *z*-test for independent proportions was used to compare these percentages (52% vs. 40%) and found the difference to be nonsignificant, $z = 0.85$, $p = .395$ (two-tailed). It was concluded that men and women participants showed approximately equal within-group consensus on the ideal female body.

Women's and men's choices of the ideal female are presented graphically in Figure 19. These graphs display the proportions of women (left side) and men (right side) who identified each of the female stimulus photos as ideal. In each graph, the horizontal line marks the 20% level and the number of bars extending above this line is the number of stimulus photos that were identified as ideal by at least 20% of each gender group. There are no striking visual differences between the graphs for women and men. In conclusion, women as a group displayed somewhat (but not significantly) less consensus than men in identifying the ideal female body.

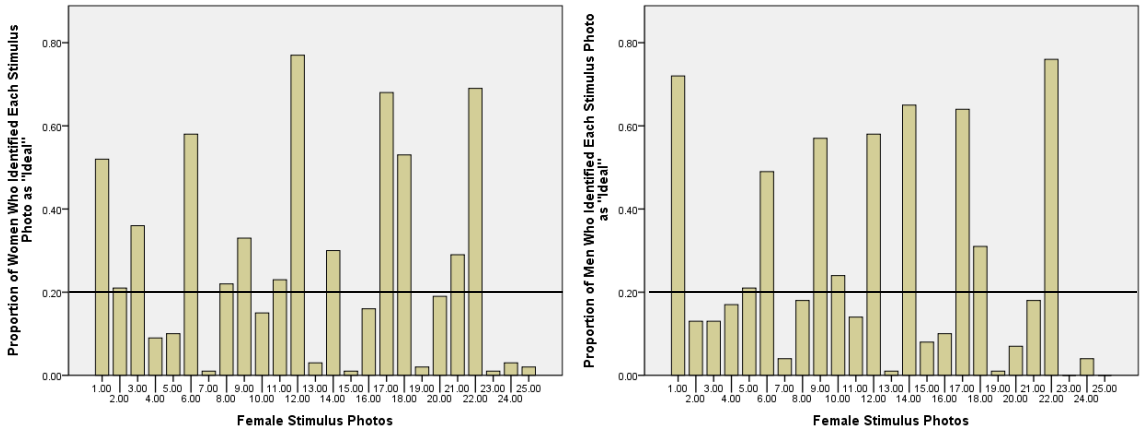


Figure 19. Proportions of women (left graph, n = 103) and men (right graph, n = 72) who selected each of 25 female stimulus photos as representing the ideal female body. The horizontal lines marks the 20% threshold used to define a "substantial percentage" of the observers in each gender group.

Research Question Four

Research Question Four asked, what is the ideal male body, whether men and women agreed, how much consensus existed among women, and how much consensus existed among men? Study one participants who worked with male stimulus photos were instructed to sort those photos into piles, including a card that contained only the verbal label "Ideal Male." The placement of the ideal male card enabled identifying which male stimulus photos were identified as ideal by each participant. Although participants were allowed to place the ideal male card (or any other card) into a pile by itself, no participants who worked with male stimulus photos chose to do so. Table 16 lists the proportions of women and men who identified each of the 25 male body stimuli as ideal. Also shown in that table are the results of *z*-test comparisons of proportions for independent samples. These tests show which stimuli were selected as ideal by significantly different proportions of women and men. Given the elevated Type I error

rate that accompanies a series of 25 significance tests like this, the results need to be interpreted cautiously. Significant *z*-tests served here only as a criterion to identify for closer visual inspection the male stimulus photos that were chosen more often by women or by men, and the male body stimuli that produced the greatest disagreement between women and men.

Table 16

Proportions of Women and Men Who Identified Each of the 25 Male Stimulus Photos as Ideal

Female Body Stimulus	Proportion of Women (*n* = 105) Identifying Stimulus as "Ideal"	Proportion of Men (*n* = 72) Identifying Stimulus as "Ideal"	z	2-tail sig.
1	.07	.10	0.72	
2	.01	.10	2.96	.003
3	.00	.11	3.65	<.001
4	.05	.11	1.52	
5	.35	.29	0.84	
6	.04	.10	1.83	
7	.00	.00	n/a	
8	.43	.19	3.58	<.001
9	.19	.20	0.25	
10	.01	.04	1.38	
11	.00	.00	n/a	
12	.23	.15	1.38	

(continued)

13	.02	.00	1.20	
14	.02	.03	0.35	
15	.00	.00	n/a	
16	.77	.71	0.90	
17	.00	.04	2.07	.038
18	.00	.00	n/a	
19	.12	.10	0.51	
20	.26	.16	1.56	
21	.01	.00	0.84	
22	.62	.79	2.48	.013
23	.67	.58	1.38	
24	.00	.00	n/a	
25	.73	.81	1.26	

Male Photos Chosen as Ideal Most Frequently by Women

Male Photos Chosen as Ideal Most Frequently by Men

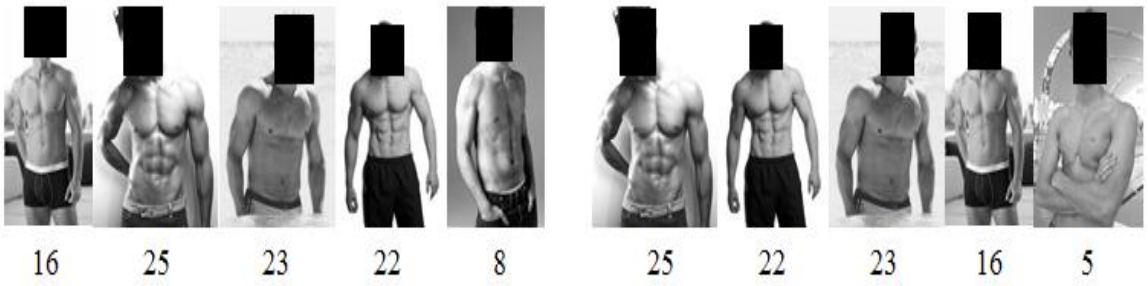


Figure 20. Five most frequently chosen ideal male body stimuli identified by women and by men in order of preference.

Figure 20 shows the five male stimulus photos that were chosen as ideal most frequently by women (photos 16, 25, 23, 22, and 8, in decreasing order of preference) and

by men (photos 25, 22, 23, 16, and 5, also in decreasing order of preference). There is strong overlap between the lists, as both lists include four images in common (photos16, 22, 23, and 25). Even the photos that were unique to the women's top-five list (photo 8) and unique to the men's top-five list (photo 5) were similar in being thinner than the other bodies in the top-five lists, but fit and with well-defined muscles.

Stimulus Photo Chosen as Ideal Significantly More Often by Women than Men	Stimulus Photos Chosen as Ideal Significantly More Often by Men than Women

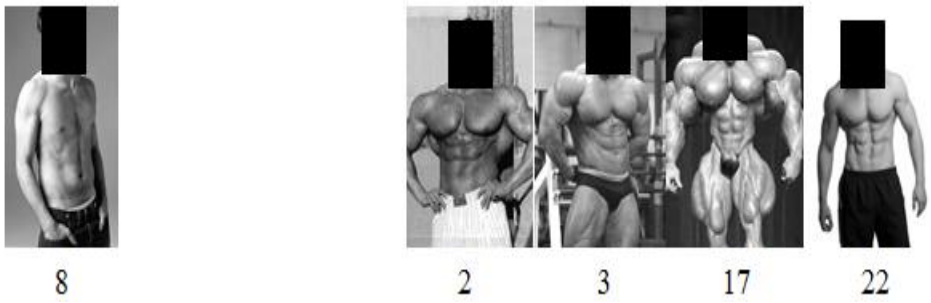


Figure 21. Male body stimuli chosen as ideal significantly more frequently by women than men (on the left) and by men than women (on the right).

Figure 21 shows the male stimulus photos that were chosen as ideal by significantly ($p \leq .05$) *different* proportions of women and men. These are not necessarily photos that participants *often* chose as ideal; rather, photos that were chosen as ideal *more* often by women than men, or *more* often by men than women. The photos chosen as ideal more frequently by men (photos 2, 3, 17, and 22) were heavily muscled, mostly appearing to be competitive body builders.

The single male stimulus photo chosen more often by women than by men was unremarkable, except that the male depicted was far less heavily muscled than the stimuli

chosen more frequently by men. Figures 19 and 20 suggest that men and women showed strong agreement in their perceptions of the male ideal body. Even though men were *more likely* than women to choose photos of male competitive body builders as exemplifying the ideal male body, relatively few men actually chose those images as ideal.

Men's and women's consensus regarding the ideal male body. Data on observers' choices of the ideal male body served in the preceding section to explore differences *between* gender groups in what constitutes the ideal male body. Those data also enable assessing differences or diversity of opinions *within* each gender group regarding what defines the ideal male body. Looking back to Table 16, it can be seen that 20% or more of women participants identified 8 out of 25 (32%) male stimulus photos as ideal. In comparison, 20% or more of men participants identified only 6 out of 25 (24%) male stimulus photos as ideal. However, a *z*-test for independent proportions used to compare these percentages (32% vs. 24%) of stimulus selected as ideal by the two gender groups was non-significant, $z = 0.63$, $p = .529$ (two-tailed). It was concluded that men and women participants showed approximately equal within-group consensus on the ideal male body.

Women's and men's choices of the ideal male are presented graphically in Figure 22. These graphs display the proportions of women (left side) and men (right side) who identified each of the male stimulus photos as ideal. In each graph, the horizontal line marks the 20% level and the number of bars extending above this line is the number of stimulus photos that were identified as ideal by at least 20% of each gender group. One

apparent difference between the distributions shown in Figure 22 involves the variability of the heights of the bars. Among women, the proportions represented by bar altitudes tended to be either very low (near 0) or relatively high, with few bars displaying medium altitudes (in the 10%-15% range).

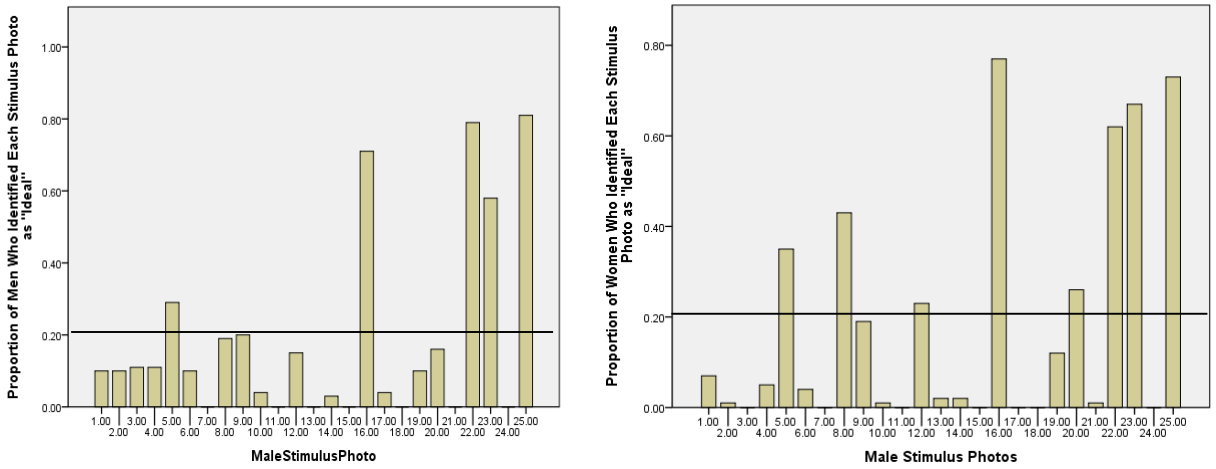


Figure 22. Proportions of women (left graph, n = 105) and men (right graph, n = 72) who selected each of 25 male stimulus photos as representing the ideal male body. The horizontal lines marks the 20% threshold used to define a "substantial" portion of the observers in each gender group.

A mix of very low and very high values maximizes the variance of those values. In comparison, the men's graph showed fewer extremely low-altitude bars and there were more intermediate altitude bars (in the 10%-15% range), i.e., there was less variability in bar altitudes among the men. The appearance of greater variability in the women's graph, however, was not born out statistically. The variance of the proportions seen in the women's graph was 0.067 and the variance of the proportions seen in the men's graph was 0.064. Levene's test found that the difference was not significant, F = 0.30, p = .582. In conclusion, women as a group displayed somewhat (but not significantly) less

consensus than men in identifying the ideal male body, just as women also displayed somewhat (but not significantly) less consensus than men in identifying the ideal female body.

Research Question Five

Research Question Five asked about the breadth of individual study participants' ideal body perceptual categories and whether this was affected by Observer Gender, Body Stimulus Gender, or the Observer Gender x Body Stimulus Gender interaction effect. In this study, the researcher measured the width of the perceptual categories "ideal male body" and "ideal female body" at the level of the individual observer by the number of body stimuli that were included in these categories by each observer. The logic is that if an observer placed many photos into the "ideal" pile it meant that the observer held a fairly broad and inclusive view of what is ideal. On the other hand, an observer who placed only a few stimulus photos into the "ideal" pile would be considered to have a narrower ideal perceptual category. As noted previously, the problem in using the number of stimulus photos included in a pile as a measure of category width is that this number is affected not only by the observer's ideal body category width, but also by how many piles the observer created. The more piles, the fewer stimulus photos there are available to be placed into any given pile; the fewer the piles, the larger the number of photos there are available for each pile. Therefore, in the following analyses of the effects of Observer Gender and Body Stimulus Gender on the width of the ideal male body and the ideal female body categories, the influence of number of piles created was statistically controlled by including number of piles as a covariate.

The researcher used a 2 x 2 between-subjects ANCOVA to evaluate the effects of Observer Gender and Body Stimulus Gender on the dependent variable ideal body category width, measured by the number of body stimuli included in the ideal male body pile and ideal female body pile. Number of piles was included in the analysis as a covariate, along with exercise intensity and supplement use. Following listwise deletion of missing data, 346 cases remained in the analysis.

Since the analysis included three covariates, rather than two as in previous analyses, the researcher performed an a priori power analysis using G*Power software. The analysis estimated that for $N = 346$ and $\alpha = .05$, an effect of medium size (Cohen's $f^2 = .15$) would be detected as statistically significant with a probability of $1 - \beta > .99$. Statistical power was estimated at $1 - \beta = .80$ for an effect as small as $f^2 = .03$.

The ANCOVA was preceded by an evaluation of the assumptions of the procedure: normality of the dependent variable, homogeneity of variance, and linearity of relationships between the dependent variable and covariates as well as between the covariates. Figure 23 shows the frequency histogram for ideal body category width. The distribution was slightly positively skewed but approximated the normal curve. This observation was confirmed by the statistics: skewness = .81; kurtosis = .74. Levene's test was statistically significant, $F(3, 342) = 9.00$, $p < .001$, indicating a violation of the assumption of homogeneous variances. The effect of this violation is to distort the shape of the sampling distribution, and thus, the significance levels of the tests of the effects, and so the researcher adopted a more stringent level of significance ($p \leq .01$) in evaluating the results of the ANCOVA. The researcher evaluated the linearity of

relationships between the dependent variable and the covariates by examining a matrix of scatterplots for those variables. There were no indications of nonlinear relationships among continuous variables.

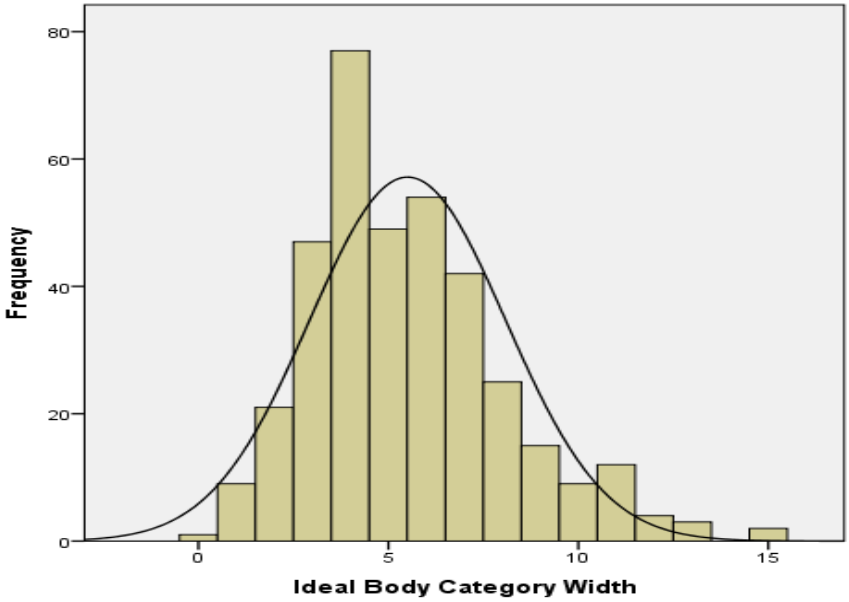


Figure 23. Frequency histogram of the ideal body category width variable.

Table 17 provides descriptive statistics for the dependent variable, width of ideal body category, as a function of Observer Gender and Body Stimulus Gender. Included in the table are both unadjusted means and standard deviations and covariate-adjusted estimated marginal means and standard error values. The estimated marginal means and standard error statistics have been adjusted for the influence of the covariates which were evaluated at their means: number of piles = 6.26, exercise intensity = 13.32; supplement use = .26.

Table 17

Descriptive Statistics for Ideal Body Category Width as a Function of Observer Gender and Body Stimulus Gender, Controlling for Number of Piles, Exercise Intensity, and Supplement Use

	Body Stimulus Gender								
	Female Body Stimuli			Male Body Stimuli			Row Statistics (Observer Gender)		
	M	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*
Female Observers	6.54 (6.48)	3.03 (0.22)	96	4.54 (4.74)	2.04 (0.20)	108	5.48 (5.61)	2.74 (0.15)	204
Observer Gender									
Male Observers	6.41 (6.05)	2.41 (0.26)	68	4.59 (4.71)	1.92 (0.25)	74	5.46 (5.38)	2.34 (0.18)	142
Column Statistics (Body Stimulus Gender)	6.49 (6.26)	2.78 (0.16)	164	4.56 (4.73)	1.99 (0.16)	182			

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

Results of the ANCOVA are summarized in Table 18. The covariate effect of number of piles was statistically significant, F (1, 339) = 111.79, $p < .001$, but neither of the other covariates (exercise intensity and supplement use) were significantly associated with ideal body category width. There was a significant main effect of Body Stimulus Gender, F (1, 339) = 42.97, $p < .001$, $\eta^2 = .113$, with significantly more pictures included in the "ideal female" category (M = 6.26, SE = 0.16) than in the "ideal male" category (M = 4.73, SE = 0.16). No other effects were found to be significant. As noted previously, however, the statistical power available from this analysis allows one to take non-significant effects at face value, since the probability of Type II errors was small. Thus,

it can be stated with a relatively high degree of certainty that neither same-gender nor opposite-gender ideal body category width differs as a function of Observer Gender. In other words, the finding that the ideal female category was wider than the ideal male category was equally true for both male and female study participants, and, collapsing across levels of Body Stimulus Gender, men and women showed almost identical ideal body category widths.

Table 18

ANCOVA Summary Table: Effects of Observer Gender and Body Stimulus Gender on Ideal Body Category Width, Controlling for Number of Piles, Exercise Intensity, and Supplement Use

Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Number of Piles (Covariate)	489.99	1	489.99	111.79	.000	.240
Exercise Intensity (Covariate)	.89	1	.89	.20	.652	.001
Supplement Use (Covariate)	4.39	1	4.39	1.00	.317	.003
Observer Gender	3.74	1	3.74	.85	.356	.003

(continued)

Body Stimulus Gender	188.37	1	188.37	42.97	.000	.113
Observer Gender x Body Stimulus Gender	3.33	1	3.33	.76	.384	.002
Error	1485.82	339	4.38			
Corrected Total	2306.26	345				

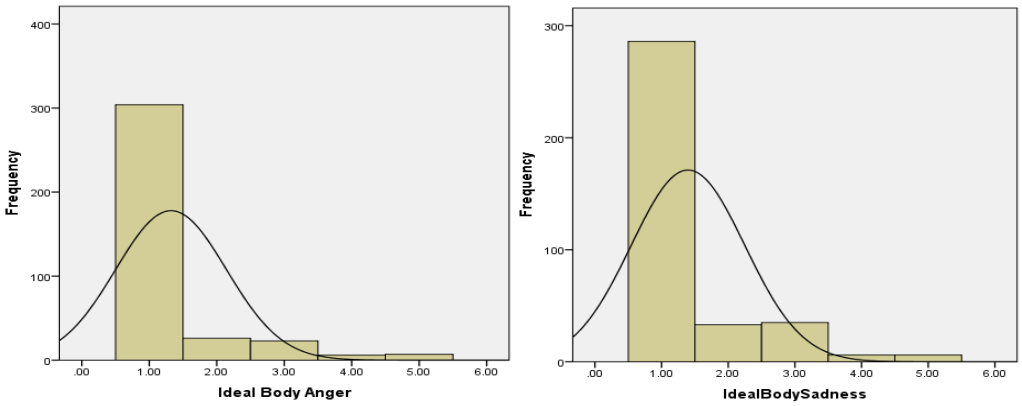
Research Question Six

Research Question Six asked how study participants responded emotionally to example of ideal female and ideal male bodies, and whether this was influenced by Observer Gender, Body Stimulus Gender, or the Observer Gender x Body Stimulus Gender interaction effect. Participants were asked to use a 5-point rating scale to rate each of the photo piles they created so as to indicate the strength of their affective reactions (*anger, sadness, surprise, disgust, happiness,* and *fear*) to the photos in each pile. Ratings were anchored at three points along the 5-point scale: 1 = *no reaction,* 3 = *moderate reaction,* 5 = *strong reaction.* These affective reaction ratings to the photos in participants' "ideal" piles are the focus of Research Question Six. The experimenter originally planned to use a between-subjects 2 x 2 MANCOVA to analyze the effect of Observer Gender and Body Stimulus Gender on the six affective reactions, with exercise intensity and supplement use serving as covariates. However, an evaluation of the

statistical assumptions of the procedure required a substantial departure from that plan as is described and explained in the following paragraphs.

An evaluation of the normality of the distributions of the affective response dependent variables included both visual inspection of frequency histograms and the calculation of statistics measuring skewness and kurtosis. Figure 24 shows the frequency histograms for the six affective reaction variables. Several of the variables were strongly skewed, leptokurtic, and showed restricted variance. In an attempt to improve the distribution characteristics of the affective reaction variables, both log10 and reciprocal data transforms were attempted, but neither of these transforms was particularly effective in normalizing the distributions.

One reason that the distributions deviated so substantially from the normal curve may have been the fact that each affective reaction was measured using a single rating scale. As Miller et al. (2013) have noted, the measurement of a construct using a single item in this way will often lack desirable distribution characteristics (in this case, a normal distribution and unrestricted variability) that are available when several items are combined in measuring that construct.



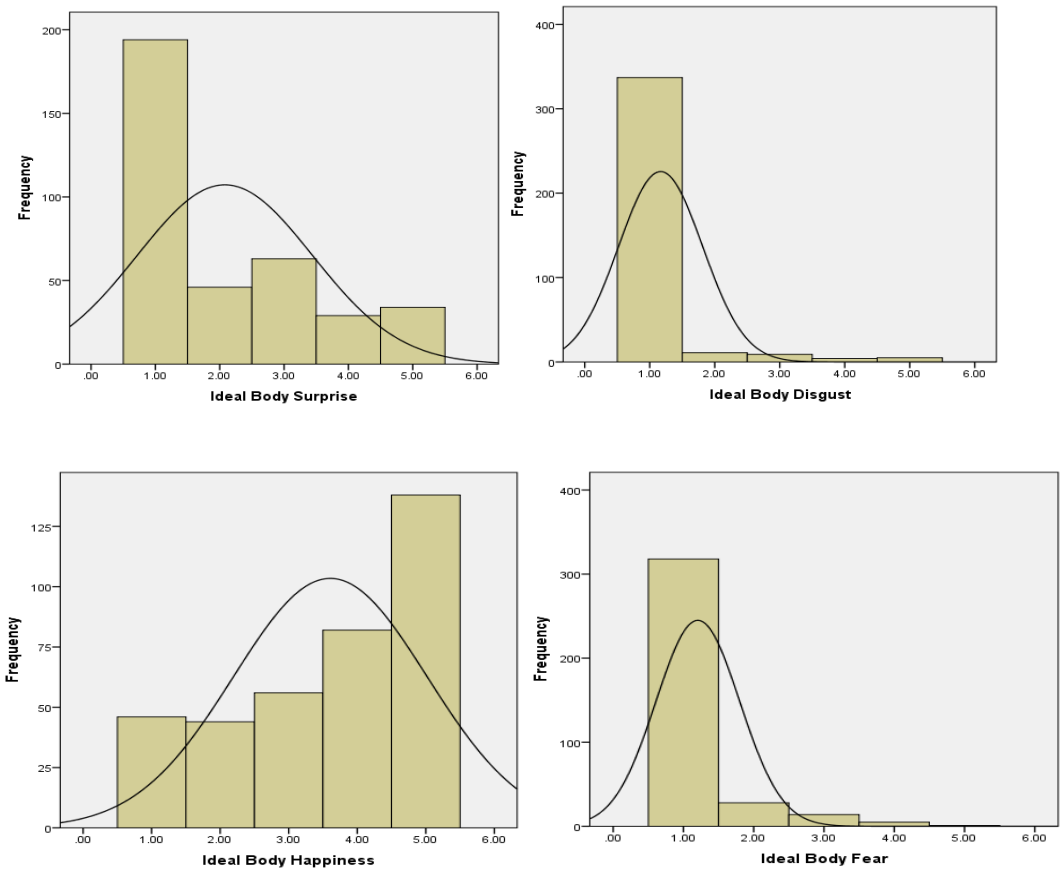


Figure 24. From top left to bottom right, frequency histograms for ideal body anger, sadness, surprise, disgust, happiness, and fear affective reactions.

The idea is that when a scale is based on the sum or average of responses to several rating scales, positive skewness in one can be balanced with negative skewness in another, platykurtosis in one can be balanced by leptokurtosis in another, and so on. A single rating scale does not provide this system of checks and balances. Based on this observation, it was determined that rather than attempting to analyze the six individual affective rating scales separately, the scales might be combined to produce a more workable measure (or measures) of affective reaction.

At least on their face, it appeared that the six affective reactions might be divided into two groups, positive affective reactions and negative affective reactions, but it was

unclear in which of these groups *surprise* would belong and the researcher needed an objective means by which to make this decision. Both principal components analysis and factor analytic methods are useful in sorting variables based on their correlations, but principal components analysis is traditionally recommended for use when the purpose of the analysis is to reduce the number of variables in the analysis by identifying patterns of variable redundancy (Costello & Osborne, 2005), so that was the option the researcher chose.

The principal components analysis of the six affective reaction rating scales began with an examination of the suitability of the data for that type of analysis. Following listwise deletion of cases with missing values on any of the variables in the analysis, 366 cases remained. This created a cases-to-variables ratio of 61:1, more than six times the 10:1 ratio suggested by Warner (2008) as minimally adequate to support this type of analysis. Correlations between the affective reaction rating scales were examined next. Those correlations are shown in Table 19. A matrix scatterplots among variables was used to evaluate the linearity of relationships among the continuous variables. None of the relationships appeared to be strongly nonlinear. Perhaps due in part to the restricted variance seen on several of the variables, there was only one strong correlation, i.e., between *anger* and *sadness, r* (364) = .72, but several correlations were of medium strength. Bartlett's test of sphericity was statistically significant, χ^2 (15) = 576.61, $p <$ .001, confirming that the variables were sufficiently correlated to support a valid principal components analysis. The factorability of the correlation matrix was also

confirmed by the Kaiser-Meyer-Olkin measure of shared variance, *KMO* = .699, which compared adequately to the minimum value of .70 recommended by Meyers et al. (2013).

Table 19

Correlations between Affective Reactions to the Ideal Body: Anger, Sadness, Surprise, Disgust, Happiness, and Fear

		Ideal Body Anger	Ideal Body Sadness	Ideal Body Surprise	Ideal Body Disgust	Ideal Body Happiness	Ideal Body Fear
Ideal Body Anger	Pearson Correlation	1					
	Sig. (2-tailed)						
Ideal Body Sadness	Pearson Correlation	.72**	1				
	Sig. (2-tailed)	.00					
Ideal Body Surprise	Pearson Correlation	.05	.03	1			
	Sig. (2-tailed)	.28	.54				
Ideal Body Disgust	Pearson Correlation	.36**	.46**	.19**	1		
	Sig. (2-tailed)	.00	.00	.00			
Ideal Body Happiness	Pearson Correlation	-.36	-.41**	.26**	-.27	1	
	Sig. (2-tailed)	.00	.00	.00	.00		
Ideal Body Fear	Pearson Correlation	.35**	.37**	.14*	.36**	-.08	1
	Sig. (2-tailed)	.00	.00	.07	.00	.09	

Note. Listwise $N = 366$. **Correlation is significant at the 0.01 level (2-tailed).

The principal components analysis extracted two factors that met Kaiser's minimum criterion with eigenvalues $\geq$ 1.0. These two factors explained 64.56% of the variance in the six affective reaction rating scales, with item communalities ranging from

.47 (for ideal body *fear)* to .76 (for ideal body *sadness*), so a reasonable portion of the variance in all variables was accounted for by the two-factor solution. An oblique rotation (direct oblimin) was used first to simplify the factor structure. The correlation between the factors was extremely weak, r = -.02.

Since the factors were virtually uncorrelated anyway, they were re-rotated using the fully-orthogonal varimax rotation following the recommendation of Costello and Osborne (2005) to create factor variates with the added simplicity of orthogonality. Following this varimax rotation, Factor 1 explained 42.17% of the variance in the affective reaction rating scale responses, and Factor 2 explained an additional 22.38% of the variance. The rotated component matrix is shown in Table 20 and suggested a reasonably straightforward interpretation.

Table 20

Varimax-Rotated Component Matrix for Principal Components Analysis of Affective Reactions to the Ideal Body

	Component	
	1—Negative Affective Reactions	2—Positive Affective Reactions
Ideal Body Sadness	.84	
Ideal Body Anger	.79	
Ideal Body Disgust	.72	
Ideal Body Fear	.64	

(continued)

Ideal Body Surprise		.82
Ideal Body Happiness	-.43	.70

Note. Factor loadings have been sorted by size and loadings less than ± .40 have been deleted.

The researcher interpreted Factor 1 as measuring negative affective reactions to the ideal body. Negative affective reaction scales *sadness, anger, disgust,* and *fear* showed strong positive loadings on Factor 1, and the affective reaction scale *happiness* showed a moderate negative cross-loading on the factor as well. The researcher interpreted Factor 2 as measuring positive affective reactions to the ideal body. The positive affective reaction rating scale *happiness* cross-loaded strongly and positively on Factor 2 along with *surprise,* which also loaded strongly and positively on the factor. In the context of bodies that an individual defines as "ideal," a reaction of *surprise* was part of the overall positive affective experience, i.e., pleasantly surprised.

The researcher evaluated factor scores from the two-factor solution to determine if they showed the necessary characteristics to serve as dependent variables in ANOVA-type analyses (i.e., normality, adequate variability, and with no outliers). Figure 25 shows the distribution of scores on Factor 1—Ideal Body Negative Affective Reactions and Factor 2—Ideal Body Positive Affective Reactions. Both factor variates showed better variability than was seen on the single affective reaction rating scales, but Factor 1 scores were still strongly positively skewed and leptokurtic: skewness = 2.78; kurtosis = 9.12. Scores on Factor 2, however, provided a reasonably good approximation to the normal curve: skewness = .30; kurtosis = -.37. The researcher applied both log10 and reciprocal

transforms to Factor 1 scores to determine if that distribution could be improved and the reciprocal transform was successful in bringing values of skewness and kurtosis below the ±1.0 benchmark recommended by Meyers et al. (2013); skewness = -.68; kurtosis = -.33.

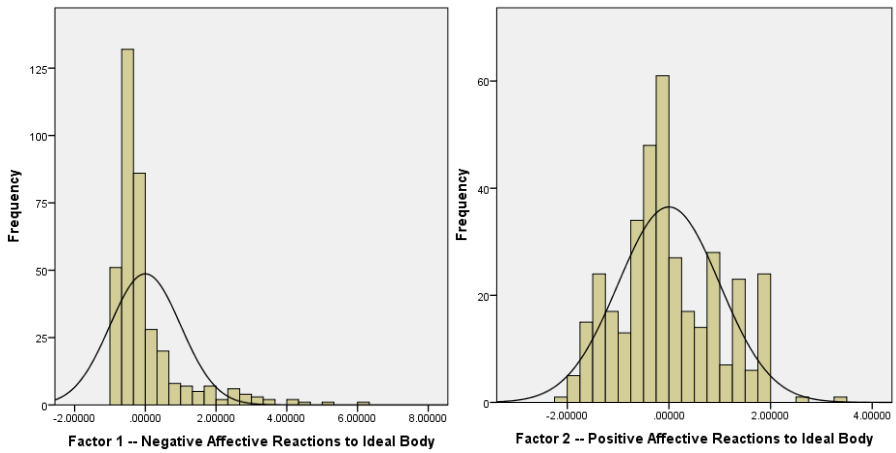


Figure 25. Distributions of factor scores on Factor 1—Ideal Body Negative Affective Reaction (on the left) and Factor 2—Ideal Body Positive Affective Reaction (on the right).

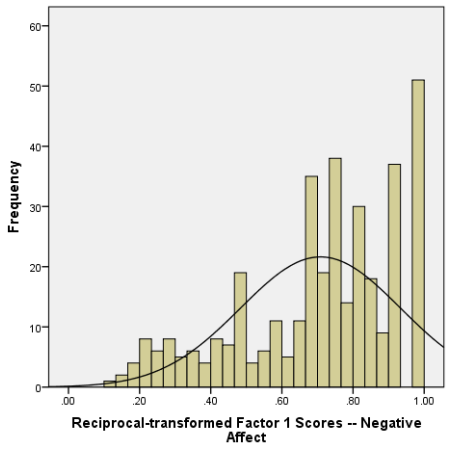


Figure 26. Reciprocal-transformed Factor 1 scores—Ideal Body Negative Affective Reaction.

Reciprocal-transformed Factor 1 scores are shown in Figure 26. As noted previously, one quirk of the reciprocal transform is that it "reflects" or reverses the

scores. Following the recommendation of Tabachnick and Fidell (2013), the researcher re-reflected the reciprocal- transformed factor scores so that low transformed scores again represented low levels of negative affective reaction to the ideal body and high transformed scores again represented high levels of negative affective reaction to the ideal body.

At this point in the analysis there were two orthogonal factor variates representing affective reactions to the ideal body, one measuring negative affective reactions and a second measuring positive affective reactions. Because of the different processes through which these two variables were created, however, scores on the two variables looked quite different on their face—they were of different magnitudes, occupied different ranges, and so on. To make the measures of negative and positive affective reaction more directly comparable and more readily interpretable, the researcher rescaled both factor variates to have means of 50 and standard deviations of 10 using the method of modified *z*-scores (Diekhoff, 1992). Following this final score transformation, a score of 50 represented an average affective response (whether negative or positive), the standard deviation was 10, and on both factor variates lower scores indicate weaker affective reactions and higher scores indicate stronger affective reactions. These variables served as the final measures of negative and positive affect to ideal bodies used in this study and are subsequently referred to as "Ideal Body Negative Affective Reactions" and "Ideal Body Positive Affective Reactions." Figure 27 shows the distribution of scores on the two affective reaction variables and Table 21 provides descriptive statistics for those two variables.

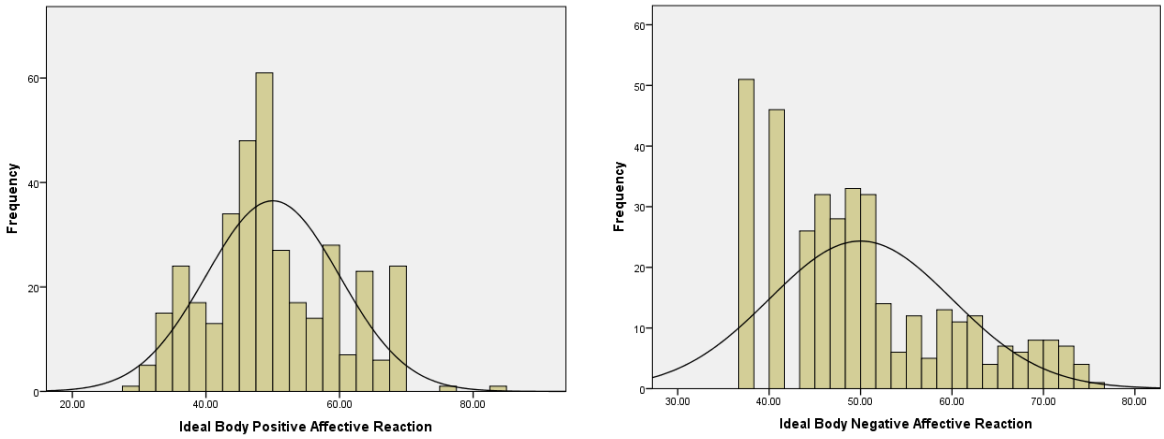


Figure 27. Frequency histograms for dependent variables Ideal Body Negative Affective Reaction and Ideal Body Positive Affective Reactions.

The analysis that the researcher had originally planned to use in addressing Research Question Six was a single MANCOVA using six affective reactions to the ideal body (*anger, sadness, surprise, disgust, happiness,* and *fear*) as dependent variables, Observer Gender and Body Stimulus Gender as independent variables, and exercise intensity and supplement use as covariates. However, the six original measures of affective reaction were now reduced to two virtually orthogonal measures of negative and positive affective reaction to the ideal body. The MANCOVA assumes that the dependent variables are at least moderately correlated (Meyers et al., 2013), obviating the use of that analytic approach with these two variables. Consequently, the researcher used two separate univariate 2 x 2 between-subjects ANCOVAs to address Research Question Six, one for each of the newly created affective reaction dependent variables, with Observer Gender and Body Stimulus Gender as independent variables, and with exercise intensity and supplement use as covariates.

Table 21

Descriptive Statistics for Ideal Body Negative Affective Reactions and Ideal Body Positive Affective Reactions

		Dependent Variables	
		Ideal Body Negative Affect	Ideal Body Positive Affect
N	Valid	366	366
	Missing	4	4
Mean		50.00	50.00
Std. Deviation		10.00	10.00
Skewness		0 .68	0.31
Kurtosis		-0.33	-0.37
Minimum		37.06	29.03
Maximum		75.89	83.60

Ideal body negative affective reactions. Cases with missing values on the dependent variable Ideal Body Negative Affective Reactions or either of the covariates were eliminated in listwise fashion, leaving 342 cases in the analysis. Before the ANCOVA was performed, however, the researcher evaluated the statistical assumptions of the procedure. The dependent variable was described earlier in Figure 32 and Table 21. Although the variable provided good variability and an approximately normal distribution, outliers were apparent in the frequency histogram. The researcher screened for univariate outliers by standardizing scores and identifying cases with *z*-scores

exceeding ± 3.30 ($p < .001$). None of the apparent outliers seen in Figure 32 reached this standard for elimination. Levene's test of the equality of error variances was significant, F (3, 338) = 11.56, $p < .001$, indicating a violation of the homogeneity of variance assumption. Consequently, the researcher used a more stringent significance level ($p \leq .01$) in evaluating all effects in the ANCOVA. Finally, the researcher examined a scatterplot depicting relationship between exercise intensity and negative affective reactions to evaluate the assumption that the dependent variable and continuous covariate were linearly related. The scatterplot showed no indication of nonlinearity.

Table 22 presents descriptive statistics for the dependent variable Ideal Body Negative Affective Reactions as a function of Observer Gender and Body Stimulus Gender. Included in the table are both unadjusted means and standard deviations and covariate-adjusted estimated marginal means and standard error values. The estimated marginal means and standard error statistics have been adjusted for the influence of the covariates which were evaluated at their means: exercise intensity = 13.26; supplement use = .26.

Results of the ANCOVA are summarized in Table 23. Neither of the covariates was significantly related to Ideal Body Negative Affective Reactions. Neither of the main effects of Observer Gender or Body Stimulus Gender was significant, but there was a strong and statistically significant Observer Gender x Body Stimulus Gender interaction effect, F (1, 336) = 43.59, $p < .001$, $\eta^2 = .115$. Figure 28 plots the adjusted cell means and is helpful in understanding the interaction effect. The researcher used Bonferroni-adjusted post hoc comparisons to explore the simple effects.

Table 22

Ideal Body Negative Affective Reactions as a Function of Observer Gender and Body Stimulus Gender

	Body Stimulus Gender								
	Female Body Stimuli			Male Body Stimuli			Row Statistics (Observer Gender)		
	M	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*
Observer Gender									
Female Observers	54.04 (54.12)	11.45 (0.99)	96	45.97 (45.98)	7.21 (0.90)	108	49.77 (50.05)	10.25 (0.68)	204
Male Observers	47.57 (47.50)	9.10 (1.15)	68	53.08 (53.03)	9.28 (1.15)	70	50.37 (50.27)	9.57 (0.83)	138
Column Statistics (Body Stimulus Gender)	51.36 (50.81)	10.99 (0.74)	164	48.77 (49.50)	8.78 (0.73)	178			

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

Women displayed significantly ($p < .001$) stronger negative affective reactions to images of the ideal female body ($M = 54.12$, $SE = 0.99$) than to images of the ideal male body ($M = 45.98$, $SE = 0.90$). In contrast, men displayed significantly ($p = .001$) stronger negative affective reactions to images of the ideal male body ($M = 53.03$, $SE = 1.15$) than to images of the ideal female body ($M = 47.50$, $SE = 1.15$). In other words, participants' negative affective responses were stronger to same-gender ideal stimuli than to opposite-gender ideals. It was also found that women's negative affective reactions to the ideal female body ($M = 54.12$, $SE = 0.99$) were significantly ($p < .001$) stronger than men's

negative affective reactions to the ideal female body (M = 47.50, SE = 1.15). Finally, men's negative affective reactions to the ideal male body (M = 53.03, SE = 1.15) were significantly stronger ($p < .001$) than women's negative affective reactions to the ideal male body (M = 45.98, SE = 0.90).

Table 23

ANCOVA Summary Table: Ideal Body Negative Affective Reaction, Controlled Statistically for Exercise Intensity and Supplement Use

Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Exercise Intensity (Covariate)	71.19	1	71.19	.81	.368	.002
Supplement Use (Covariate)	145.81	1	145.81	1.66	.198	.005
Observer Gender	3.26	1	3.26	.03	.84	.000
Body Stimulus Gender	150.9	1	150.91	1.72	.19	.005
Observer Gender x Body Stimulus Gender	3228.02	1	3228.02	43.71	.00	.115
Error	29338.31		335	87.57		
Corrected Total	33878.68		340			

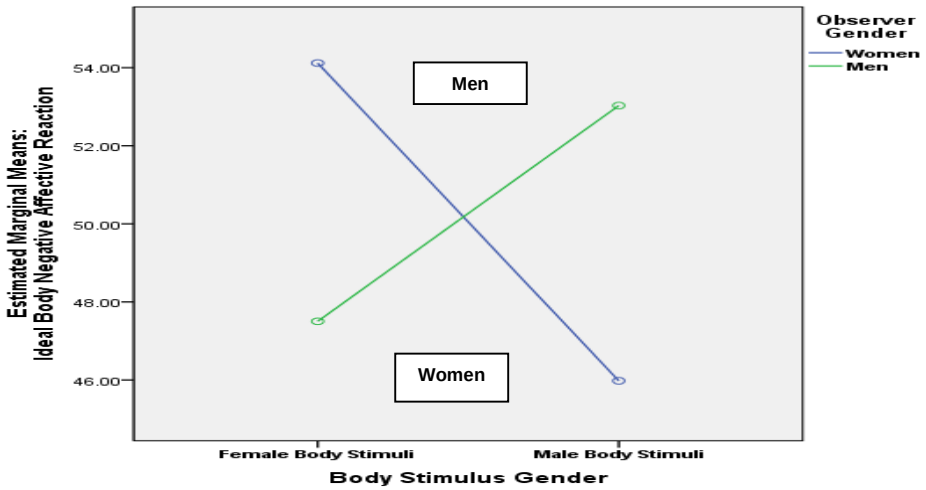


Figure 28. Ideal Body Negative Affective Reactions as a Function of Observer Gender and Body Stimulus Gender, Adjusted Statistically for Exercise Intensity and Supplement Use.

Ideal body positive affective reactions. Cases that were missing data on the Ideal Body Positive Affective Reactions dependent variable were deleted in listwise fashion, leaving 342 cases available for the analysis of that dependent variable. Before the ANCOVA was performed, however, the researcher evaluated the statistical assumptions of the procedure. The dependent variable was described earlier in Figure 26 and Table 21. This dependent variable provided good variability and a reasonable approximation to the normal curve, but Figure 26 suggested the presence of some outliers. To identify any univariate outliers, the researcher standardized the scores and cases were screened for *z*-scores exceeding $\pm$3.30 ($p < .001$). The researcher identified one univariate outlier in this way, $z = 3.36$, and that case was excluded from the analysis, leaving 341 cases. Levene's test of the equality of error variances was non-significant, $F(3, 337) = 0.01$, $p = .998$, indicating that the data met the homogeneity of variance assumption. Finally, a scatterplot showing the relationship between exercise intensity and positive affective reaction was used to test the assumption that the dependent variable and

continuous covariate were linearly related. The scatterplot showed no indications of nonlinearity.

Table 24 presents descriptive statistics for Ideal Body Positive Affective Reaction as a function of Observer Gender and Body Stimulus Gender. Included in the table are both unadjusted means and standard deviations and covariate-adjusted estimated marginal means and standard error values. The estimated marginal means and standard error statistics have been adjusted for the influence of the covariates which were evaluated at their means: exercise intensity = 13.29; supplement use = .261.

Table 24

Ideal Body Positive Affective Reactions as a Function of Observer Gender and Body Stimulus Gender

	Body Stimulus Gender								
	Female Body Stimuli			Male Body Stimuli			Row Statistics (Observer Gender)		
	M	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*	*M*	*SD (SE)*	*n*
Observer Gender									
Female Observers	46.00 (46.58)	9.47 (0.97)	95	53.23 (53.39)	8.59 (0.88)	108	49.85 (49.98)	9.69 (0.66)	203
Male Observers	53.77 (53.31)	9.22 (1.12)	68	46.82 (46.24)	9.34 (1.12)	70	50.25 (49.78)	9.88 (0.81)	138
Column Statistics (Body Stimulus Gender)	49.24 (49.95)	10.10 (0.72)	163	50.71 (49.81)	9.41 (0.70)	178			

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

Results of the ANCOVA are summarized in Table 25. One of the covariates, supplement use, exerted a weak, but statistically significant effect on Ideal Body Positive

Affective Reactions, F (1, 335) = 4.02, p = .046, η^2 = .012. Neither of the main effects of Observer Gender or Body Stimulus Gender was significant, but there was a strong and significant interaction effect, F (1, 335) = 47.68, p < .001, η^2 = .125. Figure 29 plots the adjusted cell means and is helpful in understanding the interaction effect.

Table 25

ANCOVA Summary Table: Ideal Body Positive Affective Reaction as a Function of Observer Gender and Body Stimulus Gender, Controlled for Exercise Intensity and Supplement Use

Source	Type III Sum Of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Exercise Intensity (Covariate)	26.80	1	26.80	.32	.569	.001
Supplement Use (Covariate)	331.64	1	331.64	4.02	.046	.012
Observer Gender	3.07	1	3.07	.03	.847	.000
Body Stimulus Gender	1.43	1	1.43	.01	.895	.000
Observer Gender x Body Stimulus Gender	3927.51	1	3927.51	47.68	.000	.125
Error	27593.09	335	82.36			
Corrected Total	32362.37	340				

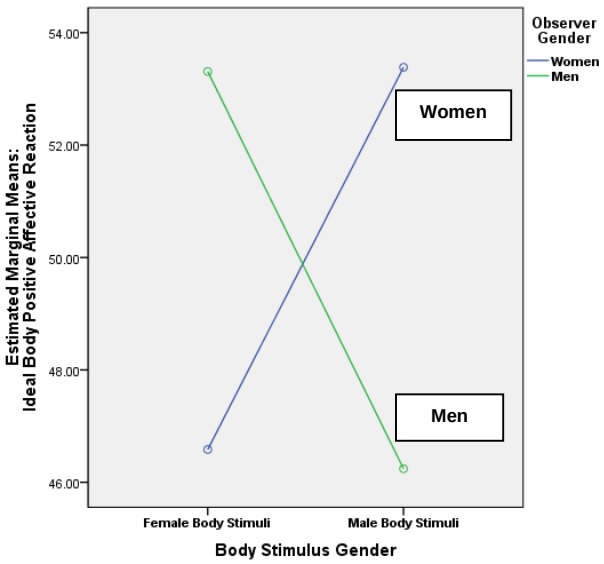


Figure 29. Ideal Body Positive Affective Reactions as a function of Observer Gender and Body Stimulus Gender, controlled for exercise intensity and supplement use.

The researcher used Bonferroni-adjusted post hoc comparisons to explore the simple effects. Women displayed significantly ($p < .001$) stronger positive affect toward ideal male body stimuli ($M = 53.39$, $SE = 0.88$) than ideal female body stimuli ($M = 46.58$, $SE = 0.97$). Men displayed significantly ($p < .001$) stronger positive affect toward ideal female body stimuli ($M = 53.31$, $SE = 1.12$) than ideal male body stimuli ($M = 46.24$, $SE = 1.12$). In other words, study participants expressed significant stronger positive affect toward exemplars of opposite-gender ideal bodies than toward same-gender ideals. In addition, women expressed significantly ($p < .001$) stronger positive affect toward ideal male body stimuli ($M = 53.39$, $SE = 0.88$) than did men ($M = 46.24$, $SE = 1.12$), and men expressed significantly ($p < .001$) stronger positive affect toward ideal female body stimuli ($M = 53.31$, $SE = 1.12$) than did women ($M = 46.58$, $SE = 0.97$).

Research Question Seven

Research Question Seven asked how satisfied or dissatisfied study participants were with their bodies and whether men and women differed in their levels of body dissatisfaction. Body dissatisfaction was measured in this study as the distance between the two stimulus points, "actual body" and "ideal body," in participants' MDS-produced stimulus maps. Data bearing on this research question were limited because the actual-ideal distance was only available under certain conditions: (a) participants were working with same-gender body stimulus photos (about half of the participants worked with *opposite*-gender body stimulus photos), and (b) the "actual body" (or "Myself") stimulus card was included in the participant's deck of stimulus photos (this was not the case for a substantial number of participants due to changes in the research protocol over time). For each participant whose stimulus map included both actual and ideal body stimulus points, however, body dissatisfaction was measured as the squared Euclidean distance between the points, calculated as described in Chapter Three. Following listwise deletion of cases with missing data on the dependent variable or covariates, data were available for 143 cases, 95 women and 48 men.

Research Question Seven was examined using a one-way between-subjects ANCOVA to compare body dissatisfaction (i.e., actual-ideal distance) of women and men after controlling statistically for exercise intensity and supplement use. Before conducting the ANCOVA, the researcher evaluated the statistical assumptions of the procedure. First, the dependent variable, actual-ideal distance, was examined for appropriate variability, normality, outliers, and homogeneity of variance. Figure 30 is a frequency histogram

showing the distribution of scores on the actual-ideal distance variable. The distribution showed good variability, but was strongly positively skewed and leptokurtic, both of which characteristics were confirmed statistically: skewness = 1.890; kurtosis = 5.72. The frequency histogram also suggested the presence of at least one high-scoring outlier. To screen for outliers, the researcher standardized scores on the actual-ideal distance variable and *z*-scores exceeding $\pm$3.30 ($p < .001$) were identified. The suspected outlier was confirmed, with a *z*-score of 5.55 and the score was treated as missing data in subsequent analyses involving actual-ideal distance. No other outliers were identified, leaving 142 cases in the analysis, 94 women and 48 men. The researcher applied both log10 and reciprocal data transforms to actual-ideal distance scores and compared the effectiveness of each in normalizing the distribution. The resulting data distributions are shown in Figure 31. Both transforms reduced skewness and leptokurtosis (for the log10 transform, skewness = 0.10 and kurtosis = -1.07; for the reciprocal transform, skewness = 0.68 and kurtosis = -0.91), but the frequency histograms shows that the log10 transform provided a better fit to the normal curve than did the reciprocal transform. The researcher determined, therefore, that the log10 transform of actual-ideal distance would serve in subsequent analyses using that measure. There was no reflection of scores with this transform. The researcher evaluated the homogeneity of variance assumption of the between-subjects ANCOVA using Levene's test which found no significant difference in variances between women and women, $F(1, 140) = 0.34$, $p = .559$.

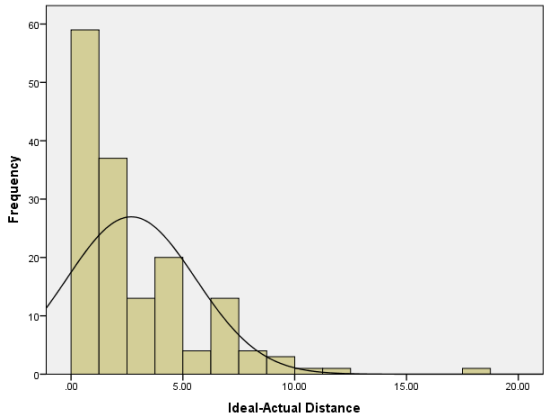


Figure 30. Frequency histogram for the variable ideal-actual distance.

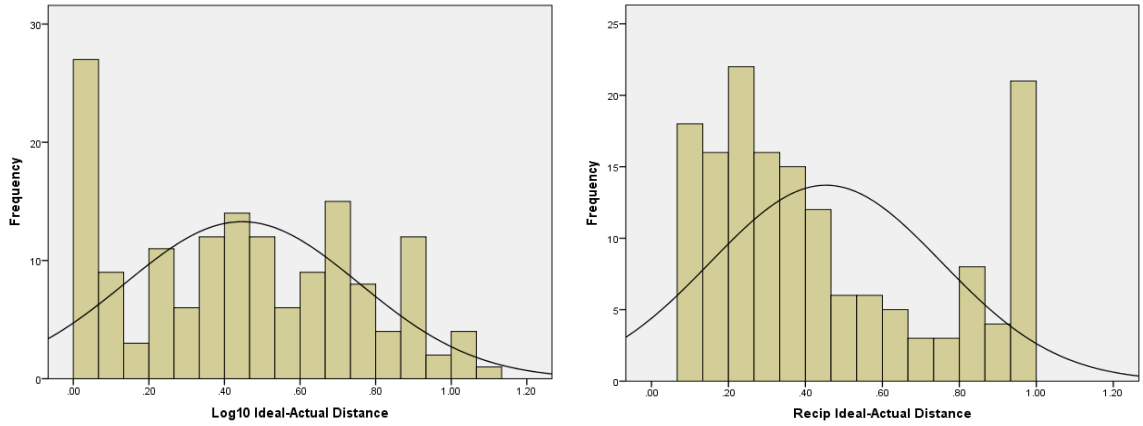


Figure 31. Frequency histograms used to compare the effectiveness of log10 (on the left) and reciprocal data transforms (on the right) in normalizing ideal-actual distances.

Given that only 142 cases provided usable data on ideal-actual distance (94 women and 48 men), the researcher performed an analysis of statistical power for the ANCOVA using G*Power software. The analysis estimated that for $N = 142$ cases and $\alpha = .05$, an effect of medium size (Cohen's $f^2 = .15$) would be detected as statistically significant with a probability of $1 - \beta > .99$. Statistical power was estimated at $1 - \beta = .80$ for an effect as small as $f^2 = .056$.

Table 26 presents descriptive statistics for actual-ideal distance as a function of Observer Gender. Included in the table are both unadjusted means and standard deviations and covariate adjusted estimated marginal means and standard error values. The estimated marginal means and standard error statistics have been adjusted for the influence of the covariates which were evaluated at their means: exercise intensity = 12.99; supplement use = .21. Results of the ANCOVA are summarized in Table 27. Neither covariate exerted a significant effect, nor was the difference in actual-ideal difference between women and men statistically significant. It can be concluded in answer to Research Question Seven that the populations of women and men represented by the participants in this study do not differ appreciably in their levels of body dissatisfaction. Given the substantial statistical power available in this analysis to detect even a very modest effect as significant, this finding can be taken at face value, i.e., it is probably not a result of Type II error.

Table 26

Actual-Ideal Distance as a Function of Observer Gender, Controlled Statistically for Exercise Intensity and Supplement Use

Observer Gender	*n*	Min	Max	*M*	*SD (SE)*
Female Observers	94	0	1.09	.47 (.45)	.31 (.03)
Male Observers	48	0	1.02	.36 (.40)	.30 (.05)

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

Table 27

ANCOVA Summary Table: Actual-Ideal Distance as a Function of Observer Gender, Controlled for Exercise Intensity and Supplement Use

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Exercise Intensity (Covariate)	.26	1	.26	2.71	.102	.019
Supplement Use (Covariate)	.07	1	.07	.72	.397	.005
Observer Gender	.04	1	.04	.47	.493	.003
Error	13.34	138	.09			
Corrected Total	14.20	141				

The outcome of the preceding analysis indicated that men and women who participated in this study did not differ significantly in their levels of body dissatisfaction as measured by the distance between their actual bodies and same-gender ideals in their MDS body stimulus maps. However that analysis does not fully answer the question, "How *satisfied* or *dissatisfied* are participants with their bodies?" To gain more insight into study participants' body satisfaction and dissatisfaction, the researcher shifted the analysis to examine participants' affective reactions to the bodies they sorted into the "actual" (or "myself") pile. Those affective reaction ratings were collected using 5-point

rating scales anchored as follows: 1 = *no* reaction, 3 = *moderate reaction*, and 5 = *strong reaction*. As noted previously, affective reaction ratings on single rating scales lacked distribution characteristics that would make them suitable to *inferential* statistical procedures (they were strongly skewed, leptokurtic, and showed severely restricted variance), but the ratings do support the calculation of *descriptive* statistics which, in turn, will help in understanding how satisfied or dissatisfied participants were with their bodies. Those statistics are provided in Table 28 for affective reaction ratings on actual body *anger*, *sadness*, *surprise*, *disgust*, *happiness*, and *fear*.

Table 28

Affective Reaction Ratings of the Actual Body as a Function of Observer Gender, Controlled Statistically for Exercise Intensity and Supplement Use

	Women (n = 94)					Men (n = 45				
Affective Reactions	Min	Max	*M*	*Md*	*SD (SE)*	Min	Max	*M*	*Md*	*SD (SE)*
Anger	1	5	1.64 (1.60)	1.00	1.11 (0.12)	1	5	1.53 (1.61)	1.00	0.97 (0.18)
Sadness	1	5	1.86 (1.79)	1.00	1.21 (0.12)	1	5	1.82 (1.97)	1.00	1.05 (0.19)
Surprise	1	5	1.65 (1.68)	1.00	0.96 (0.10)	1	4	1.42 (1.36)	1.00	0.81 (0.15)
Disgust	1	5	1.47 (1.43)	1.00	0.98 (0.11)	1	5	1.62 (1.71)	1.00	1.05 (0.17)

(continued)

Happiness	1	5	3.14 (3.23)	3.00	1.34 (0.15)	1	5	2.49 (2.30)	2.00	1.38 (0.22)
Fear	1	5	1.41 (1.40)	1.00	0.93 (0.09)	1	3	1.24 (1.29)	1.00	0.53 (0.14)

Note. Values in parentheses are estimated marginal means and values of the standard error of the mean. These values are adjusted for the influence of the covariates evaluated at their means.

The estimated marginal means and standard error statistics shown in parentheses in that table have been adjusted for the influence of the covariates which were evaluated at their means: exercise intensity = 12.87; supplement use = 0.20. These descriptive statistics show that both women and men rated their own bodies (and bodies similar to theirs) relatively low on *anger, sadness, surprise, disgust,* and *fear* (i.e., adjusted mean ratings between 1 and 2). Speaking generally, both men and women did not express strong negative affect toward their own bodies and bodies similar to their own. The only affective reaction on which women's and men's responses to their own and similar bodies was noticeably different was *happiness*. Women experienced their own bodies and bodies like their own with a moderate degree of *happiness* (adjusted mean = 3.23). Men's ratings on the emotion of *happiness* were about midway between no reaction, and a moderate reaction (adjusted mean = 2.30).

Research Question Eight

Research Question Eight asked if study participants' personal fitness characteristics were predictive of body perception characteristics. Two personal fitness variables, exercise intensity and supplement use, have served as covariates in many of the preceding analyses of body perception, but were treated in those analyses as nuisance

variables that needed to be controlled statistically because participants were not randomly assigned to conditions and there was evidence that treatment conditions were confounded with differences in exercise intensity and supplement use. Specifically, men reported exercising significantly more than women and were also significantly more likely than women to report using supplements to enhance their appearance. In contrast, exercise intensity, supplement use, and other personal fitness variables were the *focus* of Research Question Eight which examines personal fitness variables as independent (predictor) variables and participants' body perception characteristics as dependent (criterion) variables. Personal fitness variables examined here were: exercise intensity, dieting behavior, supplement use, and BMI. Body perception variables examined here were: body perception acuity (number of photo piles), same-gender and opposite-gender ideal body category width (the number of photos in the same-gender and opposite gender ideal piles, controlling statistically for the number of piles), perceptual salience of the *evaluative, potency,* and *activity* semantic differential attributes, the actual-ideal distance, same-gender ideal body affective reactions, and actual body affective reactions. The researcher performed a large number of statistical analyses in order to address Research Question Eight, and the results of the key analyses are summarized at the end of this chapter section in Table 45.

Personal fitness and body perception acuity. The researcher used ordinary least-squares multiple regression analysis to evaluate the relationship between body perception acuity (the dependent variable) and the four personal fitness variables listed in the preceding paragraph (the independent variables). All variables were previously

screened for normality and univariate outliers, but no screening had been performed yet for multivariate outliers involving the combination of personal fitness variables and body perception acuity. The researcher screened for multivariate outliers by calculating Mahalanobis distances for all participants and evaluating these values these against the chi-square distribution using $df = 5$ (the total number of variables in the analysis) and using a stringent level of significance ($p \leq .001$). No cases produced Mahalanobis distances approaching the critical value of $\chi^2 = 20.51$. Finally, the researcher evaluated the linearity of relationships among the continuous variables by examining scatterplots of all pairs of variables. None of the scatterplots involving continuous variables showed any indication of nonlinearity.

Following listwise deletion of cases with missing data on any of the variables in the analysis 346 cases remained. The researcher next performed power analyses for the planned bivariate correlations and multiple regression analysis using G*Power software. For $N = 346$ and $\alpha = .05$ (two-tailed), the probability that a population correlation of medium strength ($\rho = .30$) would produce a statistically significant sample correlation was estimated at $1 - \beta > .99$. Statistical power was estimated at $1 - \beta = .80$ for a population correlation as low as $\rho = .15$. For a multiple correlation analysis with $N = 346$, $\alpha = .05$, and four predictors, it was estimated that an effect of medium strength (Cohen's $f^2 = .15$) would be detected as statistically significant with a probability of $1 - \beta > .99$. Statistical power was estimated at $1 - \beta = .80$ for an effect as weak as $f^2 = .035$.

Correlations between the personal fitness variables and body perception acuity (measured as the number of piles created by participants as they sorted photos) are shown

in Table 29. None of the personal fitness variables were significantly correlated with body perception acuity.

Table 29

Correlations between Personal Fitness Variables and Body Perception Acuity

Variables		Exercise Intensity	Dieting Behavior	Supplement Use	BMI	Body Perception Acuity
Exercise Intensity	Pearson Correlation	1				
	Sig. (2-tailed)					
Dieting Behavior	Pearson Correlation	.29**	1			
	Sig. (2-tailed)	.00				
Supplement Use	Pearson Correlation	.36**	.41**	1		
	Sig. (2-tailed)	.00	.00			
BMI	Pearson Correlation	.03	.07	.09	1	
	Sig. (2-tailed)	.55	.19	.07		
Body Perception Acuity	Pearson Correlation	.01	-.07	-.03	.01	1
	Sig. (2-tailed)	.74	.19	.56	.76	

Note. Listwise $N = 346$ ** Correlation is significant at the 0.01 level (2-tailed).

The researcher next performed the multiple regression analysis using body perception acuity as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Although it is uncommon, it can sometimes happen that the multiple correlation between a criterion variable and several predictors reaches statistical significance even when none of the individual predictors is

significantly correlated with the criterion (Diekhoff, 1992). Before running the multiple regression analysis, however, the researcher evaluated the statistical assumptions upon which that method is based.

Multicollinearity between independent variables was assessed by screening all predictors for a tolerance values of .01 or less (which would indicate that 99% or more of the variable's variance is accounted for by the other variables in the analysis). Multicollinearity refers to the presence of strong correlations among the predictor variables that essentially confounds the predictors, causes the regression weights to be unstable, and can even prevent the analysis from running (Tabachnick & Fidell, 2013). None of the predictor variables' tolerance values approached the .01 benchmark value. Results of the multiple regression analysis indicated that body perception acuity was virtually unrelated to the four personal fitness variables, $R^2 = .01$, $F\ (4, 341) = 0.62$, $p = .643$.

Personal fitness and same-gender ideal body category width. The researcher began the analysis by screening for multivariate outliers on the combination of four personal fitness variables and same-gender ideal body category width. No multivariate outliers were identified, leaving a sample size for the analysis of $N = 170$ following listwise deletion of cases with missing values on any of the variables involved. The sample size was limited by the fact that only about half of the study participants worked with same-gender body stimuli and were thus able to provide data on same-gender ideal body category width. The researcher performed a-priori power analyses using G*Power software to estimate the statistical power provided by this sample for the planned Pearson

correlations and multiple regression analyses. With $N = 170$ and $\alpha = .05$ (two-tailed), the probability that a population correlation of medium strength ($\rho = .30$) would produce a statistically significant sample correlation was estimated at $1 - \beta > .99$. Statistical power was estimated at $1 - \beta = .80$ for a population correlation as low as $\rho = .21$. For a multiple correlation analysis with $N = 170$, $\alpha = .05$, and four predictors, it was estimated that an effect of medium strength (Cohen's $f^2 = .15$) would be detected as statistically significant with a probability of $1 - \beta = .98$. Statistical power was estimated at $1 - \beta = .80$ for an effect as weak as $f^2 = .073$.

The researcher used a scatterplots to evaluate the linearity of the relationships between the continuous variables involved in the analysis. None of the relationships showed any indications of nonlinearity. Correlations between same-gender ideal body category width and the four personal fitness variables are shown in Table 30. None of the personal fitness variables were significantly correlated with the width of the same-gender ideal body category. The researcher next performed the multiple regression analysis using same-gender ideal body category width as the dependent variables and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with these personal fitness predictor variables. Results of the multiple regression analysis indicated that category width of the same-gender ideal body was not significantly related to the four personal fitness variables, $R^2 = .04$, $F\ (4, 165) = 1.77$, $p = .136$.

Table 30

Correlations between Same-Gender Ideal Body Category Width and Four Personal Fitness Variables

		Width of Same-Gender Ideal Category	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
Width of Same-Gender Ideal Category	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	.15*	1			
	Sig. (2-tailed)	.04				
Dieting Behavior	Pearson Correlation	.06	.27**	1		
	Sig. (2-tailed)	.40	.00			
Supplement Use	Pearson Correlation	-.10	.43**	.36**	1	
	Sig. (2-tailed)	.17	.00	.00		
BMI	Pearson Correlation	-.03	.00	-.02	.10	1
	Sig. (2-tailed)	.68	.99	.80	.19	

Note. Listwise $N = 170$. *Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Personal fitness and the actual-ideal distance. Body dissatisfaction was measured in this study as the distance between the actual body stimulus point and the same-gender ideal stimulus point in the individual stimulus maps of study participants. Those distances were then transformed using a log10 transform in order to reduce positive skewness and leptokurtosis. Because of changes in the study protocol over time, actual-ideal distances were available only for participants who: (a) worked with same-

gender body stimuli, and (b) had the "Myself" stimulus card included with their stimulus materials. Because of this, and following listwise deletion of cases with missing values on any of the variables, data for the present analysis were available for 143 cases. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using *df* = 5 (the number of variables used in calculating the Mahalanobis distances) and a significance level of $p \leq .001$. No multivariate outliers were identified, so no more cases were lost.

Given the relatively small sample size available for the planned Pearson correlations and multiple regression analyses, the researcher performed a-priori power analyses using G*Power software to estimate the available statistical power. For $N = 143$ and $\alpha = .05$ (two-tailed), the probability that a population correlation of medium strength ($\rho = .30$) would produce a statistically significant sample correlation was estimated at $1 - \beta = .95$. Statistical power was estimated at $1 - \beta = .80$ for a population correlation as low as $\rho = .23$. For a multiple regression analysis with $N = 143$, $\alpha = .05$, and four predictors, it was estimated that an effect of medium strength (Cohen's $f^2 = .15$) would be detected as statistically significant with a probability of $1 - \beta = .96$. Statistical power was estimated at $1 - \beta = .80$ for an effect as weak as $f^2 = .087$.

The researcher evaluated the linearity of relationships between continuous variables using the matrix of scatterplots. No nonlinear relationships were observed. . Bivariate correlations are shown in Table 31. Three personal fitness variables, exercise intensity, supplement use, and BMI were significantly correlated with actual-ideal

distance. The correlation between exercise intensity and actual-ideal distance was negative, r (141) = -.23, p = .006 (two-tailed), indicating that higher levels of exercise were associated with greater body satisfaction (i.e., less actual-ideal distance). Supplement use was also negatively correlated with actual-ideal distance, r (141) = -.18, p = .026 (two-tailed), indicating a tendency for those who used supplements to experience greater body satisfaction (i.e., less actual-ideal distance). Finally, BMI showed a moderately positive correlation with actual-ideal distance, r (141) = .42, p < .001 (two-tailed), indicating that larger BMI values were associated with lower body satisfaction (i.e., greater actual-ideal distance).

Table 31

Correlations between Actual-Ideal Distance and Four Personal Fitness Variables

		Actual-Ideal Distance	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
Actual-Ideal Distance	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	-.23**	1			
	Sig. (2-tailed)	.00				
Dieting Behavior	Pearson Correlation	-.07	.21**	1		
	Sig. (2-tailed)	.40	.00			
Supplement Use	Pearson Correlation	-.18*	.43**	.31**	1	
	Sig. (2-tailed)	.02	.00	.00		

(continued)

BMI	Pearson Correlation	.42**	.04	-.05	.13	1
	Sig. (2-tailed)	.00	.59	.54	.11	

Note. Listwise $N = 143$ ** Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

The researcher performed the multiple regression analysis next using actual-ideal distance as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness predictor variables. Results of the multiple regression analysis indicated that the multivariate relationship between actual-ideal distance and the four personal fitness variables was strong and statistically significant, $R^2 = .26$, F (4, 138) = 12.40, $p < .001$. The regression model is summarized in Table 32. Exercise intensity, supplement use, and BMI all explained statistically significant unique portions of variance in actual-ideal distance: exercise intensity, β = -.18, t = -2.24, p = .02; supplement use, β = -.18, t = -2.18, p = .031; and BMI, β = .45, t = 6.16, $p < .001$.

Table 32

Regression of Actual-Ideal Distance on Four Personal Fitness Variables

		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	-1.82	.39		-4.69	.00
	Exercise Intensity	-.00	.00	-.18	-2.24	.02

(continued)

Dieting Behavior	.03	.05	.05	.65	.51
Supplement Use	-.14	.06	-.18	-2.18	.03
BMI	1.70	.27	.45	6.16	.00

Personal fitness and the perceptual salience of the evaluative, potency, and activity semantic attributes. The next analyses focused on determining if personal fitness variables were related to the kinds of perceptual filters study participants used in body perception, in particular, the semantic differential attributes *evaluative, potency,* and *activity.* The researcher evaluated each of the semantic differential attributes separately for its relationship to the four personal fitness variables. All analyses began with Pearson correlations to examine the bivariate relationships, followed by multiple regression analysis to examine the multivariate relationship between the four personal fitness variables and each of the semantic differential attributes R^2 *evaluative,* R^2 *potency*, and R^2 *activity.*

Evaluative salience. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using $df = 5$ (the number of variables used in calculating the Mahalanobis distances) and a significance level of $p \leq .001$. No multivariate outliers were found, leaving 346 cases in the analysis following pairwise deletion of missing data. The researcher evaluated the linearity of relationships between

continuous variables using a matrix of scatterplots. No nonlinear relationships were observed.

Table 33

Correlations between Evaluative Salience and Four Personal Fitness Variables

		RSq Evaluative	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
RSq Evaluative	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	.05	1			
	Sig. (2-tailed)	.31				
Dieting Behavior	Pearson Correlation	.11*	.29**	1		
	Sig. (2-tailed)	.02	.00			
Supplement Use	Pearson Correlation	.09	.36**	.41**	1	
	Sig. (2-tailed)	.06	.00	.00		
BMI	Pearson Correlation	.10*	.03	.07	.09	1
	Sig. (2-tailed)	.04	.55	.19	.07	

Note. Listwise $N = 346$. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). RSq refers to the R^2 measure of perceptual salience.

Bivariate correlations are shown in Table 33. Two personal fitness variables produced significant positive correlations with *evaluative* salience: dieting behavior, r (344) = .11, p = .029 (two-tailed); and BMI, r (344) = .10, p = .049 (two-tailed). Both correlations were quite weak, but suggested that participants who engaged in dieting

behavior and participants with larger BMI values tended to make greater use of the *evaluative* dimension when judging body similarities and differences.

The researcher performed the multiple regression analysis next using salience of the *evaluative* dimension as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness predictor variables. Results of the multiple regression analysis indicated that the multivariate relationship between *evaluative* salience and the four personal fitness variables was non-significant, $R^2 = .02$, $F\ (4, 341) = 2.24$, $p = .064$. Thus, even though dieting behavior and BMI each showed significantly positive bivariate correlations with *evaluative* salience, the multiple correlation between *evaluative* salience and all four personal fitness variables failed to reach statistical significance. This is because the test for the multivariate significance of R^2 considers not only the strength of the multiple correlation, but also how many predictors were used to achieve it. As more predictors are added, the size of R^2 needed to reach significance increases.

Potency salience. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using $df = 5$ (the number of variables used in calculating the Mahalanobis distances) and a significance level of $p \leq .001$. No multivariate outliers were found, leaving 344 cases in the analysis following pairwise deletion of missing data. The researcher evaluated the linearity of relationships between continuous variables using a matrix of scatterplots. No nonlinear relationships were observed.

Table 34

Correlations between Potency Salience and Four Personal Fitness Variables

		RSq Potency	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
RSq Potency	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	.07	1			
	Sig. (2-tailed)	.14				
Dieting Behavior	Pearson Correlation	-.02	.29**	1		
	Sig. (2-tailed)	.63	.00			
Supplement Use	Pearson Correlation	.11*	.36**	.41**	1	
	Sig. (2-tailed)	.03	.00	.00		
BMI	Pearson Correlation	-.05	.03	.07	.10	1
	Sig. (2-tailed)	.33	.50	.17	.06	

Note. Listwise $N = 334$. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). RSq refers to the R^2 measure of perceptual salience.

Bivariate correlations are shown in Table 34. One personal fitness variable, supplement use, showed a weak but statistically significant correlation with *potency* salience, $r\ (342) = .11$, $p = .035$ (two-tailed). The salience of the *potency* semantic differential dimension was slightly greater for participants who used supplements (mostly men) than for those who did not use supplements.

The researcher performed the multiple regression analysis next using *potency* salience as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness predictor variables. Results of the multiple

regression analysis indicated that the multivariate relationship between *potency* salience and the four personal fitness variables was non-significant, $R^2 = .02$, F (4, 339) = 2.26, $p = .062$, despite the fact that supplement use considered singly was significantly positively correlated with *potency* salience. Therefore, once again, the non-significance of the multiple correlation was due to the fact that the test of R^2 significance involves not only the strength of the correlation, but also how many predictors were used to achieve it.

Activity salience. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using $df = 5$ (the number of variables used in calculating the Mahalanobis distances) and a significance level of $p \leq .001$. No multivariate outliers were found, leaving 343 cases in the analysis following pairwise deletion of missing data. The researcher evaluated the linearity of relationships between continuous variables using a matrix of scatterplots. No nonlinear relationships were observed.

Bivariate correlations are shown in Table 35. Two personal fitness variables, dieting behavior and supplement use, were significantly correlated with *activity* salience. Dieting behavior showed a weak positive correlation with *activity*, r (341) = .12, $p = .020$ (two-tailed), indicating that the *activity* semantic differential dimension was somewhat more important in filtering the body perceptions of participants who dieted than those who did not diet. Supplement use also showed a weak positive correlation with *activity* salience, r (341) = .18, $p < .001$ (two-tailed), indicating that the *activity* semantic differential dimension was somewhat more salient in guiding the body perceptions of

participants who used supplements (mostly men) to enhance their physical appearance than those who did not use supplements.

The researcher performed the multiple regression analysis next using *activity* salience as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness predictor variables. Results of the multiple regression analysis indicated that the multivariate relationship between *activity* salience and the four personal fitness variables was weak, but statistically significant, $R^2 = .04$, $F(4, 338) = 3.66$, $p = .006$. The regression model is summarized in Table 36. Only supplement use was found to contribute significant unique explained variance in *activity* salience, i.e., variance not accounted for by the other predictors, $\beta = .15$, $t = 2.50$, $p = .013$.

Table 35

Correlations between Activity Salience and Four Personal Fitness Variables

		RSq Activity	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
RSq Activity	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	.10	1			
	Sig. (2-tailed)	.06				
Dieting Behavior	Pearson Correlation	.12*	.29**	1		
	Sig. (2-tailed)	.02	.00			

(continued)

Supplement Use	Pearson Correlation	.18**	.36*	.40**	1	
	Sig. (2-tailed)	.00	.00	.00		
BMI	Pearson Correlation	.06	.02	.07	.10	1
	Sig. (2-tailed)	.20	.59	.18	.06	

Note. Listwise $N = 343$. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

Table 36

Regression of Activity Perceptual Salience on Four Personal Fitness Variables

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	.39	.23		1.68	.094
	Exercise Intensity	.00	.00	.02	.49	.623
	Dieting Behavior	.02	.03	.05	.86	.386
	Supplement Use	.08	.03	.15	2.50	.013
	BMI	.15	.16	.04	.90	.365

Personal fitness and affective reactions to the same-gender ideal body. It will be recalled that an earlier analysis of affective reactions to ideal bodies (see Research Question Six in this chapter) revealed that the distributions of those affective reactions were strongly non-normal and showed severely restricted variance. To improve the distribution characteristics of those affect measures, the researcher used a principal components analysis to create two factor scores—Ideal Body Negative Affective

Reaction and Ideal Body Positive Affective Reactions. Those factor scores underwent additional transformations to improve their distribution shape characteristics and were finally rescaled to have means of 50 and standard deviations of 10. Scores on those same two affective reaction factor variates were used in this analysis to see if personal fitness variables were predictive of the strength of participants' negative and positive affective reactions to same-gender ideals.

Data on personal fitness variables were available for almost all study participants, but data pertaining to participants' affective reactions to same-gender ideals were available only for those who were assigned to work with same-gender body stimuli. Using listwise deletion of cases with missing data on any of the personal fitness variables or affective reaction variables left 166 cases available for the analyses examining the relationship between personal fitness and affective reactions to same-gender ideal bodies.

Same-gender ideal body negative affective reactions. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using $df = 5$ (the number of variables used in calculating the Mahalanobis distances) and a significance level of $p \leq .001$. No multivariate outliers were found, leaving 166 cases in the analysis following listwise deletion of missing data. The researcher evaluated the linearity of relationships between continuous variables by examining a matrix of scatterplots. No nonlinear relationships were observed among continuous variables.

Bivariate correlations are shown in Table 37. One personal fitness variable, BMI, showed a weak but significant positive correlation with Same-Gender Ideal Negative

Affective Reactions, r (164) = .17, p = .023 (two-tailed), indicating that as BMI increased, so did negative affective reactions to exemplars of same-gender ideals. The researcher performed the multiple regression analysis next using Same-Gender Ideal Negative Affective Reactions as the dependent variables and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness predictor variables. The multivariate relationship between personal fitness and Same-Gender Ideal Negative Affective Reactions was non-significant, R^2 = .03, F (4, 161) = 1.56, p = .187.

Table 37

Correlations between Same-Gender Ideal Negative Affective Reactions and Four Personal Fitness Variables

		Same-Gender Ideal Negative Affective Reactions	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
Same-Gender Ideal Negative Affective Reactions	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	-.07	1			
	Sig. (2-tailed)	.35				
Dieting Behavior	Pearson Correlation	-.00	.27**	1		
	Sig. (2-tailed)	.99	.00			

(continued)

Supplement Use	Pearson Correlation	.01	.43**	.37**	1	
	Sig. (2-tailed)	.87	.00	.00		
BMI	Pearson Correlation	.17*	.00	-.01	.10	1
	Sig. (2-tailed)	.02	.96	.88	.18	

Note. Listwise $N = 166$. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

Same-gender ideal positive body affective reactions. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using $df = 5$ (the number of variables used in calculating the Mahalanobis distances) and a significance level of $p \leq .001$. No multivariate outliers were found, leaving 166 cases in the analysis following listwise deletion of missing data. The researcher evaluated the linearity of relationships between continuous variables using a matrix of scatterplots. No nonlinear relationships were observed among continuous variables.

Bivariate correlations are shown in Table 38. One personal fitness variable, supplement use, showed a weak but statistically significant positive correlation with Same-Gender Ideal Positive Affective Responses, $r\ (164) = .16$, $p = .032$ (two-tailed), indicating that participants who reported using supplements to enhance physical appearance showed stronger positive affective reactions to exemplars to same-gender body ideals.

Table 38

Correlations between Same-Gender Ideal Positive Affective Reactions and Four Personal Fitness Variables

		Same-Gender Positive Ideal Affective Reactions	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
Same-Gender Positive Ideal Affective Reactions	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	.07	1			
	Sig. (2-tailed)	.32				
Dieting Behavior	Pearson Correlation	.05	.27**	1		
	Sig. (2-tailed)	.48	.00			
Supplement Use	Pearson Correlation	.16	.43**	.37**	1	
	Sig. (2-tailed)	.03	.00	.00		
BMI	Pearson Correlation	.01	.00	-.01	.10	1
	Sig. (2-tailed)	.81	.96	.88	.18	

Note. Listwise $N = 166$. *Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

The researcher performed the multiple regression analysis next using Same-Gender Ideal Positive Affective Reactions as the dependent variables and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness

predictor variables. The multivariate relationship between personal fitness and same-gender ideal body positive affect was weak and statistically non-significant, $R^2 = .02$, $F(4, 161) = 1.14$, $p = .336$.

Personal fitness and affective reactions to the actual body. Data on affective reactions to the actual body consisted of ratings on *anger*, *sadness*, *surprise*, *disgust*, *happiness*, and *fear*. In order to bring consistency between (a) analyses involving personal fitness and affective reactions to ideal bodies (reported in the preceding section), and (b) personal fitness and affective reactions to actual bodies (reported here), the researcher reduced the six affective responses to participants' actual bodies to two factor scores measuring negative and positive affective reactions as is described next. In addition to reducing the number of variables involved from six affective reactions to two affective factors, factor scores were also orthogonal, thus ensuring that analyses involving those two factors were statistically independent.

Principal components analysis of affective reactions to the actual body. A principal components analysis of the six affective reactions to the actual body began with an examination of the suitability of the data for that type of analysis. Data were available only for participants who: (a) completed the research during a period of time that the protocol included the "Myself" card in the deck of stimuli, and (b) worked with same-gender body stimuli. Following listwise deletion of missing data, 153 cases remained for analysis. This created a cases-to-variables ratio of 25.5:1, well in excess of the 10:1 minimum suggested by Warner (2008), but in the range defined as poor ($N = 100$) to fair ($N = 200$) by Comrey and Lee (1992).

Table 39

Correlations between Affective Reactions to the Actual Body: Anger, Sadness, Surprise, Disgust, Happiness, and Fear

		Actual Body Anger	Actual Body Sadness	Actual Body Surprise	Actual Body Disgust	Actual Body Happiness	Actual Body Fear
Actual Body Anger	Pearson Correlation	1					
	Sig. (2-tailed)						
Actual Body Sadness	Pearson Correlation	.63**	1				
	Sig. (2-tailed)	.00					
Actual Body Surprise	Pearson Correlation	.18*	.07	1			
	Sig. (2-tailed)	.02	.37				
Actual Body Disgust	Pearson Correlation	.59**	.74**	-.04	1		
	Sig. (2-tailed)	.00	.00	.59			
Actual Body Happiness	Pearson Correlation	-.18*	-.39**	.22**	-.35**	1	
	Sig. (2-tailed)	.02	.00	.00	.00		
Actual Body Fear	Pearson Correlation	.54**	.47**	.11	.44**	-.10	1
	Sig. (2-tailed)	.00	.00	.16	.00	.20	

Note. Listwise $N = 153$. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

Correlations between the actual body affective reaction rating scales are shown in Table 39 and a matrix of the scatterplots among variables was used by the researcher to evaluate the linearity of relationships. There were several strong correlations in the

matrix (i.e., $r \geq \pm.5$) and no obviously nonlinear relationships. Bartlett's test of sphericity was statistically significant, $\chi^2 (15) = 318.46$, $p < .001$, confirming that the variables were sufficiently correlated to support a valid principal components analysis. The factorability of the correlation matrix was also confirmed by a Kaiser-Meyer-Olkin measure of shared variance, *KMO* = .76, which exceeded the minimum value of .70 recommended by Meyers et al. (2013).

The principal components analysis extracted two factors meeting Kaiser's minimum criterion with eigenvalues $\geq$ 1.0. These two factors explained 69.33% of the variance in the six affective reaction rating scales, with item communalities ranging from .55 (for actual body *fear*) to .79 (for actual body *sadness*), so a reasonable portion of the variance in all variables was accounted for by the two-factor solution. The researcher first used an oblique rotation (direct oblimin) to simplify the factor structure for interpretation. The correlation between the factors was extremely weak, $r = -.06$, and so the researcher re-rotated the factor solution using varimax rotation to create factor variates possessing the added simplicity of orthogonality (Costello & Osborne, 2005). Following this varimax rotation, Factor 1 explained 47.36% of the variance in the affective reaction rating scale responses, and Factor 2 explained an additional 21.20% of the variance. The rotated component matrix is shown in Table 40. This factor solution and the solution from the earlier principal components analysis of ideal body affective reactions are very similar. In both analyses, Factor 1 was interpreted by the researcher as measuring negative affective reactions and Factor 2 was interpreted as measuring positive affective reactions. In the present analysis, *sadness, anger, disgust,* and *fear* all showed strong

positive loadings on Factor 1 and both *happiness* and *surprise* showed strong positive loadings on Factor 2.

Table 40

Varimax-Rotated Component Matrix for Principal Components Analysis of Affective Reactions to the Actual Body

	Component	
	1—Negative Affective Reactions	2—Positive Affective Reactions
Actual Body Sadness	.86	
Actual Body Anger	.85	
Actual Body Disgust	.81	
Actual Body Fear	.72	
Actual Body Surprise		.79
Actual Body Happiness		.72

Note. Factor loadings have been sorted by size and loadings less than $\pm$ .40 have been deleted.

The researcher evaluated the distributions of factor scores from the two-factor solution to determine if they showed the necessary characteristics to serve as dependent variables in multiple regression analyses (i.e., normality, adequate variability, with no outliers). Figure 32 shows the distribution of scores on Factor 1—Actual Body Negative Affective Reactions and Factor 2—Actual Body Positive Affective Reactions. Both factor variates showed good variability, but Factor 1 scores were strongly positively skewed and leptokurtic: skewness = 1.67, kurtosis = 2.43. Scores on Factor 2, however, provided a reasonably good approximation to the normal curve: skewness = .66, kurtosis

= .08. The researcher applied log10 and reciprocal transforms to Factor 1 scores to determine if that distribution could be normalized. The log10 transform was successful in bringing values of skewness and kurtosis below the ±1.0 benchmark values recommended by Meyers et al. (2013). Log10-transformed Factor 1 scores are shown in Figure 33; skewness = .89; kurtosis = -.18.

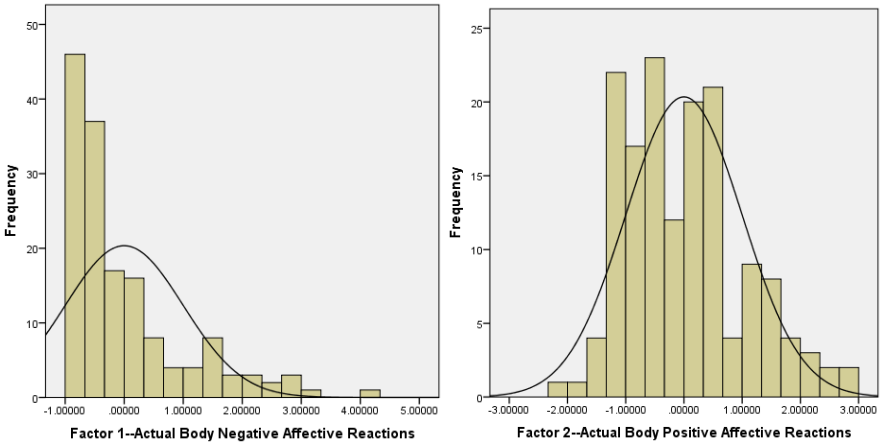


Figure 32. Distributions of factor scores on Factor 1—Actual Body Negative Affective (on the left) Reactions and Factor 2—Actual Body Positive Affective Reactions (on the right).

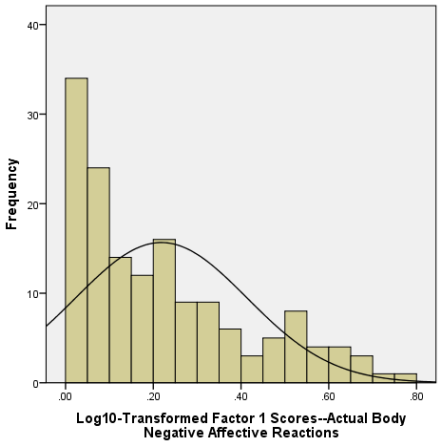


Figure 33. Log10-transformed Factor 1 scores—Actual Body Negative Affective Reactions.

At this point in the analysis there were two virtually orthogonal factor variates representing affective reactions to the actual body, one measuring negative affective reactions and the other measuring positive affective reactions. Because one of these variates went through a log10 transform and the other did not, scores on the two variables looked quite different on the surface—they were of different magnitudes, occupied different ranges, and so on. To make the measures of negative and positive affective reactions more directly comparable and more readily interpretable, the researcher rescaled both variates to have means of 50 and standard deviations of 10 using the method of modified *z*-scores (Diekhoff, 1992). On both variables, lower scores indicate weaker affective reactions and higher scores indicate stronger affective reactions. These variables, referred to subsequently as Actual Body Negative Affective Reactions and Actual Body Positive Affective Reactions, were then used by the researcher in exploring the relationship between personal fitness variables and affective reactions to the actual body. Figure 34 shows the distribution of scores on the two actual body affective reaction variables and Table 41 provides descriptive statistics for the two variables.

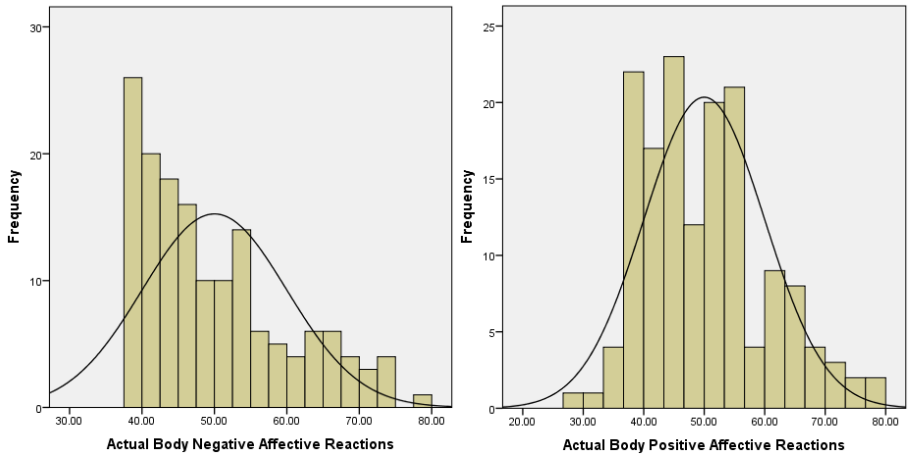


Figure 34. Frequency histograms for Actual Body Negative Affective Reactions and Actual Body Positive Affective Reactions.

Table 41

Descriptive Statistics for Actual body Negative Affective Reactions and Actual Body Positive Affective Reactions

		Actual Body Negative Affective Reactions	Actual Body Positive Affective Reactions
N	Valid	153	153
	Missing	217	217
Mean		50.00	50.00
Standard Deviation		10.00	10.00
Skewness		0.88	0.66
Kurtosis		-0.18	0.08
Minimum		38.80	28.92
Maximum		78.39	78.44

Personal fitness and actual body negative affective reactions. Analyses to determine if personal fitness variables were predictive of Actual Body Negative Affective Reactions began by screening the dependent variable for outliers. The researcher accomplished this by standardizing scores and checking for *z*-scores exceeding $\pm$3.3 ($p <$ .001). There were no univariate outliers. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using $df = 5$ (the number of variables used in calculating the Mahalanobis distances) and a stringent significance level ($p \leq .001$). No multivariate outliers were found, leaving 140 cases in the analysis following listwise deletion of missing data. The researcher evaluated the linearity of relationships between continuous variables using a matrix of scatterplots. No nonlinear relationships were observed. Bivariate correlations are shown in Table 42. One personal fitness variable, BMI, showed a significant positive correlation with Actual Body Negative Affective Reactions that was of medium strength, $r\ (138) = .38$, $p < .001$, indicating that as BMI increased, so did the strength of negative affective reactions to participants' own bodies and bodies similar to their own.

Table 42

Correlations between Actual Body Negative Affective Reactions and Four Personal Fitness Variables

		Actual Body Negative Affective Reactions	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
Actual Body Negative Affective Reactions	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	-.15	1			
	Sig. (2-tailed)	.07				
Dieting Behavior	Pearson Correlation	.02	.23**	1		
	Sig. (2-tailed)	.81	.00			
Supplement Use	Pearson Correlation	-.01	.42**	.31**	1	
	Sig. (2-tailed)	.82	.00	.00		
BMI	Pearson Correlation	.38**	.04	-.04	.14	1
	Sig. (2-tailed)	.00	.58	.57	.09	

Note. Listwise $N = 140$. **Correlation is significant at the 0.01 level (2-tailed).

The researcher performed the multiple regression analysis next using Actual Body Negative Affective Reactions as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with the personal fitness predictor variables. The multivariate relationship between personal fitness and Actual Body Negative Affective Reactions was strong and statistically significant, $R^2 = .18$, $F\ (4, 135) = 7.50$, $p < .001$. The regression model is shown in Table 43. Two of the four predictors explained

significant unique variance in Actual Body Negative Affective Reactions (i.e., these predictors were significantly correlated with the dependent variable after removing variance explained by all of the other predictors): exercise intensity, β = -.17, t = -2.04, p = .043; and BMI, β = .40, t = 5.05, p < .001.

Table 43

Regression of Actual Body Negative Affective Reactions on Four Personal Fitness Variables

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	*t*	Sig.
1	(Constant)	-11.93	12.84		-.93	.354
	Exercise Intensity	-.22	.10	-.17	-2.04	.043
	BMI	46.01	9.10	.40	5.05	.000
	Dieting Behavior	1.88	1.75	.08	1.07	.286
	Supplement Use	-.75	2.25	-.03	-.33	.739

Personal fitness and actual body positive affective reactions. Analyses to determine if personal fitness variables were predictive of Actual Body Positive Affective Reactions began by screening the dependent variable for outliers. The researcher accomplished this by standardizing scores and checking for *z*-scores exceeding $\pm$3.3 (p < .001). There were no univariate outliers. The researcher screened for multivariate outliers by calculating Mahalanobis distances for each participant. These values were evaluated against the chi-square distribution using df = 5 (the number of variables used in calculating the Mahalanobis distances) and a stringent significance level ($p \leq .001$). There

were no multivariate outliers, leaving 140 cases in the analysis following listwise deletion of missing data.

The researcher evaluated the linearity of relationships between continuous variables using a matrix of scatterplots. No nonlinear relationships were observed. Bivariate correlations are shown in Table 44. One personal fitness variable, BMI, showed a weak negative, but statistically significant correlation with Actual Body Positive Affective Reactions, r (138) = -.23, p = .006, indicating that as BMI increased, participants' positive affective reactions to their own and similar bodies decreased.

Table 44

Correlations between Actual Body Positive Affective Reactions and Four Personal Fitness Variables

		Actual Body Positive Affective Reactions	Exercise Intensity	Dieting Behavior	Supplement Use	BMI
Actual Body Positive Affective Reactions	Pearson Correlation	1				
	Sig. (2-tailed)					
Exercise Intensity	Pearson Correlation	.04	1			
	Sig. (2-tailed)	.60				
Dieting Behavior	Pearson Correlation	.00	.23**	1		
	Sig. (2-tailed)	.99	.00			
Supplement Use	Pearson Correlation	-.04	.42**	.31**	1	
	Sig. (2-tailed)	.63	.00	.00		

(continued)

BMI	Pearson Correlation	-.23**	.04	-.04	.14	1
	Sig. (2-tailed)	.00	.58	.57	.09	

Note. Listwise $N = 140$. **Correlation is significant at the 0.01 level (2-tailed).

The researcher performed the multiple regression analysis next using Actual Body Positive Affective Reactions as the dependent variable and exercise intensity, dieting behavior, supplement use, and BMI as independent variables. Multicollinearity was previously determined to not be an issue with these personal fitness predictor variables. The multivariate relationship between personal fitness and Actual Body Positive Affective Reactions was not statistically significant, $R^2 = .05$, F (4, 135) = 2.10, $p = .084$.

Summary of Results from Study One

Many analyses were performed in order to address the eight research questions in Study One, especially Research Question Eight. Many of those analyses were only peripherally related to the research questions (e.g., tests of statistical assumptions). Table 45 provides a summary of the conclusions drawn from the most important analyses in a manner that directly addresses the research questions that were posed.

Table 45

Summary of Results from Study One

Research Questions	Findings
1. What perceptual attributes and affective reactions were salient as participants organized their perceptions of the human body? Was there a main effect of Observer Gender or Body Stimulus Gender? An interaction effect?	

(continued)

Perceptual Attributes (i.e., *Evaluative, Potency, Activity*)

Observer Gender x Body Stimulus Gender interaction effect?	No
Main effect of observer gender?	No
Main effect of body stimulus gender?	Yes

Evaluative dimension more salient for female bodies
Potency dimension more salient for male bodies
Activity dimension equally salient for female and male bodies

Affective Reactions (i.e., *Anger*, *Sadness*, *Surprise*, *Disgust*, *Happiness*, *Fear*)

Observer Gender x Body Stimulus Gender interaction effect?	No
Main effect of Observer Gender?	No
Main effect of Body Stimulus Gender?	Yes

Surprise was more salient for female bodies
Disgust was more salient for female bodies
Happiness was more salient for female bodies
Fear was more salient for female bodies
Anger was equally salient for female and male bodies
Sadness was equally salient for female and male bodies

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2. How much acuity did participants display in their perceptions of the human body? Was there a main effect of Observer Gender or Body Stimulus Gender? An interaction effect?

Observer Gender x Body Stimulus Gender interaction effect?	No
Main effect of Observer Gender?	No
Main effect of Body Stimulus Gender?	Yes

Better apparent acuity for male bodies than female bodies.

---

3. What is the ideal female body? How much consensus was there among gender groups?

Female Participants

Most frequently chosen ideal female bodies were trim, thin, with well-defined muscles, emphasizing athleticism and fitness.

52% of female body stimuli were selected as ideals by at least 20% of women

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(continued)

Male Participants

Most frequently chosen ideal female bodies were thin, but curvy, with larger breasts, wider hips, and less muscle definition, emphasizing sexuality.

40% of female body stimuli were selected as ideals by at least 20% of men

4. What is the ideal male body? How much consensus was there among gender groups?

Female Participants

Most frequently chosen ideal male bodies were V-shaped, well-muscled, with well-defined muscles. Heavily muscled men were almost never selected—by about 1% of women.

32% of male body stimuli were selected as ideals by at least 20% of women

Male Participants

Most frequently chosen ideal male bodies were V-shaped, well-muscled, with well-defined muscles. Heavily muscled men were selected as ideal by about 10% of men.

24% of male body stimuli were selected as ideals by at least 20% of men.

---

5. At the individual level, how broad were participants' ideal body perceptual categories? Was there a main effect of Observer Gender or Body Stimulus Gender? An interaction effect?

Observer Gender x Body Stimulus Gender interaction effect?	No
Main effect of Observer Gender?	No
Main effect of Body Stimulus Gender?	Yes

The width of the ideal female body category was greater than the width of the ideal male body category.

---

6. How did participants react emotionally to examples of ideal female and ideal male bodies? Was there a main effect of Observer Gender or Body Stimulus Gender? An interaction effect?

Negative Affective Reactions

Observer Gender x Body Stimulus Gender interaction effect? Yes

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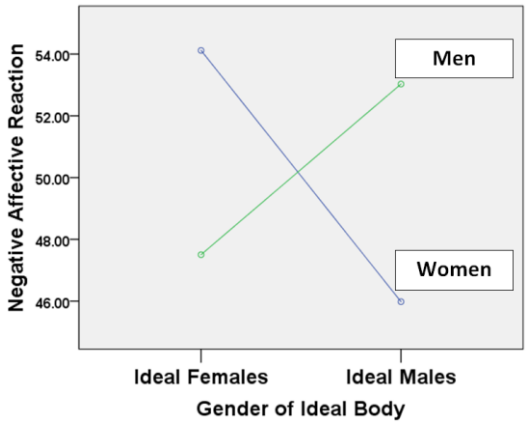
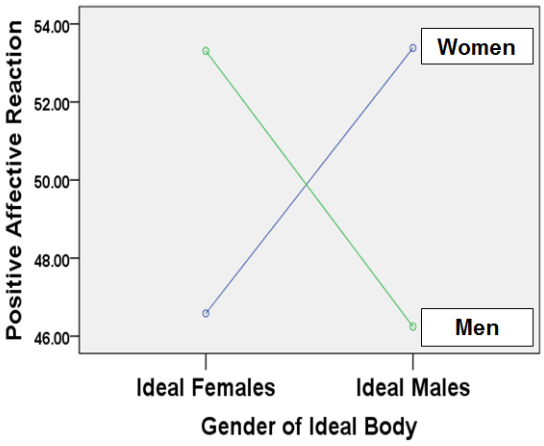
(continued)



Women's negative affect was stronger toward ideal females than ideal males.
Men's negative affect was stronger toward ideal males than ideal females.

Positive Affective Reactions

Observer Gender x Body Stimulus Gender interaction effect? Yes



Women's positive affect was stronger toward ideal males than ideal females.
Men's positive affect was stronger toward ideal females than ideal males.

(continued)

7. How satisfied are participants with their bodies? Do men and women differ in levels of body dissatisfaction?

Satisfaction/Dissatisfaction Measure	Which Gender Group Scored Higher? Women	Men	No Difference
Ideal Self – Actual Self Distance			X
Anger			X
Sadness			X
Surprise			X
Disgust			X
Happiness	X		
Fear			X

8. Are personal fitness characteristics predictive of body perception characteristics?

Body Perception Characteristics	Personal Fitness Variables: Exercise Intensity	Dieting Behavior[1]	Supplement Use	BMI
Body Perception Acuity	unrelated	unrelated	unrelated	unrelated
Same-Gender Ideal Body Category Width	negatively correlated	unrelated	unrelated	unrelated
Actual-Ideal Distance	negatively correlated	unrelated	negatively correlated	positively correlated
Evaluative Salience	unrelated	positively correlated	unrelated	positively correlated
Potency Salience	unrelated	unrelated	positively correlated	unrelated
Activity Salience	unrelated	positively correlated	positively correlated	unrelated

(continued)

Same-Gender Ideal Body Negative Affective Reaction	unrelated	unrelated	unrelated	positively correlated
Same-Gender Ideal Body Positive Affective Reaction	unrelated	unrelated	positively correlated	unrelated
Actual Body Negative Affective Reaction	unrelated	unrelated	unrelated	positively correlated
Actual Body Positive Affective Reaction	positively correlated	unrelated	unrelated	negatively correlated

Study Two: Qualitative Component

Study Two was the qualitative half of this mixed-method dissertation research into men's and women's perceptions of the male and female body. The dissertation examined body perception in a broad manner, but emphasized perceptions of the female and male ideals and body dissatisfaction associated with actual-ideal discrepancies. Study One, the quantitative component of the dissertation, collected numerical data on a variety of cognitive and affective body perception dependent variables within a 2 (Observer Gender) x 2 (Body Stimulus Gender) factorial design that enabled studying the main and interaction effects of those independent variables. In Study Two, participants worked with the same body stimulus photographs and tasks used in Study One, but the resulting numerical data were only peripheral to the goal of the study, i.e., to gather a richer understanding of the cognitive and affective processes that are involved in men's and women's perceptions of male and female bodies. It was hoped that by gathering and evaluating both quantitative and qualitative data from participants engaged in the same

body perception tasks, the qualitative findings might enrich the quantitative findings, and the quantitative findings might inform the qualitative findings as well.

Two qualitative methods were used in Study Two. First, while engaged in working with body stimulus photos of diverse female and male physiques, participants used the "think aloud" method to provide a real-time account of the flow of their thoughts and feelings (Ericsson & Simon, 1984, 1993). Transcripts of these think aloud verbal protocols were analyzed using thematic analysis to identify participants' in-depth cognitive and affective processes as they examined and worked with multiple examples of the female and male body stimuli. Second, participants answered questions about their body perceptions in a semi-structured interview process in order to gather qualitative data on specific topics that might not have emerged spontaneously otherwise.

This second half of Chapter Four begins with a description of Study Two participants. Following that are the results of the thematic analysis of participants' think-aloud protocols and responses to interview questions. The results have been presented in the form of both summaries and direct quotations.

Participants

Study Two participants were recruited from the same university where the majority of Study One quantitative data were collected using a typical cases sampling strategy. The purpose of this approach was to recruit participants for Study Two who were as similar as possible to those of Study One, and who would then engage in body perception tasks as similar as possible to those used in Study One. A sample of 10 participants (five women and five men) was sought based on the recommendation from

Hill et al. (1997) that a sample of 8-15 is optimal for in-depth interview research. Recruitment was a two-part process. In the first step of the process, a demographic eligibility survey (Appendix E) was used to collect demographic information from 53 individuals who indicated that they were potentially interested in participating in the qualitative portion of the research. Those records were reviewed in an effort to identify a subset of men and women with characteristics similar to those of Study One participants (described earlier in this chapter in Table 4). Those individuals were then contacted to identify five women and five men who were willing and available to be interviewed. Demographic information gathered from participants in Study One and Study Two is summarized in Table 46, which enables comparing the characteristics of the two samples. Given the much smaller sample size in Study Two (n = 10) compared to Study One (n = 270), it is not surprising that Study Two participants were less diverse than those in Study One. That fact notwithstanding, Study Two participants matched Study One participants reasonably well.

Table 46

Participant Characteristics in Study One (Quantitative Component) and Study Two (Qualitative Component)

Participant Characteristics	Study One (n = 270)	Study Two (n = 10)
Age	M = 21.86, SD = 4.95	M = 20.40, SD = 1.17
Race/Ethnicity		
Caucasian	67.0%	80.0%
Hispanic	8.9%	10.0%
African-American	7.0%	0.0%

(continued)

Other or Mixed	13.8%	10.0%
Missing	3.2%	0.0%
Sexual Orientation		
Lesbian/Gay		0.0%
Bisexual		10.0%
Heterosexual		80.0%
Queer		0.0%
Undecided/Questioning		10.0%
Relationship Status		
Single	55.4%	70.0%
In a Relationship	34.3%	30.0%
Married	9.7%	0.0%
Missing	0.5%	0.0%
Parental SES		
Poor		0.0%
Working Class		0.0%
Middle Class		30.0%
Upper Middle Class		30.0%
Upper Class		40.0%
Own SES		
Poor		10.0%
Working Class		50.0%
Middle Class		20.0%
Upper Middle Class		20.0%
Upper Class		0.0%

Note. Percentages do not sum to 100% due to rounding error. Parental and Own SES as well as Sexual Orientation values are not shown for Study One because those variables were not collected in that study.

Thematic Data Analysis

As recommended by Braun and Clarke (2006, 2012), verbal data collected during the talk-aloud and interview portions of the interaction with participants were transcribed to a comprehensive level of detail by including every word and utterance, except for occasional cross-talk that was uninterpretable. The transcripts have also been thoroughly checked for accuracy by both the researcher and the participants. Next, the researcher

thoroughly familiarized herself with the data by reading and rereading the transcripts and by listening to the audio recordings in order to ensure total immersion in each case (Phase One). During this phase, the researcher also took thorough notes by writing comments based on her interpretations, analyses, and reflections in the sidelines of printed copies of the transcripts. In order to allow the process to unfold naturally, the following questions were kept in mind: How does this participant make sense of his or her experience? What assumptions does he or she make in the interpretation of this experience? What kind of worldview is revealed through his or her perceptual, cognitive, and affective perspectives? Researcher's own reactions were also noted and written down in brackets in order to contain her biases and minimize the possibility of researcher effect (Braun & Clarke, 2012; Miles et al., 2014).

Next, the researcher conducted a systematic analysis of the data through generation of initial codes (Phase Two). As suggested by Braun and Clarke (2006, 2012), each data item was given equal attention in the coding process. At this point, coding was done at the semantic, or descriptive level, by staying close to the content of the data and participants' storytelling and meaning making. This phase of the process required another thorough read of every data item, and each item was coded in its entirety before proceeding to the next. Every time something was identified as potentially relevant, that extract of data was coded as well. In order to ensure that coding was inclusive, thorough, and systematic, each line was considered carefully and was captured with numerous codes to bracket both the patterns and diversity of the information provided (Table 47).

Another two rounds of coding were performed, and these descriptive codes were then compared to the codes generated by the cross coder who utilized the same descriptive method in order to ensure validity and reliability. Codes that were similar in meaning were checked as fully developed and coherent patterned responses. Codes that were different in meaning, or captured other aspects that had not yet emerged for this researcher, were re-worked into an already existing code book and filled the missing gaps. All participants were contacted by email with an attached copy of their transcript and code book and were asked to review accuracy and interpretations of their experiences. Final versions of both the researcher's and cross-coder's code books are in Appendices I and J respectively. Once the researcher was given feedback that all transcripts and codes were accurate representations of their interviews (there were no corrections or recommendations), she proceeded to the next phase of further refinement of themes.

Table 47

Example of a Coded Transcript from the Interview with a Female Participant

Transcript	Code(s)
I: What differentiates them from one another?	
P: Like physically? Um, I guess the ideal is just more… Hmm.. I'm not sure how to word this. I guess the ideal is More like, um, what other people want them to look like, Whereas the average is, again, like reality.	Others' Ideal Assumptions Reality

(continued)

I: So when you say other people want them to look like this, is this men, women, or both?	
P: Both. Kind of like my horse is bigger than your horse sort of thing. Like it's a competition, and then it's also sort of a competition from women as well to want a guy that looks like this.	Competition
I: How are they different in terms of what you just described?	
P: I suppose the average male may be a little less toned down. Um, not like barbaric, but it's not as like a need to show off.	Impression Management

Note. "I" stands for the interviewer and "P" for participant.

The researcher next shifted her attention to search for themes (Phase Three) by drawing numerous thematic maps in order to identify data that relates back to the research questions. For the sake of simplicity, codes that cut across numerous themes were either changed to fit into a particular theme or broken down into further sub-themes, in order to allow development of a unifying framework that conveyed a coherent narrative (Braun & Clarke, 2006, 2012). Drawing and redrawing of the thematic maps also was utilized as a way to explore the relationships between themes as well as to consider how such themes worked together in telling an overall story. A miscellaneous theme category was created to include codes that did not seem to clearly fit into any of the categories and were later discarded. An example of one such early thematic map is shown in Figure 35. The final and complete version of the thematic map will be thoroughly discussed throughout the Results section later in this chapter (Braun &

Clarke, 2006, 2012).

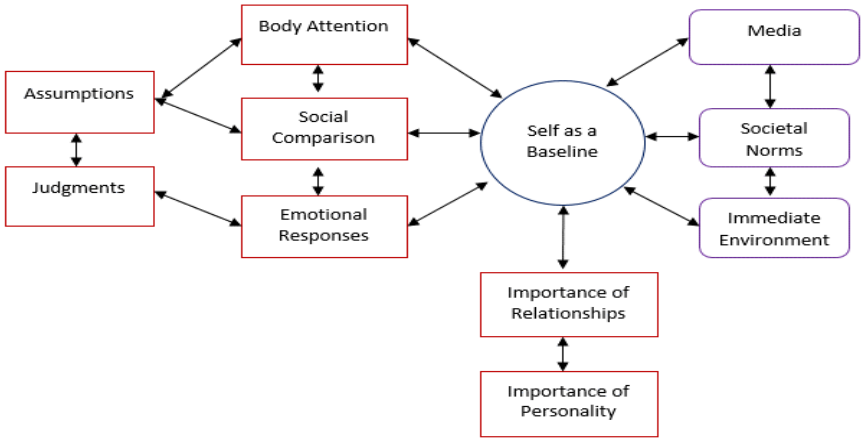


Figure 35. A sample of an early thematic map created from the combination of the researcher and the cross coder analyses.

The researcher continued to review potential themes in Phase Four as she compared and related them to one another as well as to the coded data. This process involved rereading and reviewing all of the data in order to determine whether the emerged themes captured the entire data set in a meaningful and coherent manner. In order to capture most precisely each theme, some themes were collapsed, or split, and some were renamed. The codes were also reviewed individually to make sure that potential themes were not overlooked. Once themes that captured the most important and relevant elements of the collected data were identified, they were then reviewed in terms of their relation to the research questions. Themes that needed further refining were attended to by additional modification and adjustment of the codes within each of the themes, or shifted from one theme to another (Braun & Clarke, 2006, 2012).

The researcher gave herself several months to complete the final phases of the analysis, Phase Five and Phase Six, so as not to rush the natural process. This provided enough time to develop language and concepts that were consistent with the original constructivist position (i.e., seeing reality through the participant's worldview), which was adopted as qualitative data collection began. In order to make sure that themes were supported by analytic evidence, numerous direct quotes from participants were selected and arranged underneath each question in a separate Word document that was later utilized for the report writing part of the next section. As suggested by Braun and Clarke (2012), theme labeling and defining was based on a careful analysis of the quoted extracts selected to represent and provide anecdotal evidence for each theme. In order for this data to be interpreted and connected to the broader research questions, two questions were kept in mind: *What* about an extract is interesting and *why*? After this process, the themes were named and defined and are presented in Table 48. The final version of the thematic map is presented in Figure 36. Finally, a one-paragraph summary of the findings was emailed to each of the participants for one final check on accuracy and consistency. All participants replied in agreement that results were indeed valid, reliable, and representative of their experiences. The next section of this chapter presents the whole narrative as it emerged from the investigation of three different perspectives (researcher, cross coder, and participants) (Braun & Clarke, 2006, 2012).

Table 48

A List of Labels and Definitions for Each of the Selected Themes

Theme 1. Ideal Male and Female Bodies, Multidimensional Concepts. Defines and reflects an idea that human perception is complex and includes multiple points of view, which are often out of awareness unless one's attention is intentionally directed. According to male and female participants, ideals are not unidimensional but rather conglomerations of their personal preferences, media's influence, and projections onto others (i.e., falsely believing that others are more like them).
Theme 2. Personality Traits, Stereotypes, and Self-Schemas. Highlights that in order to make sense of their immediate environment, participants utilized short-cuts, or stereotypes, as a decision marker of whether they could be in a relationship with a person presented in the visual stimulus. The traits within each stereotype (e.g., "carefree," "funny," "jerk," etc.) provided a grounding point from which both male and female participants were able to quickly reflect on their past relational experiences of similar traits and then envision possibilities for future relationships. This implicit and cognitive framework is reflective of implicit personality theory originally proposed by Ashmore (1981).
Theme 3. "Happy Medium" Measurement. Outlines that both men and women's perception was constricted by three categories: "too much," "too little," and "just right." The "happy medium" was defined and based on personal values, attraction and comfort levels, and "over" or "under" involvement on the other's person's part in their looks or image. The "happy medium" was also associated with a potential partner and someone participants could possibly consider a mate.
Theme 4. Basic Emotions. Shows that respondents' affective reactions of anger, sadness, happiness, disgust, and fear (Ekman, 1994; Ekman, Levenson, & Friesen, 1983) were not necessarily a direct response to visual stimuli. Rather, both male and female participants felt these emotions "toward" visual stimuli or other men or women (boys or girls) in their mind that they perceived would be affected by the ideal images.

(continued)

Participants also felt emotions “about” themselves and “for” others in relation to the visual images. In other words, tapping into basic emotions allowed for reflection of a process and deeper meanings rather than provision of an immediate content response to stimuli.

Theme 5. Surprise, Explicit Emotional Prime. Points out that surprise (Ekman, 1994; Ekman et al., 1983) in addition to being a basic emotion that elicits more complex emotions (e.g., hopelessness, envy, empathy), serves a function of engaging reflective cognitive processes. It appears that this emotion allows for a cognitive pause during which higher order thinking becomes activated. The pause helped participants recognize underlying perceptions, thoughts, and emotions that appeared to be out of their awareness.

Theme 6. Implicit Core Beliefs. Outlines that both male and female participants conveyed two core beliefs, one about themselves and one about others of the opposite gender. The core belief about themselves was, “I am safe.” This basic sense of safety reflected both an emotional and a physical sense of safety. The second belief was reflective of internalization of media male and female ideals for both men and women.
In other words, how men and women perceived their ideal bodies was indicative of what is seen in the media.

Theme 7. Implicit Primal Needs. Shows that one of the basic human needs is a need for safety. One of the underlying needs was a need for relational safety, and this was true for both men and women, although it was more salient for women than it was for men. Regardless of gender, participants’ responses highlighted the notion that human beings are relational at their core. Another underlying need was a need for physical safety, and, in this case, the need was more salient for men than it was for women.

Theme 8. Implicit Core Emotions. Notes that in addition to basic emotions, participants experienced other, more complex, emotions (e.g., bitterness, false hope, admiration, confidence). However, despite the presence of positive emotions, there were twice as many negative emotions.

(continued)

Three core emotions (comfort, content, confidence) appeared to capture the positive aspect of participants' experiences, and three other core emotions (discomfort, discontent, doubt) seemed to capture the negative aspect of their experiential processes.

Theme 9. Cognitive Distance. Points out that participants' judgments of how their own bodies compared to ideal and average bodies were contingent on the perceptual distance between the average body and the ideal body. The smaller the gap, the more content participants felt about their own bodies, since they saw their actual bodies fitting somewhere in-between this range. The larger the gap, the more discontent participants felt about their actual physiques.

Theme 10. Cognitive Dissonance. Highlights that participants experienced some level of discomfort due to inconsistencies in their beliefs and actions (Festinger, 1957). This phenomenon was particularly prominent among women, with only one male participant expressing his awareness of making contradictory statements. The most salient contradiction for women was their negative reactions to "unrealistic" standards along with a positive reaction to "beautiful" and "successful" ideal male and female bodies.

Theme 11. Attributive Projection. Shows that in order to justify their actions, participants utilized projection (Freud, 1894, 2013) and more specifically attributive projection (Holmes, 1968), a defensive mechanism that reduces anxiety when cognitive dissonance is present. Attributive projection captures people's tendency to assume that others are more similar to them based on sharing of common humanity. This finding was mostly prominent among men, and the most salient justification related to the sorting process of ideal male, average male, and their own bodies as well as their perceived differences.

Theme 12. Generalized Assumptions. Outlines that both men and women equally made assumptions about people's activity levels, dietary habits, health status, and values by creating stories about each group (e.g., ideal category, average category) as a whole. This generalization typically was based on one individual within the group that was used as a way to describe others within the same group as similar and those outside of the group as different.

(continued)

Theme 13. Media. Emphasizes that media (i.e., television, films, magazines, and advertisements) had a significant impact on participants' perception of ideal, average, and their own bodies. Although both men and women seemed to be equally impacted by the media, the nature of the impact was different for men. Women appeared to have internalized unrealistic standards for both male and female bodies. Men, on the other hand, for the most part only internalized unrealistic expectations for male bodies but not female bodies. In other words, men displayed a realistic perception of what constitutes an ideal female body but women did not.

Theme 14. Attraction. Suggests that both men and women attended to physical attributes of the opposite gender in determining levels of attraction, opposing a common belief that women are more interested in personality while men in physical appearance when it comes to mating. However, since the only information available to participants was physical, it is only to be expected that reports of attraction would be based on the available information.

Both men and women also based their level of attraction on how similar or different they were to a potential partner. This is also known as the matching hypothesis (Feingold, 1988) which states that men and women have a preference for those who are similar in their level of attractiveness.

Theme 15. Cultural Values. Notes that three main cultural values (health, fitness, balance) appeared to guide men and women's selective attention and perception, interpretation and meaning making, attitudes, cognitive and affective responses. Health was defined as physical, mental, and emotional. Someone who is physically healthy was also described as someone who is mentally "strong" and "in control" or able to regulate his or her emotions. Health was directly associated with fitness, which was also defined in terms of range of mental strength, emotional lability, and physical performance. Both health and fitness were then linked to a balance between having an active lifestyle and attending to other responsibilities such as family and work.

(continued)

Theme 16. Social Comparison. Defined the process of social comparison (Festinger, 1954) not only as bidirectional and inclusive of downward comparison (Wills, 1981) and upward comparison (Collins, 1996) but also of an equal comparison. The upward comparisons (i.e., saw themselves as physically worse in terms of fitness than the ideal female body) were most prevalent among women all relating to ideal female bodies. For men, the social comparison process was a combination of an equal (i.e., saw themselves as equally fit to the ideal male body) and downward (i.e., saw themselves as better fit than other men) comparisons in relation to the ideal male and other men's bodies.

Note. The development of themes and definitions were closely adhered to Braun and Clarke's (2012) recommendations and examples presented in the *APA Handbook of Research Methods in Psychology* as well as their 15-point checklist from Braun and Clarke (2006).

The final copy of the thematic map is presented in Figure 36. This map will only be summarized here, with a complete description to follow in subsequent sections of this chapter and again in Chapter Five. In describing this map, the terms "cluster" and "network" will be used and need to be defined here. A cluster is considered a collection of variables among which the relationships, if any, are not specified. A network is a collection of variables amongst which the relationships are specified. The terms "cluster" and "network" are used here purely as a means of describing important regions in the thematic map shown in Figure 36. The purpose of the next few paragraphs is to present a theoretical model of body perception from a more immediate and basic perspective, keeping in mind that both cognitive and emotional processes that compose this model are complex and multidimensional.

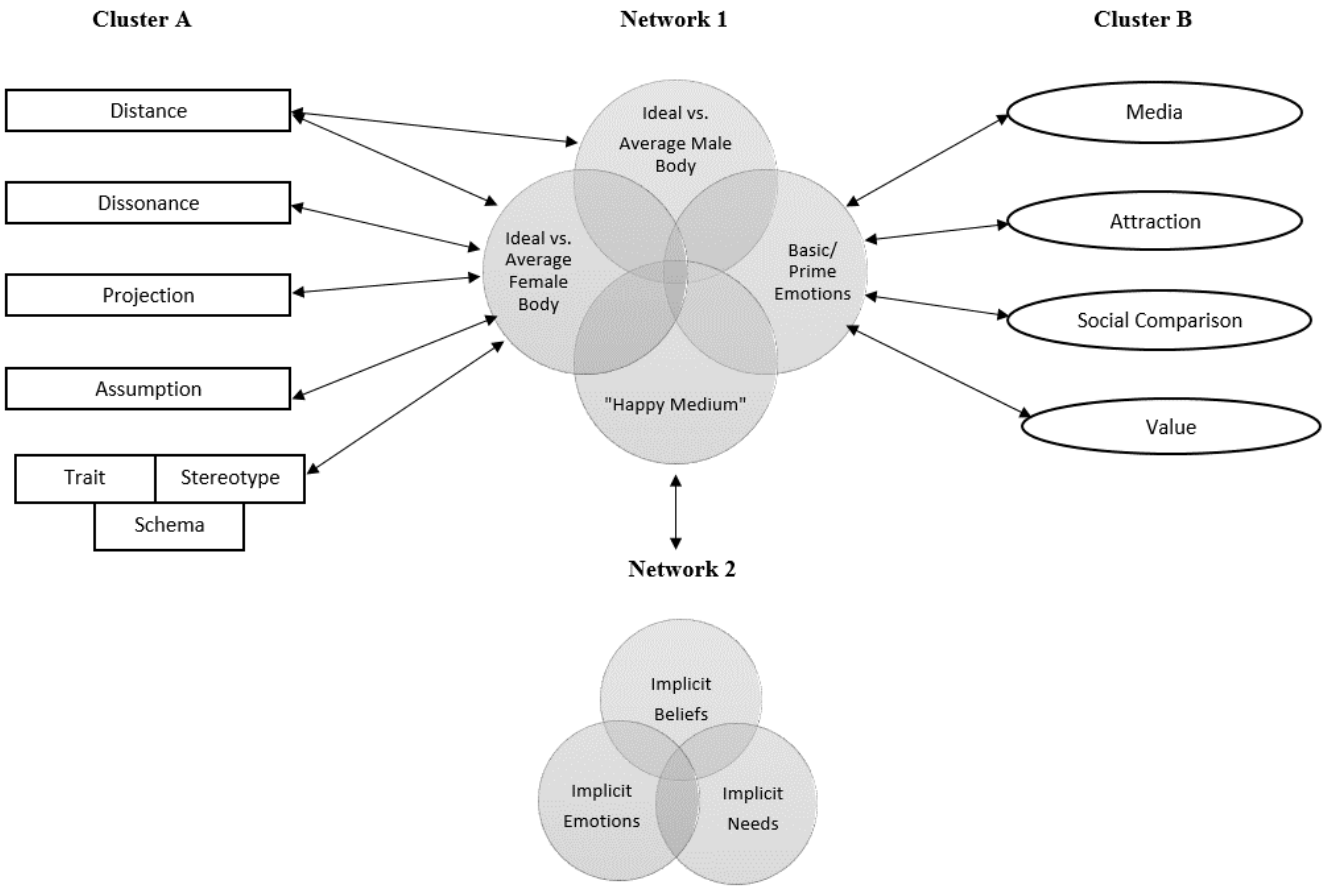


Figure 36. Thematic map of the main themes extracted from the analysis of the data.

The proposed model suggests that the perceptual distances (Cluster A) between ideal and average male and female bodies was inversely related to perceived physical similarities between those bodies. The less visually similar average and ideal bodies were, the greater their distance and vice versa. In addition to perception of the ideal, average, and own bodies continuum, both men and women appeared to engage in additional cognitive processes, including cognitive dissonance, projections, assumptions, and assignment of traits and stereotypes to visual stimuli based on their hypothetically established cognitive schemas.

The model shows that media, attraction, social comparisons, and values (Cluster B) appeared to influence women's and men's basic and prime emotional responses to visual body stimuli. These emotions, in return, seemed to impact participant's views regarding media (positive or negative) and their personal level of attraction to the body stimuli. Emotions were also noted to influence women and men's perceptions of their own personal values and appeared to play a role in how both genders saw themselves in terms of social comparisons to ideal as well as average male and female bodies.

Both basic and prime emotional responses (Network One) seemed to influence participants' perception of the "happy medium," a visual category of male and female bodies that both men and women described as "just right" in terms of their physical appearance. The happy medium category of bodies (Network One) was also used in comparing ideal bodies to average bodies and vice versa, as well as to compare men and women's own bodies to what they considered to be ideal or average. Since it would not be possible to decipher which came first, perception (i.e., perception of the ideal, average,

and own physiques as well as perception of the happy medium in relation to these categories) or emotion (i.e., basic and prime emotional responses to the ideal, average, and own bodies, including the happy medium, in relation to these categories), the model shows that the two co-exist within a given framework (Network One) and are hypothesized to influence one another interchangeably.

Finally, the total combination of Network One appeared to influence more implicit processes that both men and women seemed to experience, including underlying (less conscious) beliefs, emotions, and needs, all of which constituted Network Two. The reported beliefs appeared to be about participants themselves, others, and their immediate contextual environments. These beliefs, in turn, had a notable impact on men and women's emotions (i.e., in a positive or negative way) and emergent needs (e.g., safety and security). The implicit conglomerate (Network Two), in return, also appeared to influence the more explicit system (Network One) in a way that was mostly reflective of how emotionally safe participants felt about their own bodies, bodies of others, and their internalized contextual view of what was acceptable and attractive.

Research Question One

Research Question One focused on exploration of cognitions that emerged as men and women were exposed to and worked with images of male and female bodies. Three main themes emerged as men and women worked with a variety of male and female physiques. The first theme captured the researcher's assertion that men and women's perception of ideal body is complex. The second theme reflected that throughout both the sorting and reflecting processes, participants utilized a perceptual triage of categories,

which helped them quickly make similarity or dissimilarity judgments. The last theme that surfaced was one of the importance of cognitive short-cuts such as personality traits and stereotypes that played a role in participants' perception as well as meaning making and consequent storytelling.

Ideal male and ideal female as multidimensional concepts. Both men and women described their ideal male and female bodies as being a combination of their personal preferences, internalization of media, and what they believed other men and women perceived as ideal. This finding was equally true for men as it was for women, suggesting that media has a significant impact on both. Neither gender seemed to be bothered that the media had something to do with their perception, desensitization to, and internalization of the ideal bodies. Both male and female participants verbalized their statements in a matter of fact manner and without any hesitation, reflecting a notable level of exposure, immersion, and acceptance of what is seen and heard from the media as true. The desensitization to the ideals is also clearly reflected in the following excerpts as participants indicate the fact that media creates a basis for what young adults consider to be the norm and consequently their perception of reality. Note that in this excerpt and others, "FP" refers to a female participant and "MP" refers to a male participant, with the numbers representing which of the five female and five male interviewees is being quoted.

> FP3: I would probably say the media's ideal, just I mean based on like models and that kind of thing. What you would see is kind of programmed into what's beautiful and whatnot.
>
> FP4: I would say it's my ideal and also [and] like other women of all ages, or maybe not like older [but] my decade of people.

> MP2: I'd say it's a little bit of a combination…I think it's a mixture of the three and one in part [be]cause the media kind of gives you an idea of what they want you to think is normal or average or what women should be like. But, yeah, I personally see that as an ideal. [I: And when you say other people, is it men, women, or both?] I think it's both.
>
> MP5: Just pretty much combination, for the most part. I've traveled to multiple countries during my time in the Marine Corps, [so] the general consensus would be this. For the most part, all females and males would rather this be their body style than too much muscle. [I: So both men and women?] Mhm. [I: What about your own preference?] I like [the same category] personally. Yeah, [be]cause they're not over-working out, but they're not too small.

Both women and men appeared to be much more detailed and specific when sorting female body features into categories. Most men acknowledged that sorting female body stimuli into specific categories was much more difficult for them than sorting male body stimuli. For women, this did not seem to be the case. Although women sorted male body pictures seemingly quicker (as was evidenced by the amount of actual time it took to sort) than they did female pictures, when it came to similarity judgments of male and female bodies, women were quicker in sorting either gender into similarity/dissimilarity categories compared to men. This timing difference was based on qualitative impressions of the researcher, since the exact minutes were not recorded. Overall, men appeared to approach sorting of the female stimuli from a big picture perspective, or top-down processing method, whereas women seemed to approach the task from a much more narrow perspective, or bottom-up processing method.

A closer analysis of the language participants used (Table 49) revealed that women have a significantly larger and richer body-specific vocabulary than men when it comes to female bodies. None of the men mentioned "thigh gap," "size two," "plus size,"

or being “thin in right places,” words that are most often heard or seen in the media in relation to female physique. However, men did mention descriptors such as “six pack,” “washboard abs,” “toned,” and “ripped” suggesting that men pay attention to perhaps different types of media as was suggested in previous research. Table 49 lists all the qualifiers (i.e., adjectives relating to one’s or another person’s body), cue words (i.e., words reflective of specific body language lingo), and critical body features (i.e., parts of the body that participants paid especial attention to) that men and women noted as they sorted body stimuli and reflected on their cognitive and emotional reactions to those body stimuli.

Table 49

Participants Body Talk Descriptions during Sorting of the Female Body Stimuli

Gender	Qualifiers	Cue Words	Critical Body Features
Women			
	Overweight	Toning to the nines	Size
	Skinny	Thin in right places	Shape
	Petite	Dip in waist	Weight
	Big	Eating healthy	Chest
	Thick	Eating enough	Waist
	Thin	Overindulging	Thighs
	Small	Restraint	Legs
	Square	Dedication	Hips
	Flabby	Good metabolism	Stomach
	Muscular	Cheat meal	Abs
	Obsessive	Weight loss	Ribs
	Anorexic	Hot body	
	Natural	Skeleton	

(continued)

Realistic	Body builder	
Healthy	Model type	
Defined	Bikini bod	
Toned	Hourglass	
Tight	Plus size	
Flat	Truest form	
Fit	Extra skin	
Fat	Excess fat	
Hot	Thigh gap	
Nice	Six-pack	
	Curves	
	Pooch	
	Size two	
	Food baby	
	Bra bulge	
	Steroids	
Men		
Overweight	Looking good	Size
Underweight	Good shape	Shape
Muscular	Nice body	Weight
Obese	Nice legs	Height
Skinny	Wide hips	Stomach
Typical	Hourglass	Abs
Normal	Twig	Muscle
Big	Super model	Chest
Buff	Bodybuilder	Legs
Flat	Beach body	Hips
Thick	Bikini model	
Toned	Eating healthy	
Healthy	Overeating	
Shapely	Diet pills	
Ripped	Gluten content	
Soft	Balance	
In-between	Six pack	
Anorexic	Strong core	
Bulimic	Washboard abs	

(continued)

Attractive	Curves
Beautiful	Love handles
Vulnerable	Bones
Conservative	Meat
Overpowering	
Realistic	
Perfect	
Stable	
Nice	
Super	
Fit	
Tall	

It is noteworthy to point out that in addition to women's specificity in body talk, much of the language revolved around food and the idea of what it means to eat "healthy." To women, healthy eating meant eating "enough" but "not too much," thus practicing "restraint," and allowing oneself a "cheat meal" once in a while. Although men also focused on "healthy eating," the mentioning of "overeating," "diet pills," and "gluten content" was noted as stemming from a previous relational experience with a female partner and not connected with the media. The majority of men, unlike women, were not specific about the definition of what it meant to eat healthy. In contrast to women, men also had an "in-between" category for female bodies (i.e., in-between ideal and average) that they perceived to be in the middle-ground classification and did not seem to fit into more binary placements. However, another detail that needs to be noted here is that even though men approached sorting of the female stimuli from a top-down perspective, their body talk included more qualifiers and cue words in response to women's physique but not men's as will be seen later.

The sorting process of the male stimuli revealed that both men and women utilized the top-down approach in creating categories of similar physiques (Table 50). This time, male and female participants also both had an "in-between" category suggesting more cognitive flexibility when it comes to male bodies. Just like in the previous case, men focused on "meat" and "bones" as a sign of health, with "too much" or "too little" signaling negative health issues. Interestingly, anorexia and bulimia only came up in relation to female stimuli for both men and women. This finding is important for two reasons. One, these results suggest that disordered eating is still strongly believed to be an issue predominantly among women and is overlooked in men. Two, several men mentioned that playing sports provides a socially acceptable way for them to talk about their bodies and to engage in 'dieting,' thus consequently creating a continuum for disordered eating patterns that they may not recognize as such.

Table 50

Participants Body Talk during Sorting of the Male Body Stimuli

Gender	Qualifiers	Cue Words	Body Attention
Women			
	Skinny	Having a gut	Size
	Muscular	Beer belly	Shape
	Ripped	Dad bod	Weight
	Super	Bone skinny	Height
	Barbaric	Anorexic	Posture
	Bulky	Looking good	Chest
	Scary	Supermodel	Arms

(continued)

Flabby	Bodybuilder	Stomach
Athletic	Steroids	Abs
Cross-fit	Six pack	Pecs
Natural		
In-between		
Defined		
Toned		
Lanky		
Nice		
Cute		
Tall		
Small		
Flat		
Fat		
Flex		
Fit		
Big		
Buff		

Men

Overweight	Underwear model	Size
Underweight	Bodybuilder	Shape
Muscular	Meatheaded jock	Weight
Defined	Good shape	Shoulders
Ripped	Eating healthy	Chest
Skinny	Eating more	Arms
Shaped	Balance	Muscle
Defined	Tiptop performance	Stomach
Trim	Weightlifting	Legs
Athletic	BMI percentage	Abs
Attainable	Steroids	Pecs
Normal	Good metabolism	Biceps
Realistic	Washboard abs	
In-between	Defined core	
Big	Dad bod	
Fat	Man breasts	

(continued)

Super
Bones
Flat
Flabby
Buff
Thick
Strong
Healthy
Active
Cut

The notion of "looking good" was present equally among men and women reflecting a fact that women, unlike previously believed, appraise looks in other men as much as men appraise looks in other women. The results showed that the idea that women value personality over looks and men vice versa is not necessarily true, at least among young adults, though it must be acknowledged that the only cues available to participants in this study were physical cues. Surprisingly, men were the ones who mentioned spontaneously on multiple occasions during the interviews that what they valued at this point in their life was character and not the looks. They seemed to want to dispel the stereotype that all men care about is looks. Several men also acknowledged that they were more interested in looks when they were younger, but that their shift in perception was due to a combination of past experiences with female partners and maturity. A further analysis of the looking good concept revealed that both men and women utilized significantly fewer action verbs (e.g., eating, toning, weightlifting) when describing bodies of the opposite gender. The cue words used in describing both female and male body stimuli created a concept of *beings*, or objects, an example of clear

objectification. The cue words utilized in describing bodies of the same gender reflected a combination of beings (still nouns) and actions (verbs), a clear form of self-objectification (Parent & Moradi, 2010).

As with female physique, participants described their ideal male body as a combination of personal preferences, media, and other men and women's ideal. Just as before, the statements were described in a fast, automatic manner, without any hesitation, and as a matter-of-fact. Results revealed that media once again was one of the biggest influences on men and women's perception of male bodies.

> FP4: I would say it's a combination. Um, my ideal would be this *(points)* be[cause] I'm attracted to athletes. But I think media-wise, men would like to be…you know, have a six-pack [and] have muscles. Um, so I'd say it's a combination of media, mine [ideal], and what guys would want [to look like]. [I: And when you say others, is it specifically guys, or is it also women, or both?] I think both. I would say women want someone fit, but men also want to be comfortable in their bodies.

> FP7: I think it's other people's ideals mostly, but I feel like especially in our society, our own ideals are overshadowed by the media's ideals and other people's ideals. [I: It sounds like there's a part of it, maybe your own ideal as well?] Yeah, part of it is probably [my] own ideal, but I think it's definitely shaped or given a foundation by the media.

> MP2: I would say it's a combination of the three [be]cause, I mean, media obviously has a lot of persuasion and then myself…and people's ideal of perfection, I would say. [I: And when you say other people ideal, is that men, women or both?] Uh, I say both [be]cause, I mean, people say it out loud, but I feel like most people have pretty much the same train of thought.

> MP5: Um, [a] combination [be]cause in commercials and whatnot, they'll have some of the guys [that] won't be super ripped-up, but they'll be clearly in shape. And then others, just knowing others, they definitely want this body, especially girls. [I: And then your own preference as well?] Oh, my own preference, yes. I love to keep my body in shape.

These excerpts revealed that once again a significant level of immersion and acceptance of media's presentation of male bodies is an issue for both women and men. A surprisingly two-fold process surfaced during this part of the interviews. Although women acknowledged being aware that the female body that they typically see in the media is unrealistic, they were substantially less aware that the media's male body was just as unrealistic. Men also noted recognizing that the female bodies they often see in the media are not attainable for most women. However, their reactions to the male ideals that they typically see in films, advertisement, and magazines revealed that men believe that such ideals are indeed realistic and attainable.

Personality traits, stereotypes, and self-schemas. As female and male participants began sorting stimuli, it quickly became apparent that a complex processes of storytelling began to unfold in their minds. Remarkably, the stories were created in a matter of seconds and had richness and depth that went beyond what was said in the moment. The narratives also emerged when participants were asked to describe the differences between their categories of ideal and average bodies. In order to provide reasoning for their choices, women and men instantly resorted to the use of stereotypes, which were attributed to their past interpersonal experiences and self-schemas (Markus, 1977).

> FP1: *(Responding to her ideal male category. It should be noted that FP1's preference for very thin men as ideal males was not typical of the rest of the female sample.)* Uh, it sounds weird, but…carefree. Like, I look at this guy…so I just imagine him, like, laughing, and he's running down the beach, trying to catch a football. But he's not super big, like a football player would be. I don't know. I just imagine them, like, laughing and being funny. [I: And someone who is of bigger size, let's say, bigger chest, bigger arms, what would that represent for

you?] That they're jerks *(laughs).* Uh, not necessarily, but like, they're just more confident, which I guess would boost their ego. Which might make them a bit cocky and rude as opposed to skinny guys. They're just like, I don't really have much to show off, but I'm funny.

FP7: *(Reflecting on the average male body)* I just feel like people in this category probably care maybe less of what people think of their body. So I feel like they're probably more happy or like, better off emotionally sometimes. Um, so I feel like they're probably more content with themselves and with the pressures around them. I don't really have anything to fear, but maybe that I know some people…I guess there's maybe a sense of like, laziness, like you aren't pushing yourself to what you could be.

MP6: I think the average female is…um, the ones that I wouldn't say not necessarily care about their bodies but aren't all about the public image. I guess there's a certain kind of feeling to where if you hang out with [these] women, they're just more fun to be around [be]cause they're not so worried about their image. They're just easy going. And then when you go towards the ideal female, they seem kind of, uh, rude and obnoxious, and just trying to constantly go for that image they're trying to portray to other people.

MP8: *(Reflecting on ideal and then average female categories)* They make you think that you have to have this really skinny body and then still [have] large breasts, where to me it's not real. That's why I think I like the average female body because to me it's more real. It makes it seem like they're a real person. They're somebody that's not buying into the media and stuff like that.

For both women and men, stories mostly related to the opposite gender.

Personality traits within each stereotypical story appeared to reflect the roots, or the grounding points, from which participants were able to immediately reflect on their past relationships and then quickly either envision or not possibilities for future relationships with potential partners that they saw among the stimuli. As can be seen from the excerpts, once again, physical attributes re-surfaced. For women, less bulk and definition were associated with a potential male partner who was laid back, fun, comfortable with one's body, less invested in his appearance, and someone they could relate to. For men, less

definition and more curvature indicated a female partner who was also easy-going, fun, less invested in her appearance, and with similar interests, values, and beliefs. Notably, however, women were concerned that their male partners may become "lazy" and stop "taking care" of themselves. Men acknowledged that their concerns related to either their female partners also becoming lethargic and, as a result, gaining weight, or becoming "obsessed" with their looks and dieting.

An in-depth analysis of these results showed that the emerged theme of personality traits, stereotypes, and self-schemas captured what is known as implicit personality theory, which was originally proposed by Ashmore (1981). According to Ashmore, an implicit personality theory is a "hypothetical cognitive structure, often held nonconsciously, that comprises the attributes of personality that an individual believes others to possess and the set of expected relationships (i.e., inferential relationships) between these attributes" (p. 38). In other words, upon exposure to visual stimuli, both men and women created theories about potential partners, or significant others, based on reflections on their past experiences and already existing self-schemas (in relation to self), person types (in relation to others), and stereotypes (in relation to particular social groups) (Ashmore, 1981).

The results also revealed that both men and women equally inclined to infer personality attributes from physical characteristics. Consequently, these findings suggest that it is less about which gender values what feature (i.e., physicality versus personality) and more about the fact that both genders find it impossible not to draw conclusions about personality from physical appearances. As one female participant put it, "People

are very physical when it comes to relationships." Her statement makes a point. A recent research study showed that infants process facial features long before they can recognize other images and objects at nearly adult levels as early as four months (Farzin, Hou, & Norcia, 2012), suggesting that human beings are biologically wired to scan physical features in order to make sense of their immediate environment. Thus, it makes sense that both women and men create mental representations through associations of physical traits with personality traits and vice versa, a complex network that allows them to tap into the past and project into the future.

"Happy medium" filter. The "happy medium" theme captured men and women's range of perceptual flexibility. Throughout the interviews, happy medium was utilized over and over again as men and women worked with the visual stimuli. The notion of relationships emerged again as participants described their *just right*, or a perfect fit. However, this cognitive range also extended to include men and women's perception of the same gender physiques.

> MP2: [Average male body] seems fine and healthy…an okay place to be [in]. It'd be better than being like bigger, to me, obese and unhealthy. Like [this] category *(points)* I felt is way too skinny compared to average over here, where it's not too big, [and] not too small.
>
> FP3: *(Reflecting on ideal male body)* Um, because it looks like they work out but they're not obsessed with working out. And the physique…there's muscle but there's not too much muscle. And they're not skinny. So, it's just kind of a medium of everything, is the best. They're defined but not too much. *(Describing ideal female body)* Because it's, you know, the flat belly, toned, still has curves but not too much, and that's just like the healthy-healthy average.
>
> MP8: *(Responding to ideal and average female bodies as a category) But* as ideal I just think I want them thick, but not [too] thick, but I don't want them too skinny. I just kind of like the right in the middle. [I: I also heard that perhaps for

> the ideal woman you're looking more for the toned body?] Yes, kind of like they are. I want them to be able to take care of themselves versus not. Versus being the average size but not taking care of themselves.
>
> FP4: I guess outside of the average and ideal, like overstepping it, I wouldn't be attracted to that. I've never been attracted to the people who are like bodybuilders. I think that's disgusting. And then the people who are too skinny. I mean, to me, men are supposed to be like big and not [that] big *(points)* but like full, like protective and all that.

The happy part of the happy medium theme, however, did not necessarily reflect that the individuals included in this category were feeling happiness; however, both male and female participants perceived them to be. The happiness aspect also seemed to stem from participants' own internal experience of comfort and joy upon seeing someone who was more similar to them or someone they found attractive. The notion of happy medium was also noted to be directly associated with implicit personality theory described earlier. Two opposing notions, *too much* and *too little* were both associated with negative attitudes either toward or about the female and male stimuli. The physical aspect of too much either way was connected to mental and emotional instabilities as well as a lack of control over one's life. Those in the happy middle were described as "stable," "normal," "healthy," and "strong." The opposite was true for any other category that was outside of this range. Photos not in the happy medium were described as "overpowering," "scary," or "anorexic," and "bulimic." The middle part, *just right*, was further narrowed by participants and defined as a category of individuals who were neither "over" nor "under" invested in their physical appearance. This expectation was applied to both female and male visual stimuli and was noted to stem from participants' set of values that will be addressed later in the chapter.

The medium also appeared to work as a filter through which participants sorted ideal, average, and their own bodies and provided reasoning for their choices. As can be seen in Table 51 through Table 54, only female participants created a separate group of their actual bodies that differed from the average and ideal female bodies. This was not the case for men. Three out of five women and three out of five men saw themselves as average. However, a closer look at their average bodies surprisingly revealed physiques that for the most part are toned, fit, and significantly thinner that one would expect to see in the actual American population. This finding was true for both women and men.

Two explanations may provide answers to this generational shift in body perceptions. Both male and female participants noted the influence of their immediate environment, which mostly included their peers. Participants also indicated that the majority of their peers shared their interests and values of living an active life. Thus, it would make sense that from their perspective that is the average (i.e., people they see and interact with on a frequent basis). Another explanation could be the internalization of thin ideals for both men and women. Media feeds the idea that people are completely in control of their bodies and consequently their lives. If only they can make the right choices (e.g., diet and exercise) then they will be content with themselves and other areas in their lives. Realistically, this is not possible. However, all participants, without any exceptions, indicated the exact same messages of personal choices and just-do-it attitudes with which we, as a culture, are surrounded.

Table 51

Female Participants Choices for Ideal, Average, and Actual Female Bodies

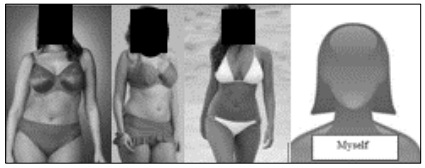
Participant Number	Average Female Body	Ideal Female Body	Actual Female Body
1			–
3			

(continued)

4 


–

7 



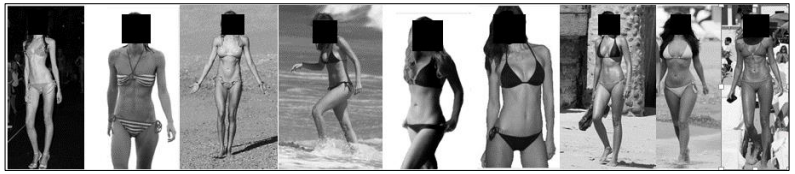
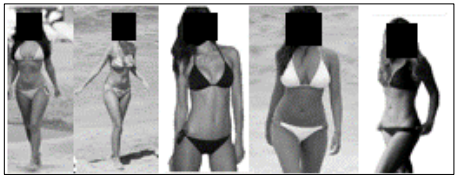
10 


–

Note. Actual Female Body category was included in order to capture responses from female participants who created a category in addition to Ideal and Average Female Body piles. The numbers on the left represent each participant's number as they rotated through the study, and dashes on the right reflect any missing information in regard to that particular area.

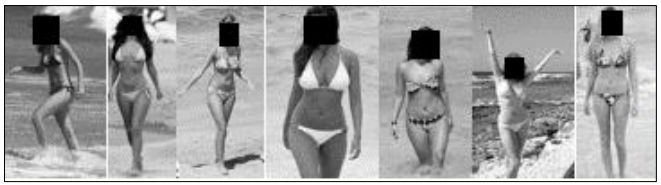
Table 52

Male Participants Choices for Ideal and Average Female Bodies

Participant Number	Average Female Body	Ideal Female Body
2		
5		

(continued)

6



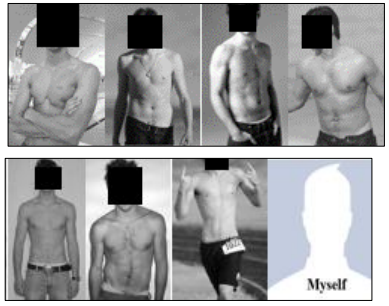
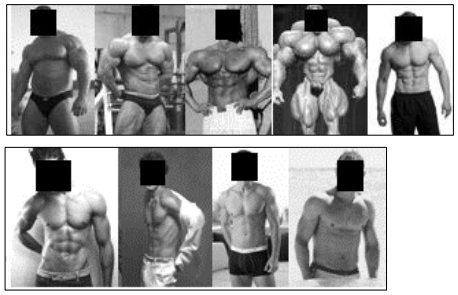
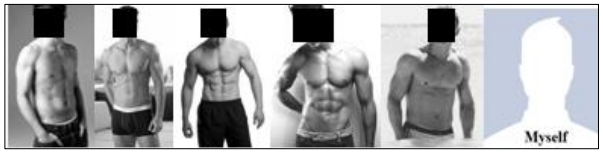
8

9

Note. Actual Female Body category was not included since this is not something that applied to male participants. The numbers on the left represent each participant's number as they rotated through the study.

Table 53

Male Participants Choices for Ideal, Average, and Actual Male Bodies

Participant Number	Average Male Body	Ideal Male Body	Actual Male Body
2			–
5			–

(continued)

6

8

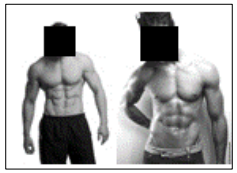
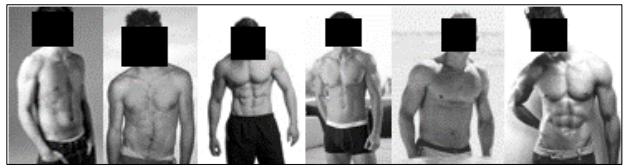
(continued)

9					–

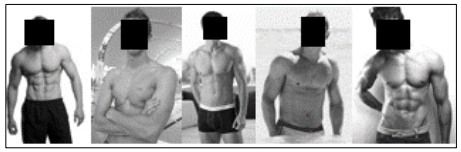
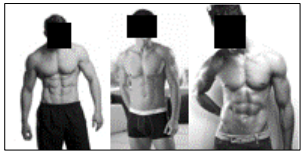
Note. Actual Male Body category was included in order to capture responses from female participants who created a category in addition to Ideal and Average Female Body piles. The numbers on the left represent each participant's number as they rotated through the study, and dashes on the right reflect any missing information in regard to that particular area.

Table 54

Female Participants Choices for Ideal and Average Male Bodies

Participant Number	Average Male Body	Ideal Male Body
1		
3		
4		

(continued)

7		
10		

Note. Actual Male Body category was not included since this is not something that applied to female participants. The numbers on the left represent each participant's number as they rotated through the study.

Research Question Two

Research Question Two explored specific cognitions that emerged as men and women were exposed to and worked with images of male and female bodies. This section captures data that were gathered as participants rated and discussed their emotional reactions of anger, sadness, disgust, happiness, and fear as they looked at the piles of stimulus photos they had created during the sort. Rating these basic emotions fruitfully elicited additional, more complex and implicit emotions. This finding will be discussed in Research Question Four. The emotional response of surprise will be addressed in Research Question Three and reasons for its placement in that part of the chapter will be explained.

Basic emotions: Anger. Both men and women agreed that the pressure that is put on women to look their best is unfair and unnecessary. Participants also agreed that the female physiques that are often seen in the media are unrealistic, unattainable, and a source of body image struggles among women. The majority of female participants felt anger not only toward media but also societal definition of beauty. They also felt anger toward other women who they believed wanted to look like the ideal, and other men who they thought were attracted to the thin, yet curvy in all the right places, thigh gap female physique. Men, on the other hand, reported no anger in relation to their selected average and ideal female bodies. Men also perceived women in these categories as happy and content.

> FP1: It makes me mad that that's [what] the media and men want in a woman. It's really all they look at when they look at women, their body. [I: What about the average or yourself?] Um, both would probably be a two. Well, maybe three. Not

> because it's average, but because it's [considered] average. That doesn't make sense. But it's not because majority of women look like this that I'm angry. It's the difference between the ideal and the average.
>
> MP9: *(Reflecting on the ideal female body and the pressure women feel in this category)* Because while they don't have washboard abs and toned-out legs, I still think it would be hard to attain a shape like that and then to maintain it. So I think it's a little out of reach. I don't think there's anything wrong with looking like this *(points to the average female body)*, when you go back a few decades, well five decades, this was viewed as way more attractive than it is today.

Women and men agreed that it was unfair to expect men to be perfect and "super" fit. About half of men acknowledged feeling angry toward societal expectations that mostly focused on their physical appearances and not characters. Another half indicated feeling no anger regarding average and ideal male body stimuli. Women's attitudes were also divided. Approximately half of female participants expressed their anger toward societal norms and acceptance of the ideal male body as something attainable and realistic. Another half of women felt anger toward their selected average male bodies and noted that men in these categories just needed to put some effort and be more fit.

> MP6: There's a lot of great men that don't have this body type, [and] people look at their accomplishments rather than their body. And I feel like that should be the standard. *(Switching attention to average male body and self)* It doesn't really anger me. I think it's how it should be.
>
> FP10: I don't feel anger towards that at all…Oh, just because it's my ideal guy. Kind of makes me happy. *(Shifting to average male body)*...They could make it to my ideal by just putting a little effort into it.

Overall, results showed that even though men and women agreed that current ideal female bodies are unachievable, their attitudes toward ideal male bodies differed. Based on their emotional reactions, female participants felt frustrated with unrealistic

standards for men but at the same time reported having higher expectations for average male bodies. Male participants, on the other hand, seemed to have more realistic expectations for average male bodies as well as average and ideal female bodies.

Basic emotions: Sadness. For the majority of women, anger and sadness appeared to go hand in hand in a sense that if a female participant reported a high level of anger, her reaction of sadness was almost identical in terms of its intensity. This did not apply to men. In fact, the majority of the men did not report feeling sadness regarding their chosen categories of average and ideal female bodies. In sheer contrast, all women reported elevated levels of sadness, all geared toward their selected ideal female body. Some of the sadness was related to perceived societal expectations, some to their inability to *ever* fit into the category, and some to personal knowledge of women who struggle with body image. All women reported recognizing that the ideal is not realistic; however, they also expressed their desire to be able achieve the look.

> FP10: I feel like it influences a lot… Like why can't you see yourself as ideal? *(Switching attention to average and herself)* I'm not very sad at all or anything. [But] then, it's like once you compare to the ideal, that's [when] you're like, "Ohh." [I: What specifically brings out sadness for you when you look at the average or yourself?] Mmm, that it's not the ideal.

Rather than sadness, most men reported feeling happiness and attraction to potential mates or someone they could envision dating. Male participants also perceived women in average and ideal categories as someone enjoying life, balanced, and healthy. As seen in the excerpt below, one male participant felt sadness regarding maintenance of the ideal female body and its impact on younger-age women. The overall consensus for

men was that average female bodies were just as healthy and attractive as ideal female bodies.

> MP9: It's just I think that's really hard, and I think it would be really difficult for a young girl to see all this and to think that that's how she supposed to look all the time. [I: What about average?] I don't think there's anything wrong with looking like this. I think it's just realistic, and, I mean, people eat, and it's hard to work out, so I think that's pretty normal. So it doesn't make me sad at all.

None of the men reported feeling sadness in relation to their chosen average and ideal male bodies. For the most part, male participants agreed that the ideal male physique was realistic and attainable. Some men noted that rather than feeling sadness, they might feel anger toward themselves if the ideal was too far out of their reach. However, they also acknowledged feeling content with their bodies because 'realistically,' they could not devote a significant amount of gym time due to also having other responsibilities. Some men also attributed their lack of dedication to achieving the male ideal to a lack of motivation, which was in opposition to how they perceived men in the ideal male body category whom they saw as highly motivated. These findings revealed: (a) evidence of gender-role socialization—boys and men are socialized to feel anger but not sadness (Denhman, Bassett, & Wyatt, 2010), and (b) the power of the media and the internalization of the media message—male participants all agreed that the ideal is indeed achievable, and all they need to do is to try a little harder.

> MP8: I don't feel sad about how I look or how my ideal male looks. I feel like a lot of people would want to look like that. [I: What about the average male?] I'm not really sad for them. I know I would feel more angry that they let themselves go more than I feel sad because I understand how life happens.

Unlike male participants, female participants felt sadness toward men in their selected ideal male categories. Some noted recognizing that just like women have to live up to impossible standards and expectations, the same applies to men. Female participants also expressed sadness regarding society as a whole and its acceptance of perfection and unacceptance of reality. The overall consensus was that men in the ideal category, just like women, felt pressure to fit into an improbable mold and, as a result, felt discontent and dissatisfaction with their bodies. In contrast, female participants inferred that men who they considered to be average felt content and were satisfied with their physiques. Women also believed that average men worried less about their looks and more about other life responsibilities such as work and families.

> FP7: Just again, like them having to fill the mold of being perfect and the pressure put on them. [I: What about the average male body?] Very little emotion. Just [be]cause I feel this would be like the average reality. I just feel like these people are content [and] don't have the pressure. I think it's easier to maybe have this bod than to have the pressure of that *(points to her ideal)* one.

Overall, the results revealed that women and men differed in their perceptions of ideal male bodies. Women believed that the ideal male body just like the ideal female body is not realistic and consequently unachievable. Men, on the other hand, indicated that the ideal is in fact realistic, and something that can be attained by increasing their motivation and putting in more behavioral effort such as exercise and specialized diet. Gender roles socialization was noted to play a moderator role in men's experience of sadness and their affective responses to male body stimuli. This moderator also appeared to play a role in other instances where men and women were asked to focus on their

emotions throughout the interviews. As was expected, women were able to quickly name and provide reasoning for their emotions. Men had more difficulties with both.

Basic emotions: Disgust. As a group, female participants reported feeling disgust not toward ideal female bodies themselves but societal pressure and expectation to look like the ideal. Women were equally disgusted with the fact that the slim, defined, and hourglass-shaped female physique was considered ideal. They also noted feeling disgust toward current cultural view of the average female body. All female participants agreed that the average physique *should* be considered ideal, however, also conveyed a sense of powerlessness regarding any changes in societal perception of beauty ideals. The same powerlessness was also evident in their lack of recognition that they had the freedom, in that moment, to create their own ideals, ones that were based on their perceptions and not perceptions of media or others. Only one female participant paused during the interview and asked herself, "Aww, that's what you see as ideal? Why can't you see yourself as ideal?"

> FP1: Just because how unrealistic it is. I don't think it's right for people to feel or to hold, uh, women to that standard. I feel like I'm big, but a lot people feel the average woman is probably big. So it's not necessarily the body that disgusts me. It's the reason behind why it's average.

The consensus among male participants showed that rather than feeling disgust, men felt joy and attraction. Most men agreed that they were as attracted to their chosen average female bodies as their ideal female bodies. One male participant expressed disgust regarding unrealistic expectations that female population has to deal with. For the most part, men responded from a relational point, with one participant acknowledging that he could imagine living "a fulfilling and a good life" with a female partner from

either the average or the ideal categories. The notion of fit between oneself and the opposite gender mate also emerged, based on "not too much and not too little" continuum, that is, as seen through the happy medium filter.

> MP8: I'm not disgusted by any of these [be]cause they look good in their pictures. I guess because they look good, I don't have a problem with me feeling like my ideal body type is also the average body type to me. [I: It sounds like you find them attractive.] Yes. Most of them I feel like are pretty attractive.

Men also had an equal reaction of satisfaction rather than disgust to both their average and ideal male bodies. Most men agreed that both categories represented "healthy" male bodies. Some male participants noted a higher level degree of disgust toward average male categories and pointed out that the men in these categories were at risk for diseases in their later lives as a result of not taking advantage of being as healthy as they can be. Visual stimuli of men who seemingly spent a lot of time in the gym were perceived has having "mental fortitude" and someone to be admired. The overall take away was that "healthy" was good, but "healthier" was even better.

> MP5: I'm not disgusted at all. I mean, being in shape, it's being healthy. So I couldn't be disgusted with being healthy. Uh, [with] the average one, I'd say a two [be]cause I feel like they're healthy but they're not fully taking advantage of being completely healthy.

> FP7: I think it's disgusting that this is idealized [and] guys have to be like. Super strong, super buff and have to look like this to be considered worthy of talking to or being associated with. It's just kind of gross. *(Shifting attention to average)* I feel like these guys are in their truest form. They wouldn't be accepted as the ideal but I feel they should be. I feel like I'm more accepting to somebody with this body that I would be an ideal body.

Just as with female bodies, women felt disgust toward unrealistic cultural standards for male physique. Female participants further expressed disgust toward others

not considering average male bodies as something more than average and closer to ideal. Rather than disgust, women also expressed feeling attraction toward both categories of visual stimuli. Two female participants expressed stronger responses of disgust toward average male bodies and noted that the men were not putting in enough effort of looking their best.

Overall, both women and men agreed that the average female and male physiques should be constituted as ideal rather than mere averages and "less-than's." However, where women felt powerless in terms of achieving the ideal, men felt confident and capable—if they wanted to. At the same time, some male participants also noted that being average was associated with "not trying hard enough." Although women appeared to be aware of unrealistic standards for men, men largely lacked that awareness and universally considered the male ideal to be attainable and realistic.

Basic emotions: Happiness. Most women reported having higher levels of happiness toward average female bodies as well as their own and less happiness toward ideal female bodies. Four out of five reported that they "liked" their bodies, although they could see room for improvement. One female participant felt happy about her own body as well as for the women in the ideal category. She also noted that her happiness was based on these women's ability to reach their potential and fit into society's view of what represents success. At the same time, she reported feeling less happy about the ideal, since the category was narrow and unachievable. Another female participant indicated that although she liked the way women looked in the ideal category, she was less happy that her body type is considered average and not ideal.

> FP3: *(Reflecting on ideal female bodies)* Not happy because it's emotionally hard for women to accept the fact that they're not ideal. And then those that actually are ideal probably aren't healthy and probably [are] not eating enough. *(Then herself)* I'm happy with my body. I think I could be a little bit more dedicated to eating healthy. *(And then average)* While it's okay for a woman not to be perfect, it's also not okay to overindulge in things [and] have some restraint.

Similar to women, men expressed higher levels of happiness toward average than ideal female bodies. For the most part, male participants shared that striving to fit into the ideal female category puts many women at a disadvantage in that they are continuously going to see themselves as not good enough in comparison. Men also shared that even though they perceived the women in their ideal categories to be healthy, they did not want them to be any thinner or underweight. The consensus among men revealed that they saw average women bodies as healthy and attractive. In contrast, they perceived extremely slim female bodies as malnourished, unhealthy, and unattractive. Unlike women, who believed that their average female bodies could use some refining, men saw them as "just right" and in the *happy medium.*

> MP6: One. I feel like these girls *(points to the average female category)* are given a bad rap. Um, and these girls *(points to the ideal female category)* continue to be put in a positive light when it's kind of unhealthy for girls to do that. [And the average?] Probably a four. I'm glad. [Be]cause you look around on campus and the average girl is about what you see there.

Male participants' reactions of happiness toward ideal and average male bodies differed among each another. Those for whom ideal and actual male bodies were in the same category felt more happiness toward ideal and themselves and less happiness toward the average. In contrast, men whose actual and average male bodies were in the same category felt more happiness toward average and themselves and less happiness

toward their ideal bodies. As a group, male participants noted feeling happiness in regard to their ability to achieve the ideal male body. Men also reported feeling happy about their own bodies and their ability to improve their physiques if they wanted to reach the ideal looks. This finding highlights that, unlike women, who saw their ideal as unrealistic and unachievable, men believed that their ideal was realistic and achievable.

> MP9: I guess I'm happy because I feel like I could become that, and then I'm also kind of happy with myself that that's how I perceive ideal, as something more realistic. [I: What about yourself and the average?] I don't think there's anything wrong with looking like this, so I'm happy with myself that I identity because that's how I perceive the norm.

The majority of female participants reported higher levels of happiness toward ideal male than average male bodies. Some women expressed feeling attraction to the ideal male body types, and others noted feeling happiness for the men in the ideal category whom they perceived as being socially accepted. One female participant acknowledged that although she felt happy in regard to the ideal male body, she felt significantly less happy about the expectation to maintain such image. Another female participant shared that she did not find the ideal male body to be attractive and instead preferred average male bodies, whom she perceived as more secure both emotionally and in terms of their body image.

> FP10: I feel really happy because that's like ideal for me. Like, physically I feel they're where they want to be. Um, emotionally, I don't know, I just feel like they're dedicated enough. [I: What about the average?] Not as happy as my ideal average, obviously. But I mean I feel like they're in the comfortable stage. And as long they're confident about it, then I feel like emotionally that would give them extra points.

In summary, in regard to the average female body, both men and women expressed more happiness than they did toward the ideal female body. Both also agreed that the average female physique represents health and well roundedness. On the other hand, the ideal female body was perceived as impossible to either achieve or maintain. Interestingly, the responses to the male bodies were different than female bodies. Women expressed attraction and preference for the ideal male rather than average male bodies. Men were divided, with some men expressing more happiness toward ideal bodies and others toward average bodies, depending on where their perception of their actual body fell on such continuum. Men were happiest with whichever category captured their own physique.

Basic emotions: Fear. For the most part, women reported feeling fearful of how other women and girls may be affected by the ideal female image. Throughout the interviews, female participants frequently noted worrying about either girls or other women but not themselves. The overall perception was that girls are vulnerable to internalizing the ideal due to many physical changes that occur developmentally, and as they grow out of childhood into adolescence. In regard to other women, female participants noted fearing bodily changes that occur due to pregnancy, child rearing, and age. In this case, women did not necessarily believe that as other women age, they would be at risk for developing disordered eating but rather feeling dissatisfied with themselves and having less time available, due to family and work, for maintaining an active lifestyle. Interestingly, having an average female physique was also approached with fear by the majority of female participants. The overall agreement was that the average female

body fell somewhere between malnourishment and overindulging in food. Consequently, the answer to its maintenance was restraint, a mark of dedication and health.

> FP7: *(Reflecting on ideal female body)* [Be]cause I know that women have harder times with body image issues and eating disorders and stuff. So I feel like it could be really harmful and detrimental to young girls. [I: So you feel fear for them?] For them. Yeah. *(Switches attention to average)* [And] they're kind of on the border. They're just average, so I feel like that puts some mental pressure on them and can do mental harm that they'll never be that perfect body.

Male participants reported mostly feeling fear for women in their selected ideal and average female categories and other women in general. Men reported feeling worried that due to media pressure to look thin and perfect, women would not feel good about their bodies and, as a result, feel less secure and satisfied with themselves. Men also noted fear in regard to perceiving women in their ideal categories as possibly less approachable than women in their average categories. In other words, male participants felt more secure with the average female body types and, consequently, women who embodied these physiques. Thus, unlike women who were fearful of various body changes and their inability to fit the mold, men were fearful that women would buy into the idea that they have to be not only perfect but also visually look like the media ideal.

> MP9: *(Reflecting on ideal female body)* [Be]cause if I were a girl, I'd be intimidated by somebody looking like that. Might be jealous and that would also make me insecure that I don't look that way. *(Reflecting on average female body)* There's nothing fearful. I think this is what a lot of people look like.

Even though all men were accepting of average female bodies, some were less accepting of the average male bodies. For these male participants, average male bodies were associated with a potential for unhealthy eating habits, physical health issues, and

gaining of weight. Consequently, their reaction of fear was higher for the average bodies than it was for the ideal bodies. However, other men appeared to be indifferent in terms of fear regarding either categories and noted perceiving men in such categories as healthy. These findings suggest that as a group, men were completely unaware of not only the fact that the ideal male body is unrealistic but also of the amount of pressure that is placed on them to achieve and maintain such image. It is also noteworthy to mention that as far as the ideal female physique, men felt fearful of women's internalization of the media's ideal and their development of body dissatisfaction as well as disordered eating. Male participants had an opposite reaction to the ideal male physique, and, in fact, were not fearful at all of a possibility of developing body image issues or disordered eating among themselves. If there was any kind of fear, it was geared toward the average male body and physical health issues such as diabetes rather than mental health issues as was the case with women.

> MP5: *(Reflecting on ideal and average male bodies)* One on the ideal and myself just [be]cause I feel like we're living a healthy lifestyle. There's nothing really to be fearful about. [With] the average one though, I'd say a three because some of those guys might, if they keep eating wrong, or depending on how they're living, they could take a turn for the worse and then get possibly like diabetes or something.

In contrast to men, female participants reported feeling fearful that boys and younger men could be internalizing ideal male physiques as something realistic and achievable. Surprisingly, most women also expressed fear about men in the average male categories becoming "too comfortable" and consequently letting themselves go. Notably such two opposing perceptions create a double-bind. On the one hand, women reported

feeling attraction toward their chosen ideal male bodies but also fear that men in such categories present an image that negatively impacts other men. On the other hand, women also worried about their selected average male bodies for fear that men in that category may not put in the effort needed to maintain their bodies.

> FP10: *(Reflecting on her ideal and then average male bodies)* Because that's my ideal guy. Like, I think he's like on point on everything. So [I'm] kind of fearful that that's too ideal for me. [I: And then the average male?] I mean I'm kind of fearful that they'll just give up and end up…like they'll get too comfortable and then not set goals. And so, then they'll just let themselves go, and shift toward the unhealthy [side].

Overall, female participants reported feeling fear that boys and girls as well as other women and men are negatively impacted by the ideal images. However, women also acknowledged finding ideal male bodies attractive and indicated a desire to be closer to the ideal female bodies in terms of their own physical attributes rather than farther apart. Male participants felt fearful that girls and women may internalize ideal female physique images and subsequently would struggle with how they see themselves. Men, however, did not seem to worry about themselves or the impact of the ideal male physique on boys and men in general.

Research Question Three

Research Question Three dealt with how aware were men and women of the cognitive processes that were involved in exposure to images of male and female bodies. Two main themes materialized as participants were asked to reflect on their answers and attend to their emotional responses more closely. One theme, surprise as an explicit emotional prime, captured the idea that the function of surprise differs from the other

basic emotions discussed previously. In fact, it was surprise that allowed participants to pause, think, and reflect on their verbal responses to the visual stimuli. Surprise also created space for a much more in-depth analysis of the next theme, implicit or latent core beliefs, that both male and female participants expressed during the interviews.

Surprise, explicit emotional prime. Even though surprise is a basic emotion that is recognized across cultures much like anger, sadness, happiness, disgust, and fear (Ekman, 1994), in this study it appeared to create a cognitive pause that allowed participants to engage in a more reflective thought process. This was true for both men and women. This finding suggests that separating cognition from emotion and discussing them as two mutually exclusive processes underserves the fact that both are complex systems that inform one another and create room for meaning making in one's immediate environment.

> FP1: *(Reflecting on ideal male body)*: I'm surprised that it's a combination of the media's perception. You would think that they would [be] like guys were more built and ripped and have muscles, but the majority of the guys that you see on TV or anywhere else, they have this skinny build. [I: You didn't realize how much maybe media was impacting what your ideal is.] Yeah, that's a bit weird. [I: What about the average male body?] Looking at these pictures, it surprises me that my perception of average and my perception of ideal is so similar. [Be]cause if you look at them, they don't look much different.

> FP3: *(Reflecting on ideal female body)* I think I'm surprised more at the fact [that] people perceive [this] as the ideal. I think it's surprising that I perceive this as the ideal because I think the ideal and average should be in the same group. *(Shifting attention to average and herself)* I don't think I'm surprised that I think that this is average. I know I put myself in it but it's not because I think I look good. It's more of I think everyone should feel good that this is the average body.

For women, a lack of surprise reflected a conviction that others (both men and women) see and accept the media's female and male ideals as something achievable and representative of success, dedication, and attraction. In other words, women assumed that other women want to look like the female ideal body and are attracted to the ideal male body. Similarly, they thought that men would want to look like the ideal male body and would be attracted to women who look like the ideal female body. At the other end of the spectrum, surprise elicited recognition, at least for half of the female participants, of media's influence on their perception of not only ideal but also average bodies. Thus, unlike previous emotions that stimulated emotional reasoning, surprise primed and provoked higher order thinking that allowed participants to reflect and take on an observer rather than participant position in regard to their perception.

> MP5: *(Reflecting on ideal male body)* I didn't realize fully, I guess, how much people would really want to be like that. [I: I also wonder if you didn't realize how much you wanted to be like that as well.] Hmm, yeah, kind of. Um, but, I mean, being in sports, I haven't really thought about [it]. It just happens, so yeah, if I wasn't doing any kind of sports or anything, I would've probably fallen into the average. [I: How surprised do you feel about the average?] I would think it [could] be possibly worse *(points to men who are less fit)* than those pictures [be]cause they're still not like that bad where they're not doing anything. So I'd say a little surprise there.

> MP8: *(Reflecting on ideal female body)* As I was going through, and I was putting them in group B, I was like, "I'm actually more inclined [toward] women in group B [rather] than group E." That kind of caught me by surprise because I didn't realize, as I was going, I was like, "Huh, that would be more my ideal body type," and then I was like, "That's also the average woman body type." So that what kind of caught me off guard.

As a whole, men were not surprised by their choices of ideal and average female and male bodies. Surprise also did not seem to have the same effect on men as it did on

women as far as their ability to take on an observer perspective. Male participants assumed that other men would want to look like the ideal bodies, and women would be attracted to such body types. Interestingly, as far as ideal female physique, men believed that women want to look like the ideal female bodies that they see in the media, but men did not necessarily find such bodies attractive. In fact, men's choices for their ideal female bodies reflected an overall preference for a more voluptuous rather than thin and defined female form. Overall, these findings suggest that unlike among women, surprise did not seem to serve the same function that allowed men to further reflect on their responses to visual stimuli.

Implicit core beliefs. Both male and female participants were completely unaware of underlying beliefs that they had about themselves and others, until they were prompted by surprise and then directed by the researcher to reflect. One belief that emerged appeared to relate to a personal sense of safety. Core belief, 'I am safe,' was noted to be for the most part implicit as can be seen from the excerpts below for both men and women. Safety encompassed not only cognition but also emotion, or a sense of comfort that participants inadvertently conveyed throughout interviews.

> FP1: [I'm] trying to figure out why I like bodies that I do. That's a bit interesting. [Be]cause like, you could ask me why I like this guy, and I'd be like, he has a nice body. Well, why does he have a nice body? I don't know. So that's just kind of [something] new to think about.

> MP6: Honestly, I haven't analyzed all this like ever before. Um, diving into it deeper and going off past experiences, I feel like when I look at other guys that are probably my average stature, I feel like they could be on a level that I'm at. I usually don't judge a book but its cover, but sometimes you have to…[be]cause I feel like if you don't know who they are, they could be a threat.

As both cognition and emotion came into people's awareness, underlying needs emerged as well and will be discussed later in the chapter. Both male and female participants quickly sorted and categorized visual stimuli that they were presented with, further exhibiting how a complicated and largely implicit network of cognitive, emotional, and attitudinal components, or schema, can be utilized automatically in a matter of seconds in perception and decision making. A surprising finding was that most men and women lacked any strong awareness, at least initially, of the role played by their internalized media ideals, but those media ideals were clearly captured by the male and female ideals that participants identified (i.e., another core belief, 'This is my ideal.') It was enlightening to watch as, one by one, once their own verbalizations forced them to "de-automate" the body perception process, all participants ultimately recognized the media's prominent role in their body perceptions.

> FP3: I guess I too hold unrealistic standards for me, the way other people do, even though I guess before I would've said that it doesn't matter what they look like. It, you know, it's just their, um what's on the inside [that matters]. And then, what portion of all these pictures were actually, like the ideal man, compared to how many pictures there were. There was only two that I would label as ideal.

> MP9: I guess it makes me sad on a more personal level that I've kind of bought into that, into thinking that that would be the ideal just for solely aesthetic reasons. It's just that I think that's really hard, and I think it would be really difficult for a young girl to see all this and to think that that's how she's supposed to look like all the time.

It is also important to note that throughout the interviews, it was not until emotional ratings were introduced that participants began to transition from simply describing their thought processes to actually reflecting on what they were saying. This

reflective process appeared to be more natural for women than it was for men. More women than men recognized their internalization of the media as they were intentionally asked to think about the content of their verbal responses. Overall, female participants learned that they do indeed pay a significant amount of attention to the physical appearance of men and, consequently, looks do matter to them. On the other hand, male participants learned that even though they appreciate physical appearances of women, they also pay a lot of attention to personality characteristics. Thus, what was on the inside mattered more than what was on the outside.

Research Question Four

Research Question Four focused on how aware were men and women of emotional processes that occurred during exposure to images of male and female bodies. Just as women and men were unaware of their underlying beliefs, they seemed to also be unaware of their implicit core needs and emotions. The theme of implicit needs captured two sub-themes: relational safety and physical safety. Although both types of safety were salient for men and women, women more frequently verbalized the need for relational safety and men for physical safety. As participants shifted their attention from "thinking aloud" to emotional ratings in response to visual stimuli, another theme began to emerge of implicit core emotions. Not surprisingly, female participants, rather than male participants, named more emotions and were able to provide explanations for the feelings they experienced.

Implicit core needs. The relational safety sub-theme emerged over and over again, particularly as participants began to compare their own bodies to average and ideal

physiques. This finding suggests that body image, in addition to its cognitive, emotional, and physical aspects, includes a relational feature as well. How participants saw themselves was contingent on how they compared to their potential mates, captured by opposite-gender average or ideal categories. Those comparisons, in turn, had an impact how safe they could feel in such a relationship. For women, relational safety was associated with both male and female body ideals. Female participants noted feeling more secure about themselves and within their relationships with male partners when they were surrounded by female body types similar to their own rather than ideal. Women differed, however, in response to ideal male bodies. Some imagined feeling insecure in a relationship with a male partner whose body looked like the ideal male physique; others reported feeling comfort and security in response to their potential mate having ideal body.

> FP1: *(Looking at the ideal female category)* I would compare myself as being big to these girls. They would intimidate me a lot…Just seeing them [is] like, oh, and then I'd be walking up with my boyfriend, worrying about him looking at them and being, "Oh, she's really hot. I have this girl, but I could have that." It's a competition thing, I guess. It's a confidence thing.

> MP6: I would approach…fear of like talking to them or how approachable they are. When you're talking to a girl, I think there's a certain kind of fear that you'll get rejected. That, uh, they won't accept you. [Be]cause it's kind of difficult for an average guy like me to go up and just strike up a conversation with them. I feel like *(points to the ideal female category)* [this group] wants attention like that, where *(points to the average female category)* [this group], they're just going out and doing their own thing. They don't really expect it.

Although men did not state their need for relational safety as overtly as women did, the relational undertone was still captured in their concerns about personality characteristics, particularly in regard to ideal female bodies. As a group, male participants

imagined feeling more comfortable and secure in their relationships with female partners whose body types were similar to average rather than ideal female physiques. Men also believed that these women were more approachable, relatable, and accepting. In contrast, male participants assumed that women whose bodies looked like the media's ideals were less serious about relationships and, consequently, less invested in a potential partnership.

Men, however, did overtly emphasize the importance of physical strength and its relation to self-protection. Male participants believed that body builders in general were physically stronger than they are, and slimmer men were less. In terms of ideal male physiques, men's opinions were divided. Some thought that ideal male bodies represented actual strength and action performance. Others believed that ideal bodies and men who had them were only capable of presenting themselves in an aesthetic sense rather than an actual ability to physically protect themselves from someone either bigger, muscular, and/or more aggressive.

> MP2: I'm not, like, terrified by someone…Maybe it would be different if they were, you know, trying to ensue something. [I: What would be a higher fear for you?] Well, if someone is trying to fight me, and they look like that. I'd be a little worried.

> MP8: It makes them seem like they're a real person. They're not somebody buying into the media. They look like they work out, and they take care of their bodies, but they don't work out too much, like the group who are more bodybuilders. Which I think men kind of stray away from [be]cause they don't want someone that's going to be more like stronger than they are.

Only one female participant explicitly stated feeling unsafe and intimidated by men with significantly larger bodies and muscles such as bodybuilders. However, just like with men and relational safety, there seemed to be a physical safety undertone for

some women. “Too much” muscle as well as large and fit male body types were associated with aggression, impulsivity, competition, and less investment in relationships. In contrast, the “just right” amount of muscle, definition, and weight was reflective of someone balanced mentally, physically, and emotionally.

Implicit core emotions. Even though both men and women admittedly reported feeling satisfied with their own bodies despite their awareness of the media ideals, their implicit emotions suggested otherwise. Positive emotions such as joy, admiration, empathy, excitement were few and far between. For the most part, negative emotions, including frustration, jealousy, envy, hopelessness, guilt, pressure, bitterness, false hope, hate, shock, intimidation, and competitive stress, seemed to create an underlying experience that was completely out of participants’ awareness. Not surprisingly, more implicit emotions came up for women than men. A more careful analysis of verbal content was utilized in order to understand what feelings men were experiencing, since none of their emotions were explicitly verbalized. Male and female participants seemed to experience conflicting emotions of admiration and envy of the ideal male and female bodies. Both men and women also appeared to be disconnected from such emotions as was evidenced by their factual tones of voices, occasional admission of contradiction or incongruous laughter, and acceptance of unrealistic standards as something attainable, real, and true.

> FP4: *(Reflecting on anger toward ideal female body)* Just because there’s like a little anger…a part of me like hates it that people are just born with that and I wasn’t. So that’s kind of selfish *(laughs).*
>
> MP9: *(Responding to ideal male body)* It bothers me a little bit that maybe I don’t look like that. But, at the same time, this is very attainable to somebody like me.

> I'm not angry because I feel like I'll never be able to get there. I think I could get there, but I'm not there now. So I guess there might be a little bit of jealousy that I don't look quite as good as these guys.

Six implicit core emotions (both positive and negative) appeared to be directly related to the 'I am safe' belief described previously. On the one hand, when female and male participants saw themselves as safe, they reported feeling confidence, comfort, and contentment. On the other hand, when they saw themselves as unsafe, negative emotions of doubt, discomfort, and discontent emerged. The more similar men and women perceived themselves to be to the opposite gender, the closer they viewed that particular person on cognitive, emotional, and relational levels. In contrast, the more dissimilar participants saw themselves in relation to the opposite gender, the further removed, at least emotionally, they appeared to be to the male and female stimuli.

> FP7: *(Reflecting on sadness toward average male body)* Very little emotion just [be]cause I feel like this would be, again, like the average reality. I'm sure some people dream about having this *(points to ideal male),* but at the end of the day I'm sure that, hm…I don't know. I just feel like these people *(points to the average male)* are like content. Don't have the pressure.

> MP2: *(Responding to average male body and his own)* It just seems average to me, so I don't see why anything about it would be disgusting. It's something that you see around you, personal experiences. Yeah, I mean working as a lifeguard, you see pretty much everybody with their shirt off. I guess it comes down to being comfortable in your own body.

Overall, women felt uncomfortable when having to reflect on their emotions regarding ideal female bodies. In such cases, insecurities about their own bodies as well as relational uncertainties regarding their male partners emerged. Men also seemed to feel less secure about having strong relational bonds with their chosen ideal women and safer with average women. In terms of their responses to ideal male bodies, men were divided.

Some felt insecure and threatened, and others felt safe and comfortable, all depending on how they saw themselves in relation (or distance) to ideal male images.

Research Question Five

Research Question Five focused on what factors influenced men's and women's cognitive responses to male and female bodies. Further thematic analysis revealed that four main themes appeared to have an effect on cognition and perception of male and female body stimuli. The first theme, cognitive distance, appeared to capture visual distance between ideal and average bodies. This cognitive gap allowed participants to make comparisons between visual stimuli as well as provide a basis for perception of their own bodies. The second theme, cognitive dissonance, or an inconsistency between beliefs and actions (Festinger, 1957), was a frequent and prominent phenomenon that seemed to generate moments of discomfort among female participants throughout the interview process. The third theme, attributive projection, or people's tendency to assume that others are more similar to them than they really are (Holmes, 1968), was more noticeable among male participants. Finally, the last theme of generalized assumptions was equally present among both male and female participants. Both women and men created stories about individuals in their ideal and average categories in order to reason and provide justification for their selected choices.

Cognitive distance. The cognitive distance, or the cognitive gap, appeared to provide a continuum based on which participants were able to explain the differences or similarities among average, ideal, and their own bodies. The results revealed noteworthy gender differences that may explain men and women's attitudes as well as their beliefs

regarding body image. For women, the reported gap was larger between their ideal and average female bodies than between their ideal and average male bodies. Female participants also noted that they were aware that their ideal female bodies were unrealistic and unachievable to them personally. In contrast, their opinions about ideal male bodies were divided. Some women acknowledged that such images were not real and not attainable for most men. Others indicated otherwise.

> FP1: There's not much [between the ideal and the average male body]. He just seems to have less definition, except in his arms. Um, the difference between the ideal and the average and me is that these girls have a more defined physique, like their chests are usually more pronounced. Their waists usually thinner. They have what you would call a true hourglass figure. Their stomachs are tight and small.
>
> MP2: Uh, well, the average [male body], I mean I feel like I could be one of these pictures, no problem. And the ideal male is most of those dudes who [are] huge compared to me. [I: So it sounds like for you the average is more realistic.] Yeah. [I: Where the ideal is not so much.] I mean, it's realistic but not to me personally. [What is the difference for you between the ideal and average female body?] Um, I mean, I think ideal is just maybe a little less weight and more toneness than the average.

The cognitive gap was smaller for men when they looked at both male and female bodies. In regard to ideal male body, male participants either saw themselves closer to the ideal, if their actual bodies were placed in the average male body category, or representative of the ideal, if they saw themselves physically similar to the ideal physiques. Men also believed that average female bodies were not that far away from the ideal female bodies. In fact, all men expressed disdain toward the media's portrayal of the unrealistic female bodies, which they perceived as unattainable and unrepresentative of healthy physiques.

These findings suggest two possibilities. One, sociocultural expectations regarding physical appearances are higher for women than men and are strongly ingrained in women's perceptions of themselves and other women. Two, female bodies appear to be more complex in terms of their physicality in comparison to male bodies. Even though ideal male bodies are unattainable for most men, there is an aspect of simplicity to the v-shaped, or triangle-like, body type that cannot be achieved as easily as the hour-shape body type expected for women. In other words, there is more variability among female body shapes than there is among male body shapes when it comes to ideals.

Cognitive dissonance. A mismatch appeared to encompass women's beliefs that both male and female ideals are unrealistic and for that exact reason are considered to be ideal. Women reported recognizing that women and men who have these ideal bodies usually invest a significant amount of time and effort into looking the way they do. They also noted that individuals who represent ideal male and female bodies are typically part of the media in some sense, either as celebrities, fashion models, or actors and actresses.

> FP3: Um, I wouldn't say that's disgusting. I'd say it's quite beautiful, actually. But, like, that we place them into these kind of categories, I would say as a society. Because, I mean, it's a natural tendency for people to categorize things. [I: So, on the one hand, you appreciate what you see.] Mhm. [I: But on the other hand, you're disgusted with the expectations that are placed on men to look like that.] Yes, yes.

> FP4: I don't think I'm surprised that I would think that this is average. And I know I put myself in it, but it's not because I think I look good. It's more of I think everyone should feel good that this is the average body and that like males should be attracted to this. [I: I'm hearing from what you're saying that you wish

> that you were proud of this body, and it was more acceptable.] Yes. [I: But inside, you don't feel good enough.] Right. Yes.

Female participants also expressed their concern regarding young girls and older women as two populations who may be vulnerable to developing body image issues due to physical changes that take place developmentally. Remarkably, none of the women were concerned about the same changes impacting their own physiques. In fact, all women reported seeing people's lifestyles being strictly dependent on their choices, not the same developmental forces that they saw impacting other women. The cognitive dissonance seemingly was two-fold. On the one hand, female participants believed that it is not fair to expect either gender to live up to impossible standards. On the other hand, they found ideal male physiques attractive and reportedly desired to look like the ideal female bodies. As a whole, women appeared to also be taken aback by feeling less satisfied with their bodies when in the presence of ideal female bodies and significantly less so when thinking or reflecting about average female bodies.

Attributive projection. Attributive projection, a defense mechanism coined by Holmes (1968), was most prominent among male participants. In regard to female body stimuli, men utilized their previous relational and emotional experiences to categorize and provide justification for their selected choices for the average and ideal female bodies. One of the most salient findings that emerged during the interview process was men's view of their own bodies. Overall, men believed that their bodies were not that far off from the ideal male physique.

> MP5: Well, I do play sports and stuff, so I try to keep my body like in tiptop performance and shape, and so it stays looking like this…But I just put myself

> over there [be]cause the overall concept is being cut-up and, uh, clearly weightlifting and whatnot. And, uh, that's what a lot of guys want.
>
> MP8: I'm an average weight for my height, and I feel I'm [like] a lot of these guys. And I try to take care of my body, and I feel most of these guys look like they try to take care of their body. And it may be harder for them to put on muscle definition, which is kind of how it is for me.

Male participants saw themselves as fitter than average men even when their own bodies were placed in the same category. Men also believed that the men in their chosen ideal and average categories were similar to them in terms of lifestyle choices such as eating and exercise habits. Interestingly, men also noted a two-fold struggle. On the one hand, they believed that just like them other men strived to not only physically look their best but also possess an actual bodily strength that would serve in times of protection or performance needs. On the other hand, their values of devoting time to work and family seemed to override their desire to be physically fit. That is where the "in-between" category of men's body physiques seemed to provide a place of finding balance between being physically fit but also having time to invest in careers and families.

Generalized assumptions. Assumptions appeared to come up with equal frequency for men and women. For the most part, these assumptions also appeared to be generalized and encompassed large groups of individuals based on gender, age, activity levels, dietary habits, health, and values. Among women, these cognitive shortcuts seemingly moderated the level of discomfort female participants were feeling in regard to their cognitive dissonance. In contrast, assumptions appeared to moderate attributive projections among men.

> FP4: *(Responding to ideal and average female bodies)* I think for women, your ideal body, like you kind of get lucky if you have the ideal body just [be]cause like I said before, you have good metabolism. I mean, that's what girls say now. And for me for some reason, I feel like [with] the ideal body, you don't necessarily have to work out or anything. You don't really have to do anything to keep that body. But then average is like you have to do stuff to keep the body.
>
> MP6: *(Responding to ideal male body)* I feel like their main priority in life, judged on their appearance, is their body health. It doesn't seem like they find anything else important, like family, friends, or anything like that. It seems like, yes, your body is supposed to be your temple, but if you're devoting so much time into your body and not doing anything else, then you're kind of wasting your time.

Women assumed that other women desired to look like the ideal female physiques that they see in the media and that those are the body types that men would find attractive as well. More specifically, female participants believed that men are attracted to female bodies that are "small," "petite," "hourglass," with a "thigh gap" and "abs." Some women also believed that women who have these ideal bodies do not necessarily have to put any effort into their physical appearances. In other words, this is the way they look naturally. These findings are concerning for two reasons. One, the level of conviction with which female participants believed that their ideals are everyone's ideals was startling. Two, the media's definition of the ideal female body and the objectification and reduction of female bodies to parts was accepted without question.

Although women's overall reaction to the ideal female body was more negative than positive, the reactions from men to the ideal male body had more variability depending if male participants saw themselves closer or further away from their ideals. In cases where men perceived their bodies to be closer to the ideal physique, the assumption

was that average men do not tend to value fitness and health. On the other hand, if male participants saw their bodies being closer to the average side of the continuum, the overall view was that men in the ideal category only value their looks rather than other life responsibilities. Thus, overall the view shifted from a complete over-involvement in to a complete under-involvement in one's physical appearance. All men reported seeing themselves in-between the two categories regardless of how their actual bodies compared objectively to ideal and average male bodies.

On the flip side, female participants generally assumed that men with average male bodies were more content with how they looked and were indeed healthily invested in other parts of their lives, such as work and family. Women also believed that men with ideal bodies were less content with their bodies, experienced more pressure to look their best, and had less time available to invest in a career or relationships. In contrast, men appeared to believe that men with ideal bodies, average bodies, and those who occupy the space in-between, all live well balanced, healthy lives. In other words, attributions of healthy, balanced lifestyles (or the lack thereof), based on male body types, was a phenomenon that was seen in the women who participated in the study but not the men.

Research Question Six

Research Question Six explored what factors had an impact on men and women's emotional reactions to male and female bodies. Four thematic themes appeared to impact men and women's emotional reactions to ideal, average, and their own bodies. The most salient and influential theme that has re-emerged throughout this chapter was media. The second theme, attraction, revealed that women and men pay immediate attention to

physical attributes of others in order to quickly process and evaluate their own standing in comparison to other individuals. The third thematic theme of cultural values reflects how cultural values of health have changed over time and that fitness is no longer associated with men but just as equally with women. Finally, thematic theme of social comparisons showed that in addition to upward and downward comparison, participants also utilized an in-between, or equal comparison, in their responses to ideal and average male and female bodies.

Media. Media was just as influential in shaping men's responses to the varied body stimuli used in the study as it was in women's. This challenges the belief that women are more impacted by media than men (Blond, 2008; Calogero & Thompson, 2010). Interestingly, some perceptual differences did emerge. As can be seen in Figure 55 and Figure 56, the ideal female and male bodies that women most frequently chose were notably something that women typically see in the media. The types of media that female participants indicated included television, magazines, and advertisement. For women, Victoria's Secret, American Eagle, celebrities, and magazines had the most dominant influence on their perception of ideal and average male female bodies. Figure 57 and Figure 58 show that women also chose average male and female bodies that are significantly slimmer and more fit than the actual average bodies in the American population as a whole. These results reflect the fact that the media indeed does its job in selling an image to its target population, in this case, young adult women.

The consequences of buying into such an untruth are staggering and concerning for two reasons. One, even though the majority of female participants reported

satisfaction with their bodies, the visual evidence shown below and verbal evidence discussed throughout this chapter suggest a disconnect between cognitive, emotional, and perceptual aspects of body image among women. Two, women also appeared to have not only high and unrealistic expectations for themselves but also for other women and men in terms of how they *should* look if they wanted to be associated with either ideal or average categories.

Unlike female participants, as shown in Figure 37, male participants selected ideal female bodies that were significantly rounder and thicker than ideal female bodies chosen by women. Most men agreed that media's portrayal of women's physiques is unrealistic. Words such as "thin," "curvy in all the right places," or "thigh gap" were completely absent from men's vocabulary. A close visual inspection of Figures 37 and 39 shows that male participants selected ideal female bodies that are not that far away from their chosen average female bodies. One type of media that seemed to be most relevant to men was Sports Illustrated, which played a role of antagonist to the other media types mentioned earlier. This finding suggests that men are impacted just like women by the media. The difference lies in the type of media that men and women pay attention to, as well as their underlying values. Although male participants reported being aware of the current supermodel look, none of them believed that look to be achievable for most women. All men also agreed that they preferred female bodies that were less defined and thin but more curvaceous and thick.

Female Photos Chosen as Ideal Most Frequently by Women	Female Photos Chosen as Ideal Most Frequently by Men
 12 22 18	 14 1 17

Figure 37. Three most frequently chosen ideal female body stimuli identified by women (on the left) and by men (on the right), in order of preference.

Interestingly, men's choices of ideal and average male bodies matched women's. Male participants also mentioned magazines and movies as their sources of media that had an impact on their perceptions of male physiques. Figure 38 and Figure 40 reflect this notable internalization of unrealistic body image standards regarding male bodies. In this case, visual evidence displayed and verbal evidence collected both suggested that men have high expectations for themselves as well as for other men in general. Male participants also indicated having high expectations for the average male bodies, which is reflected in their selection of men's physiques that are far from the typical average seen in the American population. Similar to women, these findings suggest that men, too, have bought into the false image of perfection, a notion that mostly lies outside of their awareness.

Male Photos Chosen as Ideal Most Frequently by Women	Male Photos Chosen as Ideal Most Frequently by Men
	
16 22 25	22 25 16

Figure 38. Three most frequently chosen ideal male body stimuli identified by women (on the left) and by men (on the right), in order of preference.

Female Photos Chosen as Average Most Frequently by Women	Female Photos Chosen as Average Most Frequently by Men
	
5 4 14	9 4 5

Figure 39. Three most frequently chosen average female body stimuli identified by women (on the left) and by men (on the right), in order of preference.

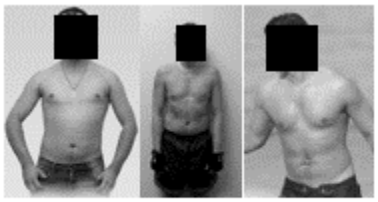
Male Photos Chosen as Average Most Frequently by Women	Male Photos Chosen as Average Most Frequently by Men
 14 10 20	 14 1 20

Figure 40. Three most frequently chosen average male body stimuli identified by women (on the left) and by men (on the right), in order of preference.

Attraction. Male participants reported feeling equally attracted to either ideal female or average female physiques. Two male participants highlighted historical changes and conveyed underlying sadness that what used to be considered as the ideal female body several decades ago is no longer the case. Notably, the concept of the "hourglass" figure came up for both men and women, but they differed in their views of what that hourglass figure looks like. For male participants, the hourglass figure was representative of the 1950's Marilyn Monroe body type, and thus a thicker, curvy, and shapely female physique. Among female participants, the hourglass figure encompassed a body that was thin, defined, yet possessing of full breasts and buttocks.

> FP7: *(Explaining lack of surprise regarding ideal male body)* Just because I think this is like the cliché, the attractive popular guy in all the movies and stuff would fill this body type. So I'm not surprised that this would be considered ideal for people. [I: What about the average male body?] Not surprised by it. Um, it's just the average guy, I guess. Yeah. This is just what it is.

> MP9: *(Reflecting on lack of anger regarding average female body)* I don't think there's anything wrong with looking like this and, when you go back a few decades, well five decades, this was viewed as way more attractive than it is today. I think we've kind of lost that. I think this is a good way to look.

In contrast, female participants reported feeling significantly more attracted to ideal rather than average male bodies. For the most part, women seemed to see the average male physique "just" as average. Although, as a group, women agreed that the ideal male body was an image with multiple dimensions, the same did not seem to apply to the average male body. It was unidimensional, flat, and reflective of how women saw the average female body and themselves. The ideal male physique painted a picture of someone fit and balanced mentally, emotionally, and physically. In contrast, the average male body conveyed comfort and contentment with one's physique but also a tendency to "be lazy."

Sociocultural values. The three most salient sociocultural values that emerged included health, fitness, and balance. Out of three, health was mentioned more frequently than any other descriptive caption that emerged out of interviews. In fact, both media and health were the two most re-occurring words that by far stood out as the significantly impactful and related concepts important to both men and women. The salience of all three values was further evidenced by the lengths of participants' responses as can be seen in the following excerpts. Both men and women took a larger amount of time than at any other point during interviews to explain their answers and think through their reasoning in regard to their emotional responses.

> FP10: *(Thinking about surprise and disgust toward ideal and average male bodies)* I was expecting my average male to be more like this guy…kind of more

> flabby and not fit. I feel like an average is just slimmer. They're still kind of toned. They're just toned *(points to the ideal male body).* They have abs. I just get a runner's body vibe. And if you run, you have a good mentality. Because that's like ideal for me, physically, I feel they're where they want to be. Um, emotionally, I don't know. I just feel like they're dedicated enough. [I: So for you not only they're taking care of themselves physically, they're also taking care of themselves emotionally.] Yeah, definitely, [be]cause I feel like being there is really hard and stuff, and just maintaining it.
>
> MP5: *(Reflecting on happiness toward average female body)* I feel like they should be striving to be a little more healthier [be]cause I feel like the average, it's like on the verge of either being healthy or not being healthy. It's like she has a little weight on but she's not to the point where she doesn't take care of herself at all. [I: And when you say "taking care of herself," is that mentally, emotionally, physically, or all of the above?] All of the above.

Notably, the three values were also equally present among female and male participants. From a historical perspective, both health and fitness are not new concepts; however, the notion of health has been usually associated with women and fitness with men in regard to mating and reproduction of the offspring (Jonason, Raulston, & Rotolo, 2012). As men and women continued reflecting on their emotional responses to visual stimuli, both quickly assessed whether a potential female or male partner was healthy, fit, and had a balanced lifestyle. Next, the three notions were quickly linked to one another. If a potential partner was healthy, he or she was also fit and balanced, and vice versa. Each of the three concepts was further divided into three parts: mental, emotional, and physical. Consequently, if a male or female body represented health, he or she was also perceived not only as someone who is physically and mentally fit but also someone who is able to balance work and family successfully.

Social comparison. How male and female participants felt about their bodies appeared to be based on how they saw themselves in comparison to ideal and average physiques. Interestingly, as a group, whether women were comparing themselves to either ideal female or male bodies, the comparison was upward. In response to average women's bodies, female participants saw themselves on equal ground and consequently utilized an equal comparison. Their responses to average male bodies reflected a downward comparison.

> FP4: Not every woman can have that body *(points to ideal female body)*, so it's kind of sad that the society starts to think that this is what should be expected. [I: What about yourself and average?] I don't think you should be sad at all if you have this type of body. At times it may [be challenging] [be]cause you have to maintain it, but at the same time, it's a healthy look.

> FP10: Just because they're my ideal guy, but I mean, I don't know. Maybe that's like way too ideal for me, you know? They're doing good. But me…that's my ideal guy, so probably not be able to see myself with someone like that. Just [my] confidence level, I guess. [I: So may feel intimidated by this person.] Right, right, a little, just [be]cause it's my ideal man.

Overall, even though women felt insecure about their own bodies when their attention was directed toward ideal physiques, this feeling changed when they shifted their focus to average bodies. Their feeling of insecurity also appeared to be associated with relational safety, and vice versa. In other words, the more secure women felt about their bodies, the safer they felt in their envisioned relationship with a potential partner. In turn, the more secure female participants felt in their imaginary relationship, the better they felt about their physical appearances.

Among men, the upward comparison was less prominent than it was for women but was still utilized. Similar to female participants, male participants felt less secure

either in regard to their own bodies or potential relationships with envisioned female partners when thinking about ideal male and female bodies. The equal comparison was contingent on how men perceived their own physiques. Notably, there was no equal comparison among women to their ideals. The opposite was true for men. About half of men believed that their bodies were similar to the male bodies they had identified as ideal. More women *accepted* themselves as being average than did men.

> MP9: *(Thinking about anger toward ideal male body)* Hmm, it bothers me a little bit that maybe I don't look like that. But, at the same time, this is very attainable to somebody like me. [I: Is anger geared toward yourself or the ideal? Or both?] If I was going to direct it towards them, I think that would be more of an extension of how I view myself. *(Shifting attention to average and himself)* I don't think there's anything wrong with looking like that, but just kind of wondering what if I did have the drive and motivation to look that good. Maybe I'm a little lazier than I need to be.
>
> MP5: *(Reflecting on happiness toward ideal male body and his own body)* Cut it even, um, [be]cause I'm perfectly happy with [my body]. And I know a lot of other people are happy when they have those results. And for the average…I mean, they're right there, but I feel like they could do more. [I: You feel happy because these people, including yourself, are reaching their full potential?] Mhm. Yeah. We're healthy enough where we don't really have to worry about much like different health problems that could occur.

Another half of the men noted that they were in the average category. However, they also quickly pointed out that they were in the high average (more fit) rather than low average (less fit) classifications, bridging the dissimilarity gap discussed earlier. Overall, men appeared to be more concerned about how they looked than women, contrasting the stereotype that women care more about their looks than do men (Grogan, 2008; Hildebrandt et al., 2006). Similarly to female participants, male participants believed that

ideal male bodies represented men who were better off than themselves in terms of being more motivated and dedicated to living a healthy lifestyle.

Summary of Study Two

Many in-depth qualitative analyses were performed to address the six research questions explored in Study Two. Table 55 provides a summary of the conclusions drawn from the most important analyses in a manner that directly addresses the research questions. Since the six research questions posed in Study Two were not answerable in "yes" or "no" terms (as was the case for Study One), but rather, were asked in an open-ended manner, the findings of Study Two are summarized in Table 55 as themes. Specific short summaries addressing each of the six questions and associated themes are listed underneath the posed research questions.

Table 55

Summary of Results from Study Two

Research Questions	Themes
1. What cognitions emerge as men and women are exposed to and work with images of male and female bodies?	*Ideal Male & Ideal Female—Multidimensional Concepts*
Female Participants	
Women described their ideal male and female bodies as being a combination of their personal preferences, internalization of media, and what they believed other women and men perceived as ideal. Female participants appeared to be much more detailed and specific when sorting female body but not male body features into categories. Women did not seem to struggle with sorting either male or female body features into categories.	

(continued)

Male Participants

Men described their ideal male and female bodies as being a combination of their personal preferences, internalization of media, and what they believed other men and women perceived as ideal. Male participants appeared to be much more detailed and specific when sorting female body rather than male body features into categories. Most men acknowledged that sorting female body stimuli into specific categories was much more difficult for them than sorting male body stimuli.

Personality Traits & Stereotypes—Self-Schemas

Female Participants

For women, less bulk and muscle definition were associated with a potential male partner who who was laid back, fun, comfortable with his body, less invested in his appearance, and someone they could relate to. Notably, female participants were concerned that their male partners might become "lazy" and stop "taking care" of themselves.

Male Participants

For men, less definition and more curvature indicated a female partner who was easy-going, fun, less invested in her appearance, and with similar interests, values, and beliefs. In a similar way, male participants acknowledged their concerns related to either their female partners becoming lethargic and, as a result, gaining weight, or becoming "obsessed" with their looks and dieting.

"Happy Medium" Filter

Female Participants

Among women, two opposing notions, "too much" and "too little" were both associated with negative attitudes either toward or about the female and male stimuli. The "happy medium" theme captured female participant's range of perceptual flexibility as they described it as "just right," or "perfect," level of fitness regarding female and male body stimuli. The happiness aspect appeared to stem from women's own internal experience of comfort upon seeing someone who was more similar to them or someone they found attractive.

Male Participants

Among men, two opposing notions, "too much" and "too little" were both associated with negative attitudes either toward or about the male and male stimuli. Similarly, the "happy medium" captured male participant's range of perceptual flexibility as they described it as "just right," or "perfect," level of fitness in regard to male and female body physiques. The happiness aspect also appeared to stem from men's own internal experience of comfort upon seeing someone who was more similar to them or someone they found attractive.

(continued)

2. What emotions develop as men and women are presented and work with images of male and female bodies?

Basic Emotion—Anger

Female Participants

The majority of women felt anger not only toward media but also societal definition of beauty when responding to average and ideal female bodies. Female participants also felt anger toward other women (peer pressure) who they believed wanted to look like the ideal, and other men who they thought were attracted to the thin, yet curvy in all the "right" places, thigh gap female physique. About half of women expressed anger toward societal pressure for men to look their best. Another half expressed anger toward their selected average male bodies due to a lack of effort in physical fitness.

Male Participants

About half of men acknowledged feeling angry toward societal expectations that mostly focused on their physical appearances and not characters when responding to average and ideal male bodies. Another half indicated feeling no anger regarding average and ideal male physiques. Men reported no anger in relation to their selected average and ideal female bodies and agreed that societal pressure that is put on women to look their best is unfair and unnecessary.

Basic Emotion—Sadness

Female Participants

Women reported elevated levels of sadness all geared toward their selected ideal female body. Some of the sadness was related to perceived societal expectations, some to their inability to ever fit into the category, and some to personal knowledge of women who struggle with body image. Female participants reported feeling sadness toward men in their selected ideal male categories. The overall consensus was that men in the ideal category, just like women, felt pressure to fit into an improbably mold.

Male Participants

Most men reported feeling happiness and attraction, rather than sadness, to potential mates or someone they could envision dating. The overall consensus for men was that average female bodies were just as healthy and attractive as ideal female bodies. None of male participants reported feeling sadness in relation to their chosen average and ideal male bodies and, for the most part agreed that the ideal male physique was realistic and attainable.

Basic Emotion—Disgust

(continued)

Female Participants

Women reported feeling disgust toward societal pressure and expectation to look like the ideal female body. They also noted feeling disgust toward current cultural view of the average female body. Just as with female bodies, women felt disgust toward unrealistic cultural standards for male physique.

Male Participants

Men reported feeling joy rather than disgust when looking at female bodies. Most male participants agreed that they were as attracted to their chosen average female bodies as as their ideal female bodies. Overall, men had an equal reaction of satisfaction rather than disgust to both their average and ideal male bodies.

Basic Emotion—Happiness

Female Participants

Most women reported having higher levels of happiness toward average female bodies as well as their own and less happiness toward ideal female bodies. Four out of five reported that they "liked" their bodies, although they could see room for improvement. In contrast, female participants noted higher levels of happiness toward ideal male than average male bodies.

Male Participants

Men's reactions of happiness toward ideal and average male bodies differed among one another. Those for whom ideal and actual male bodies were in the same category felt more happiness toward the average. Men whose actual and average male bodies were in the same category felt more happiness toward average and themselves and less happiness toward their ideal bodies. Similar to female participants, male participants expressed higher levels of happiness toward average than ideal female bodies.

Basic Emotion—Fear

Female Participants

Women reported feeling fearful of how other women and girls may be affected by the ideal female image. Female participants noted fearing bodily changes (due to pregnancy, child rearing, age) for other women, however, did not note any worrying regarding their own bodies. Female participants also acknowledged feeling fearful that boys and younger men could be internalizing ideal male physiques as something realistic and achievable.

Male Participants

Men reported feeling worried that due to media pressure to look thin and perfect, women would not feel good about their bodies and, as a result, feel less secure and satisfied with themselves. Despite being accepting of average female bodies, some men were less accepting of average male bodies. For these male participants, average male bodies were associated with a potential for unhealthy eating habits, physical health issues, and gaining of weight.

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3. How aware are men and women of the cognitive processes that are involved in exposure to Images of male and female bodies?

Explicit Emotional Prime—Surprise

Female Participants

Among women, a lack of surprise reflected a conviction on their part that others (both men and women) see and accept the media's female and male ideals as something achievable and representative of success, dedication, and attraction. On the other hand, surprise elicited recognition, at least for half of the female participants, of media's influence on their own perception of not only ideal but also average male and female bodies.

Male Participants

Overall, men were not surprised by their choices of ideal and average female and male bodies. Surprise also did not seem to have the same effect on men as it did on women as far as their ability to take on an observer perspective. Male participants assumed that other men would want to look like the ideal male bodies, and that other women would want to look like the ideal female bodies. Men also noted that they did not necessarily find ideal female bodies that they see in the media attractive.

Implicit Core Beliefs

Female Participants

Among women, one of the core beliefs that emerged appeared to relate to a personal sense of safety (i.e., 'I am safe'). Safety encompassed not only cognition but also emotion, or sense of comfort that female participants inadvertently conveyed throughout interviews. The second core belief (i.e., 'This is my ideal') captured internalized ideal female and male physiques seen in the media.

Male Participants

Like women, one of the core beliefs that emerged among men was also related to a personal sense of safety (i.e., 'I am safe'). Safety encompassed both cognition and emotion and was was also present throughout interviews with male participants. The second core belief (i.e., 'This is my ideal') captured similar internalized female and male bodies presented in the media and are considered to be ideal.

4. How aware are men and women of emotional processes that occur during exposure to images of male and female bodies?

Implicit Primal Needs

Female Participants

Among female participants, one primal need that emerged was the need for relational safety. Relational safety was associated with both male and female body ideals. Women noted feeling more secure about themselves and within their relationships with male partners when they were surrounded by female body types similar to their own rather than ideal. They differed in response to ideal male bodies.

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Some imagined feeling insecure and others comfortable and secure in response to their potential mate having ideal body. Another primal need appeared to capture the need for physical safety; however, the need was less verbalized among women than men.

Male Participants

Although men did not state their need for relational safety as overtly as women did, the relational undertone was still captured in their concerns about personality characteristics, particularly to regarding ideal female bodies. As a group, male participants imagined feeling more comfortable and secure in their relationships with female partners whose body types were similar to average rather than ideal female bodies. Men, also, overtly emphasized the importance of physical strength and its need for self-protection.

Implicit Core Emotions

Female Participants

Even though women reported feeling satisfied with their own physiques, their implicit emotions suggested otherwise. Female participants appeared to experience conflicting emotions of admiration and envy of the ideal of the ideal male and female bodies. Three core emotions (comfort, content, confidence) seemed to capture the positive aspect of their experiences, and three other core emotions (discomfort, discontent, doubt) appeared to capture the negative aspect of the women's experiential process.

Male Participants

Like women, even though men reported satisfaction with their bodies, for the most part, negative emotions seemed to create an underlying experience that was completely out of men's awareness. Not surprisingly, more implicit emotions came up for women than men. The same six negative and positive core emotional experiences appeared to underlie more explicit emotional responses to ideal male and female bodies. Like female participants, male participants also seemed to experience conflicting emotions of admiration and envy regarding ideal bodies.

5. What factors impact men and women's cognitive responses to male and female bodies?

Cognitive Distance

Female Participants

For women, the reported gap was larger between their ideal and average female bodies than between their ideal and average male bodies. Female participants noted an awareness that their ideal female bodies were not realistic or achievable. The opinions about ideal male bodies were divided: some thought that ideal male bodies were not attainable for most me, others indicated otherwise.

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Male Participants

For men, the cognitive gap was reportedly smaller as they reflected back on both male and female bodies. Although male participants, expressed disdain toward the media's portrayal of the unrealistic female bodies, they either saw themselves closer to or actually representative of an ideal male body. Men also reported believing that ideal male bodies often seen in the media are realistic and attainable.

Cognitive Dissonance

Female Participants

On the one hand, female participants believed that it was unfair to expect either gender to live up to impossible standards. On the other hand, they found ideal male physiques attractive and reportedly desired to look like the ideal female bodies.

Male Participants

Men neither reported nor appeared to experience cognitive dissonance during the interviews.

Attributive Projection

Female Participants

Women neither seemed to experience attributive projection during the interviews.

Male Participants

For men, the attributive projection was a two-fold struggle. On the one hand, male participants believed that other men strive to not only physically look their best but also possess an actual bodily strength that would serve in times of protection or performance needs. On the other hand, their values of devoting time to work and family seemed to override their desire to be physically fit.

Generalized Assumptions

Female Participants

Women assumed that other women desired to look like the ideal female physiques that they see in the media and that those are the body types that men find attractive as well. Female participants assumed that men with ideal bodies were less content with their bodies where men with average looking bodies were more content with their bodies. Unlike men, women did not create an 'in-between' category that placed them between ideal and average.

Male Participants

Men's responses varied depending on if male participants saw themselves closer or further away from their ideals. Some made the assumption that average men do not value fitness or health. Others believed that men in the ideal category only valued their looks rather than other life responsibilities. Unlike women, male participants appeared to make fewer assumptions about female than male bodies and also reported seeing themselves as 'in-between' the ideal and average male body categories regardless of how their actual physiques compared objectively to the same categories.

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6. What factors impact men and women's emotional reactions to male and female bodies?

Media

Female Participants

The types of media that females reported included television, magazines, and print ads. For women, Victoria's Secret, American Eagle, celebrities, and magazines had the most dominant influence on their perception of ideal and average female and male bodies.

Male Participants

One type of media that seemed to be most relevant to men was Sports Illustrated, which seemed to play the role of an antagonist to the media types that appeared to impact women's perceptions. Overall, men appeared to be impacted by the media as much as were women.

Attraction

Female Participants

Overall, women reported feeling significantly more attracted to ideal rather than average male bodies. For the most part, female participants seemed to see the average male body as "just" average. Also, although as a group, women agreed that the ideal male body was a multidimensional concept, the same notion did not seem to apply to their average male and female bodies.

Male Participants

Overall, men reported an equal amount of attraction to either ideal or average female bodies. Notably, the concept of "hourglass" figure came up for both genders, but the two differed in their views of what the hourglass figure looks like. For male participants, the figure was representative of the 1950's Marilyn Monroe body type. For female participants, it was reflective of thin and defined body types seen in the media.

Sociocultural Values

Female Participants

Three main values (health, fitness, and balance) appeared to be the most salient sociocultural values among women. Health seemed to be mentioned more times than any other value throughout the interviews. For female participants, the three notions were linked to one another. Women noted that if a potential partner was healthy, he was also mentally, emotionally, and physically fit and balanced, and vice versa.

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Male Participants

The three values of health, fitness, and balance were also important in men's responses to male and female visual body stimuli. Importance of health appeared to be as strong for male participants as it was for female participants. Men also noted that all three values were related to one another and reported that they perceived healthy (mentally, emotionally, and physically) women as balanced in other areas of their lives.

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	Social Comparison
Female Participants	
As a group, whether women were comparing themselves to either ideal female or female bodies, the comparison was upward. In response to average female bodies, women saw themselves on equal ground and consequently utilized an equal comparison.	
Male Participants	
Unlike women, men, as a group, utilized upward comparison much less frequently. About half of male participants believed that their bodies were similar to the male bodies they identified as ideal. Also, more women accepted themselves as being average than did men.	

Note. Emerged thematic themes are italicized for a reader's convenience and listed on the right side of the table.

CHAPTER V

DISCUSSION

The purpose of this dissertation research was to contribute to both the basic and applied research literature on human body perception, including the perception of participants' own bodies and perceptions of the bodies of others, using procedures that would overcome some of the weaknesses of previous research in the area. The dissertation research consisted of two studies. Study One used a quantitative methodology and a factorial research design in a non-experimental, exploratory study of how observer gender (the first factor) and body stimulus gender (the second factor) are related to a variety of body perception dependent variables. Study Two used qualitative methods, including the talk aloud procedure and semi-structured interviews, to gather additional information about participants' cognitive and affective processes during body perception.

In this final chapter of the dissertation, the results of Studies One and Two are summarized and interpreted to answer the research questions that were posed for each study. When the findings of the two studies are in agreement or disagreement with each other or previous research, that alignment or its absence has been discussed. Strengths and limitations of the two studies are addressed next, along with contributions of the research. Finally, suggestions for future research are offered, and the chapter concludes with implications for clinical training and practice.

Summary of Study One

Research Question One

Research Question One sought to determine if the perceptual attribute dimensions that organize perceptions of body stimuli are different for men and women observers when those observers view male and female body stimulus photos and whether the observer's gender and the gender of the body stimulus interact in determining the most salient attributes. The first portion of the research question focused on three semantic differential attribute dimensions that have been shown in previous research to be useful across a wide variety of perceptual situations—*evaluative* (good-bad, beautiful-ugly, healthy-sick), *potency* (large-small, strong-weak, masculine-feminine), and *activity* (active-passive, fast-slow, hot-cold) (Osgood et al., 1957). Results of the data analyses revealed that, among participants of both genders, *potency* was more important when viewing male photos than female photos, the *evaluative* dimension was more important when viewing female photos than male photos, and *activity* was equally salient whether viewing male or female photos.

The second portion of Research Question One focused on a different collection of perceptual filters—those having to do with the affective reactions to diverse body types. Results indicated that only body stimulus gender affected the perceptual salience of the six affective reactions included in this study. Among both men and women equally, affect was far more important as a basis for sorting female body stimuli than male body stimuli. *Surprise*, *disgust*, *happiness*, and *fear* were all significantly more salient in distinguishing between female bodies than male bodies. *Anger* and *sadness* were also somewhat more

salient in organizing perceptions of the female body than the male body, though the differences on these affective reactions did not reach significance. The findings for Research Question One highlight that humans use fundamentally different perceptual filters when perceiving male and female bodies. What people perceive about women is what gets through their female filters (much of it emotional and evaluative) and what they perceive about men is what gets through their male filters (largely based on *potency*).

Research Question Two

Research Question Two sought to assess observers' ability to discern and respond to subtle differences between body stimuli—their body perception acuity. The results of the data analyses revealed a statistically significant main effect of body stimulus gender. Participants of both genders created more photo piles for male body stimuli than for female body stimuli. As male bodies become more objectified in the media (Knight, 2012; Lanzieri & Hildebrandt, 2015), it is possible that we as a society are paying more attention to the male body and this increased scrutiny is leading to increased sensitivity to subtle differences (i.e., body perception acuity). This finding may support the conclusion that observers were more discriminating and showed superior body perception acuity for male body stimuli than for female body stimuli. The finding also appears to be supportive of the recent research studies (Frederick & Essayli, 2016; Heath, Tod, Kannis-Dymand, & Lovell, 2016) that indicated that the internalization of ideal male bodies often seen in the media had a significant impact on body surveillance and body dissatisfaction among men. However, it is also possible that the result simply reflects greater variety in the physical characteristics of the male body stimuli that were used in this study. In other

words, observers may have sorted male body stimuli into more piles than female body stimuli simply because there were more different body types represented in the collection of male stimulus photographs, not because observers were more adept at making fine discriminations between male body types.

Research Question Three

Research Question Three addressed the much studied question of what is considered to be the ideal female body (e.g., Ahern et al., 2011; MacNeill & Best, 2015; Owen & Spencer, 2013; Swami et al., 2010), but this study approached that notion differently than has previous research. Specifically, the ideal female body was conceived of in this study as a perceptual category rather than as a single stimulus, and participants were allowed (but not forced) to choose multiple exemplars of the ideal female body as they sorted body stimuli. Results indicated that the stimulus photos that were most often chosen as female ideals were much the same for men and women. However, there were interesting differences in men's and women's choices. Specifically, men were significantly more likely than women to identify as ideal those female stimulus photos which depicted curvier women with larger breasts, fuller thighs, with less muscle definition, and with generally fuller bodies. In contrast, women were significantly more likely than men to identify as ideal those female stimulus photos which depicted lean women with smaller breasts, thin arms and legs, and well defined muscles. In other words, where women and men disagreed on the female ideal, it was a matter of women choosing a body that emphasized slender strength and fitness over sexuality, and men choosing a body that emphasized sexuality over slender strength and fitness. This finding

appears to support a current emphasis among young women on fitness as a defining feature of the ideal female body and a goal to be achieved by young women (Clark, 2017; Josie, 2016; Lewallen & Behm-Morawitz, 2016). According to Tiggeman and Zaccardo (2016), young women and young men are equally likely to share "fitspirational" images via social media, which speaks to importance of physical fitness and health as a component of attractiveness in women (and men).The current study's finding in regards to the ideal female body differs from some recent international studies (Brierly, Brooks, Mond, Stevenson, & Stephen, 2016; Stephen & Perera 2014a, 2014b) where it was concluded that men are attracted to and have a preference for a thin, low-BMI female body type.

Study One data were collected in such a way as to also enable measuring male and female group consensus on the ideal female body, i.e., the degree to which women agreed or disagreed about the ideal female body and also the degree to which men agreed or disagreed about the ideal female body. There was notable lack of consensus among women about the ideal female body, with over half of the female stimulus photos identified as ideal by at least 20% of the women in the study. There was a little more consensus among men in regards to the ideal female body, with only 40% of the female photos being identified as ideal by at least 20% of the men in the study. Although some female body types were clearly more likely than others to be identified as ideal (as described in the preceding paragraph), the present study serves as a reminder that almost every female body type is seen as ideal by someone. Perhaps the body-positive media messages calling for body diversity tolerance and greater self-acceptance (e.g., the recent

packaging of Dove lotion in variously shaped bottles to promote body diversity) are being heard, if only faintly.

Research Question Four

Research Question Four addressed the question of what is considered to be the ideal male body and looked at levels of consensus among male and female participants. The results revealed strong agreement between men and women in regard to the ideal male physique. The four out of five male stimulus photos chosen most frequently as ideal were the same for men and women. These ideal male bodies reflected the classic V-shape, with broad shoulders, strong arms, well-defined pectoral and abdominal muscles, muscular, but not *too* muscular male body (the "happy medium.") Where men and women differed in their choices of the male ideal body, it was a matter of a very small number of men (about 10% of them) who identified as ideal the extremely muscled look of competitive body builders. Women almost universally rejected these heavily muscled bodies as representing the male ideal.

Comparing the data on group consensus from the Research Questions Three and Four, there was a stronger consensus for what constitutes the ideal male body than the ideal female body. In the sample of 105 women, 52% of the female bodies were identified as ideal by at least 20% of the sample, while only 32% of the male bodies were identified as ideal by at least 20% of the sample. In the sample of 72 male participants, 40% of the female bodies were identified as ideal by at least 20% of the sample, while only 24% of the male bodies were identified as ideal by at least 20% of the sample. Thus,

overall, both women and men in this study showed significantly greater consensus in their selections of ideal male bodies than in their selections of ideal female bodies. If observers of both genders experience less consensus as regards the ideal female body than the ideal male body, what might cause that, and what would it mean? The media's role is clear to even the most casual observer of American culture, including the researcher: Images of the ideal female body vary dramatically from one message to the next, to the point that the whole notion of there being a single female ideal body comes into question. People are confronted with images of voluptuous women selling Caribbean vacations, athletic female models who pitch stationary bicycles, and there is also the "big is beautiful" message. In this media mix there does not appear to be a single female body ideal, but several. In the present study, the absence of a single media ideal female body was reflected in the large diversity of female body stimuli that were selected as ideal by study participants of both genders, especially women.

In the experience of the researcher, that same diversity message has not been nearly as salient when it comes to men's bodies. The range of ideal male bodies is narrower. It is not surprising that participants in this study would show greater diversity in their selections of ideal female bodies than ideal male bodies. These findings lead to questions about how the different media messages might affect men and women. Is the diversity of ideal female body types portrayed by the media freeing to women or does it put them into the impossible situation of wishing for one body type in one situation and a different body type in another situation? As regards men, is the media's narrow definition of the ideal male body a source of stress for men because it indicates that there is only

one way to reach the ideal, or does having a fixed target to shoot for provide a source of relief for men who are striving to achieve that physical ideal? These are all questions that future researchers might address.

Research Question Five

Research Question Five again explored variations in perceptions of the ideal body, but instead of looking at levels of consensus on female and male ideals, this research question examined variability at the individual level. Specifically, the research question sought to examine the widths of the ideal female and ideal male perceptual categories. The results of the analysis showed that, after controlling for the total number of stimulus piles created, men and women both placed significantly more stimulus photos into the ideal female category than the ideal male category. Thus, at both the group and individual levels, more different female stimulus photos were perceived as ideal and fewer male stimulus photos were perceived as ideal. The consistency between the findings at the group and individual levels is notable.

There are two possible explanations for the finding. One possibility, as hypothesized by the researcher and described in the preceding section, is that the media present a more diverse view of what is attractive and appealing in the female body and a less varied picture of the attractive male body. As noted in Chapter Two, the ideal male body physique has for years been consistently defined as consisting of broad shoulders, small waist, narrow hips, good muscle definition, with muscular (but not too muscular) arms and legs (Grogan, 2008; Ricciardelli & Williams, 2012). This has not been true for the ideal female physique, and two opposing body types (thin versus curvy) have co-

existed before (Bonafini & Pozzilli, 2011; Grogan, 2008). While most of the women in this study preferred the thinner option, there were enough women who accepted the curvy alternative to produce the lack of consensus noted in Research Question Three. The other possibility is that a flawed stimulus collection produced the apparently greater category width for ideal female bodies than ideal male bodies. Specifically, the collection of female stimuli used in this study may have included a larger number of attractive stimuli than was available in the collection of male stimuli.

Research Question Six

Research Question Six examined the strength of emotional reactions to exemplars of ideal bodies as a function of observer gender and body stimulus gender. Results of the analyses showed significant observer gender x body stimulus gender interaction effects on both dependent variables—positive affective reactions and negative affective reactions. Consider first the negative affective response. Observers of both genders reacted more negatively to same-gender than to opposite-gender ideals. Both genders appeared to have been threatened, or at least challenged, by images of ideal bodies of the same gender and their predictable affective response to that perceived threat was negative. The pattern of positive affective reactions to same-gender ideals was also quite predictable, given the data on negative affective reactions. Men and women both showed significantly stronger positive affective responses (later explored and related to attractiveness) to opposite-gender than to same-gender ideals. It is not surprising that men, as a group, would express greater positive affect in response to exemplars of the

ideal female than to ideal males, and that women, as a group, would express greater positive affect in response to exemplars of the ideal male than to ideal females.

These results are also reflective of the age group, sexual orientation, and relationship status characteristics of the study's participants. Young adulthood is the time when men and women are most likely to seek life partners, and the positive emotions that accompany attraction to opposite-gender ideals facilitate and help to drive the mate seeking process. The evolutionary theory of physical attraction suggests that attractiveness reflects physical health and reproductive suitability and that attraction, and the positive emotions that accompany attraction, serve as a mechanism for identifying a "healthy" mate (Brierly et al., 2016). Stimuli (including people) in the environment that elicit an emotional reaction are highlighted or marked for more complete information processing (Lang & Davis, 2006). In essence, emotional reactions to others are like dashboard lights that proclaim, "Pay attention; this one's a possibility (or *not* a possibility)!" At the same time in life, as relationships are just being established, relational insecurity and the loss of partners to "mate poachers" who are perceived as more attractive than oneself is a concern (Davies & Shackelford, 2017). The negative emotional reactions that study participants expressed in response to same-gender ideals may serve as a dashboard light alerting one to the presence of these poachers.

Research Question Seven

Research Question Seven investigated whether women or men were more dissatisfied with their bodies and examined affective reactions to their bodies that might give insights into participants' levels of dissatisfaction. The results of analyses associated

with Research Questions Four and Five were presented earlier, which suggested that the range of male bodies that is considered ideal may be more restricted than is the range that defines the ideal female body. This could place men in the difficult position of having only one ideal toward which they might strive. On the other hand, having one ideal might be a source of relief that there is only one target to work toward. The greater diversity of female bodies judged to be ideal, on the other hand, might reduce the pressure on women because they have more alternatives. On the other hand, it was proposed earlier that women might experience greater distress because the female ideal body is impossibly contradictory and physiologically unattainable—soft and curvaceous, while lean and muscular at the same time. Body dissatisfaction was measured in this study as the distance between two mapped points in participants' body stimulus maps—one representing the participant's actual self and the second point representing that participant's ideal same-gender ideal body. Results of the data analysis indicated no significant difference between men and women in levels of body dissatisfaction measured in this manner.

How did men and women *feel* about their bodies, though? Additional analyses of men's and women's ratings of affective responses to their own bodies on *anger, sadness, surprise, disgust, happiness,* and *fear* indicated that the answer, at least in general, was that participants in this study, on average, were fairly content with their bodies. Of course ratings on all of these emotional reaction scales covered the full range from 1= *no reaction* to 5 = *strong reaction*, so there were some individuals who experienced

extremely strong negative feelings about their bodies, even while others were equally strongly positive about their bodies.

Research Question Eight

Research Question Eight explored whether physical fitness characteristics (treated as independent variables) were associated with any of a variety of body perception outcomes (treated as dependent variables). Thirteen statistically significant correlations that linked physical fitness variables with body perception variables were identified. Each of those relationships will be summarized and interpreted in the following paragraphs. Exercise intensity was negatively correlated with same-gender ideal body category width. Study participants who reported exercising more frequently and for longer durations held a narrower view of the ideal same-gender body. It makes sense that those who are actively striving through regular exercise to improve their appearance and achieve a greater degree of fitness would have an image in their minds as to what they want to look like. Having given it some thought, that ideal is fairly narrowly defined. On the other hand, those who exercise little or not at all may have given less thought to their same-gender ideal and so have wider boundaries on the same-gender ideal body category.

Exercise intensity was negatively correlated with actual-ideal distance (body dissatisfaction). Those who reported greater exercise intensity were less dissatisfied (more satisfied) with their bodies and those who reported less exercise were more dissatisfied (less satisfied) with their bodies. This relationship speaks to two possibilities, both of which might be true. First, it would be expected that as participants engaged in more exercise, they would move closer to their ideal body goals. Second, cognitive

dissonance theory (Festinger, 1957) suggests that individuals who have invested time and energy in regular exercise would experience dissonance if they did not also subsequently view those efforts as worthwhile and productive in moving them closer to their ideal body. By this argument, the avoidance of dissonance could motivate those who exercise more to also report greater body satisfaction.

Dieting behavior was positively correlated with the perceptual salience of the *evaluative* dimension. Those who reported dieting one or more days per week were more likely than those who did not diet to rely on the *evaluative* perceptual dimension when tasked with judging body similarities. This finding, and some others that will follow is best accounted for by a theory of person perception put forth by Fong and Marcus (1982). This theory proposes that attributes which are most salient to self-perceptions are also most likely to be used in gathering data about and organizing perceptions of others. For example, someone who defines herself as athletic and physically fit would likely seek out information about others' athleticism and fitness before moving on to other characteristics. High personal salience of an attribute appears to draw an individual's attention to cues which pertain to this attribute in others (Frable, 1987). Fong and Markus (1982) argued that being self-schematic on a trait tends to make an individual something of an expert about that trait. As an expert about a self-salient dimension, people may choose when dealing with others "…to seek information related to their self-schemas because their expertise enables them to better understand such information" (p. 202). With this theoretical framework in mind, dieters in the present study could be expected to be more self-salient on *evaluative* attributes such as good-bad, beautiful-ugly, and

healthy-sick. It is speculated that individuals who diet do so because they believe that it is the *good* thing to do, leads to being *beautiful*, and helps them to stay *healthy*. It follows from this that dieters in the present study would use the self-salient *evaluative* dimension when they engaged in the task of sorting body stimulus photos.

Dieting behavior was positively correlated with the perceptual salience of the *activity* dimension. Those who reported dieting one or more days per week were more likely to rely on the *activity* perceptual dimension when tasked with judging body similarities than were those who reported no dieting behavior. The explanation for this finding falls along the same lines proposed in the preceding paragraph. It seems reasonable to suppose that attributes related to *activity* (active-passive, fast-slow, and hot-cold) would be more self-salient to dieters than non-dieters and these self-salient attributes would therefore more likely emerge as important in guiding a dieter's body perceptions.

Supplement use was negatively correlated with actual-ideal distance (measuring body dissatisfaction). Study participants who reported using supplements for the purpose of enhancing their physical appearance were less dissatisfied (more satisfied) with their bodies than were those who did not use supplements. Three explanations are possible. First, supplements may actually improve personal appearance and thus reduce the actual-ideal distance. Second, the avoidance of cognitive dissonance would motivate those who purchase and use supplements to perceive those supplements as effective even if they are not. Third, those who reported using supplements also exercised more than those who did

not use supplements, so even if the supplements were ineffective, exercise might be working to improve body satisfaction.

Supplement use was positively correlated with the perceptual salience of the *potency* attribute dimension. Study participants who used supplements were more reliant on *potency* considerations (large-small, strong-weak, and masculine-feminine) when judging body similarities than were those who did not use supplements. In explaining this effect, it is important to remember that supplement use was largely confined to men: 42.1% of men and only 16.5% of women reported using supplements to enhance their physical appearance. As previously discussed, *potency* attributes were more salient in organizing participants' perceptions of male body stimulus photos than female body stimulus photos. This suggests that *potency* might also be an important attribute in the organization of men's self-schemas. If so, the self-salience of *potency* in men, and the fact that mostly men reported supplement use in this study, led to the finding that those who use supplements (mostly men) tended to use the *potency* dimension in perceiving others' bodies as well.

Supplement use was positively correlated with the perceptual saliency of the *activity* perceptual dimension. Compared to supplement non-users, those who reported using supplements for the purpose of enhancing physical appearance found the *activity* dimension (active-passive, fast-slow, and hot-cold) especially useful as they judged bodies for similarity. To understand this effect, it is again useful to consider the larger configuration of variables. Supplement use, dieting behavior, and exercise were quite strongly interrelated and are all indicators of a concern for personal fitness, health, and

appearance. Those who exercise, by definition, are more *active* than those who do not exercise. Given this fact, and given the tendency for observers to use self-salient characteristics when perceiving others, it seems logical that supplement users would tend to use the *activity* attribute dimension in the body perception process.

Supplement use was positively correlated with the strength of same-gender positive affective reactions. Compared to supplement non-users, those who used supplements to enhance their personal appearance reported stronger positive affective reactions to same-gender ideals. Study participants who used supplements also exercised more. As discussed previously, participants who exercised more also held a narrower view of what the ideal same-gender body should look like because this is an ideal that they have thought about and toward which they strive. Those who work and strive to achieve their ideal body might necessarily be appreciative of that goal and this was manifested in the positive correlation between supplement use and strength of positive affective responses to the same-gender ideal.

BMI was positively correlated with actual-ideal distance. As BMI increased, so did body dissatisfaction. This was the strongest bivariate correlation involving personal fitness variables as well as body perception variables and reflects the reality that participants in this study, who were more fit (lower BMI), experienced greater body satisfaction than did participants who were less fit (higher BMI). This correlation serves primarily to validate the actual-ideal distance measure as an indicator of body dissatisfaction.

BMI was positively correlated with the perceptual salience of the *evaluative* dimension. As BMI increased, study participants made more and more use of the *evaluative* perceptual attributes in making body similarity judgments (good-bad, beautiful-ugly, and healthy-sick). The explanation of this finding is found again in the principle that self-salient attributes tend to be more important in organizing information about others than are attributes which lack that self-salience. It would seem reasonable to expect that as BMI increases, BMI might become more self-salient in an individual's self-schema. Since BMI is more frequently associated with being overweight (with the exception of very muscular individuals) and, as was seen in this study, being overweight is often viewed negatively (*bad*), it is often inversely associated with beauty (*ugly*), and a high BMI associated with being overweight is not typically healthy (*sick*). Thus, when BMI is self-salient, it might be expected to shape the body perception process by highlighting the *evaluative* perceptual filters.

BMI was positively correlated with the strength of same-gender ideal body negative affective reactions. As participants' BMI values increased, they experienced increasingly strong negative affective reactions to exemplars of their same-gender ideals. Perhaps this is due to jealousy, envy, or an insecurity response. Perhaps, one's own imperfections are seen most clearly when placed in contrast with an example that is perfect, and perhaps the greater those imperfections, the less pleased people are to acknowledge them.

BMI was positively correlated with the strength of negative affective reactions to participants' own bodies (and similar bodies). As study participants' BMI values

increased, their ratings of *anger, sadness, disgust,* and *fear* to their own and similar bodies also increased. It was shown earlier that as participants' BMI values increased, they expressed more body dissatisfaction, measured as distance between the actual and ideal bodies in their MDS-produced stimulus maps. What is added here is the fact that as the distance between actual and ideal bodies increased, participants expressed more negative affect toward their bodies—they were dissatisfied. The correlation between BMI and strength of negative affective reactions to participants' own bodies serves to validate the use of the actual-ideal distance as a measure of body dissatisfaction.

BMI was negatively correlated with the strength of actual body positive affective reactions. As BMI values increased, participants experienced weaker positive affective reactions toward their own bodies. This finding is simply the flip side of the preceding finding: as BMI increased, participants experienced strongly negative affective reactions to their own bodies. As participants' BMI values increased, they not only reacted with increasing negativity toward their own (and similar) bodies but also with decreasing positivity toward their own (and similar) bodies.

Summary of Study Two

Research Question One

Research Question One focused on exploring men and women's thoughts as they sorted male and female body stimuli according to similarity. The talk aloud method was used in an effort to make participants' cognitions explicit and follow-up questions were used to probe for more detail. The focus was especially on cognitions related to ideal bodies, average bodies, and participants' own (and similar) bodies. The results revealed

that participants weighed many factors as they sorted the stimulus photos. For example, male and female ideals were multidimensional, appearing to be based on a combination of three primary factors: personal preference, the media influence, and others' ideals. Consistent with recent research that points to the impact of the media (especially social media) on both genders (Carrotte, Prichard, & Lim, 2017; Tiggeman & Zaccardo, 2016), men and women in this study both acknowledged the significance of the media's influence on their personal preferences and were convinced that others preferred those media ideals and wanted to look like them. A close analysis of participants' verbal content during the stimulus sorting process revealed that women displayed a more expansive, richer body-related vocabulary than did men, but only in describing female physiques. This is consistent with findings from Mousslly, Gryngerg, Goffinet, Simon, and Van der Linden (2017) who described women's views of their own and ideal female bodies as broader than had been previously thought. When it came to judging male physiques, however, both men and women lacked any extensive body-related vocabulary to describe and justify their choices for male body categories.

The analysis also revealed that men and women were equally inclined to infer personality attributes from physical characteristics as they sorted body stimuli. These inferences arose from a complex, mostly implicit network of associations. Recent research (Greven, Downing, & Ramsey, 2016) suggests that person perception and person knowledge are linked systems that inform one another. When one person looks at another, he or she forms an impression (person knowledge) based on that person's physical appearance (person perception) that goes well beyond the observed physical

characteristics. In a similar manner, an individual's own character traits (person knowledge) influence perception of one's own physical attributes (person perception).

As male and female participants began to share their stories in response to ideal and average bodies, it was evident that the personality traits attributed to the models in each body category were based on participants' own past relational experiences. Using these preexisting schemas, participants quickly speculated about the future possibilities of romantic relationships with the individuals depicted in the stimulus photos. A "happy medium" filter appeared to provide yet another layer to the perceptual processing of male and female physiques. In other words, the notion of not too much and not too little was important in the sorting process. Both women and men believed that the "happy medium" was reflective of individuals who were mentally, emotionally, and physically fit as well as balanced in all aspects of their lives.

Research Question Two

The purpose of Research Question Two was to explore the basic emotions (i.e., *anger*, *sadness*, *disgust*, *happiness*, and *fear*) that were elicited during the course of sorting the body stimulus photos used in the study. The reasons behind their emotions were also probed. As a group, the men and women who participated in this study expressed a fair degree of anger about sociocultural pressures that are placed on women to look like media ideals. Women felt angry with not only the culture as a whole, but also with other women's and men's promotion, endorsement, and attraction to these media ideals. Interestingly, even though male and female participants agreed that the ideal female physiques that they see in the media are unrealistic, they did not feel the same

way about ideal male bodies. For the most part, both genders believed that the ideal male body is achievable despite their awareness of the extraordinary amount of time and effort that would take.

As a group, women reported elevated levels of sadness associated with ideal female bodies, unrealistic societal expectations, inability to attain impossible standards of perfection, and personal knowledge of women who struggle with body image issues. The women in the study also felt sadness toward men in the ideal male category because of the high standards and expectations that men have to deal with. Ironically, female participants also expressed a small portion of irritation with men in the average body category based on the fact that with a little more effort these men could move toward the ideal. In contrast, men reported no corresponding irritation regarding the average female body; the view expressed was that the average female body is just as healthy and attractive as the ideal one. As with women, male participants also believed that the ideal male body is achievable and all they (and average men) had to do was to try harder.

Female participants reported feeling disgust about societal pressures and expectations to look like the thin ideals they often see in the media. They were also angry that an average female body is denigrated as *merely* average. Despite their belief that men could attain the ideal male body if only they tried a little harder, women expressed paradoxical feelings of disgust over what they viewed as unrealistic cultural expectations for men's bodies and the notion that men might be seen as *not good enough* if they fit into average body categories. Male participants, in contrast, reported joy and attraction in response to both average and ideal female bodies. Men also responded with satisfaction

rather than disgust to average and ideal male bodies. Spending a lot of time in the gym was associated in men's minds with health and mental fortitude. The overall takeaway for men was that healthy is good but healthier is even better.

As a whole, women reported higher levels of happiness with their own (and similar) bodies and average female bodies and lower levels of happiness toward ideal female physiques. In contrast, women noted feeling more happiness toward ideal male bodies than average male bodies. Similar to women, and somewhat unexpectedly, men reported higher levels of happiness toward average female bodies than ideal female bodies. Probing the reasons for this revealed that the men were less happy with ideal female bodies because they assumed that women with ideal bodies were probably self-absorbed and inaccessible. Men's reactions toward ideal and average male bodies were varied. Some expressed more happiness toward the ideal, and some expressed more happiness toward the average, depending on how they saw their actual bodies in relation to these categories.

Most women reported feeling fearful of how ideal male and female images as portrayed by the media might impact young boys and girls as well as grown men and women. The consensus was that girls and boys are particularly vulnerable to internalizing those ideals as they shift out of childhood, into adolescence, and then young adulthood. Most women also expressed fear as they contemplated average male bodies. Probing revealed that this fear had its origins in the assumption that these men might easily become complacent, stagnant, comfortable, and simply let themselves go physically. The same emotion of fear toward average male bodies was expressed among male

participants, who inferred that men in the average body category were eating in unhealthy ways and were at risk for physical health issues due to weight gain. Men however did not express as much fear as did women in response to ideal male because they considered the male ideal to be achievable, given enough effort.

Research Question Three

The purpose of Research Question Three was to explore the degree to which male and female participants were aware of their thoughts, attitudes, and beliefs in regard to ideal and average male and female bodies as well as their own bodies. As expected, both men and women were largely unaware of the thoughts that guided them as they sorted body stimuli. It was only by being forced to express those thoughts verbally using the talk aloud method and follow-up probes that this awareness emerged during the interviews. Unlike the other basic emotions described earlier, surprise often created a cognitive pause that elicited a more reflective and deeper processing of female participants' thinking. Surprise often emerged when previously implicit cognitive content became explicit. For example, women were not surprised to express their conviction that other men and women accept the media's female and male ideal bodies as achievable. On the other hand, a strong reaction of surprise was associated with women's full recognition of the depth of the media's influence on their perception of body ideals as well as average male and female bodies. In contrast to women, men were completely unaffected by surprise. It was not an emotion that arose. Male participants were not surprised about their choices for average or ideal male or female bodies. Men also immediately assumed that other men would prefer to look like the ideal male and that women would find them attractive.

While women used surprise to shift into an observer perspective that resulted in greater self-insight, men lacked the experience of surprise and consequently failed to take the observer perspective. Unlike women, men were much less aware of the role media plays in their own lives, or at least they did not voice anything that would indicate that awareness.

Participants of both genders were completely unaware of two implicit core beliefs that emerged only after a thorough analysis of their statements. One of the beliefs appeared to relate to a sense of basic personal safety and was organized into an "I am safe" statement. Another implicit belief served to define ideal bodies and was an internalization of media messages. The "This is my ideal" belief was clearly skewed by the media for both men and women; however, awareness of this internalization was only present among female participants. Men, for the most part, remained unaware of not only how much the media impacted their perceptions but also their acceptance of these media defined ideals.

Research Question Four

The purpose of Research Question Four was to explore the degree to which male and female participants were aware of their underlying emotions in regard to ideal and average male and female bodies as well as their own bodies. Just as female and male participants were largely unaware of the cognitions that guided them in sorting body stimulus photos, they were also mostly unaware of the core needs and emotions that were involved during that process. Two basic core needs emerged during the interview: relational safety and physical safety. The data analysis suggested that body image goes

beyond one's own experience and is shaped as well by one's interpersonal experiences in relating self to others. These experiences, though, typically work intrinsically to influence body perception. Women expressed varying levels of the need for relational safety in association with ideal and average bodies. Female participants felt a greater sense of relational safety in association with female stimulus photos that represented themselves (typically average) and male stimulus photos that depicted smaller, less heavily muscled men (typically ideal).

Although men were not overtly concerned with relational safety, the relational safety undertone was still there. Men, as a group, reported imagining themselves feeling more comfortable with women whose body types placed them on the continuum from average to ideal in about the same location as the men. These findings are consistent with the association between one's own body satisfaction and relationship satisfaction with an actual (or, in this case, potential) partner (Lee, 2017; Ramsey, Marotta, & Hoyt, 2017). It makes sense that when a person is comfortable with her own body, she will be inclined to assume that her partner is similarly satisfied with her body, and vice versa. Insecurity with one's own body, in contrast, gets in the way of relational safety (Lee, 2017; Ramsey et al., 2017).

Although both men and women who participated in the study stated that they were satisfied with their own bodies, their underlying emotions suggested otherwise. A content analysis revealed that underneath their statements, participants experienced intimidation, competition, jealousy, envy, hopelessness, frustration, bitterness, guilt, false hope, shock, hate, and pressure to look their best. Although positive emotions like joy,

admiration, empathy, and excitement were noted as well, these emotions were relatively rare. Women verbalized a substantially larger number of emotions than did men. Both men and women appeared to experience conflicting simultaneous emotions in response to the ideal male and female bodies (e.g., admiration and envy). Six implicit emotions (three positive and three negative) seemed to be directly associated with the "I am safe" belief described earlier. Whenever men and women perceived themselves as relationally or physically safe, they reported feeling confidence, comfort, and contentment. In contrast, when they felt relationally or physically unsafe, emotions of doubt, discomfort, and discontent emerged.

Research Question Five

The goal of Research Question Five was to investigate what factors influence participant's cognitive responses to male and female bodies. The experienced distance between participants' actual and ideal bodies (the cognitive gap), appeared to be one factor that influenced their judgments of similarities and differences among ideal, average, and their own physiques. As a group, women reported that the gap between their ideal and average female bodies was larger than the gap between their ideal and average male bodies. This finding suggests two things. On the one hand, women believed that average men could achieve ideal male bodies and thus perceived ideal male bodies as realistic and attainable. On the other hand, it is possible that women saw male bodies from a more realistic perspective in the sense that their average male bodies were *not* that far away from their ideals. The cognitive distance was smaller among men whether they looked at male or female bodies. Similar to women, men saw themselves closer to the

ideal male body than not. It has been noted earlier that the men in the study were of the opinion that the ideal male body could be achieved given enough effort. In contrast to women, however, men saw the gap between ideal and average female bodies as only slight, suggesting that male participants perceived average female bodies as *not* that different from their ideal female physiques.

The second factor, cognitive dissonance, was seen mostly among female participants. Their cognitive dissonance appeared to be two-fold. All women indicated a strong belief that it was unfair to expect either men or women to live up to impossible standards. At the same time, women found ideal male bodies to be more attractive and preferable to average bodies. In regards to their own bodies, however, women were displeased with the idea that their own bodies would never look like the ideal female bodies regardless of the amount of time or effort they put in. The third factor, attributive projection, was seen mostly among male participants. In response to male body stimuli, men used their own bodies as a baseline or standard from which to evaluate other male body stimuli. Similarly, in response to female body stimuli, male participants used the physical characteristics of women with whom they were previously or currently involved as the basis for their judgments about female physiques. This finding suggests that men are just as relational as women, but their relational experiences shaped body perceptions more cognitively, while the emotional aspects of women's relational experiences were what influenced their body perceptions.

The fourth factor that affected body perception was labeled generalized assumptions, and appeared equally among men and women. One assumption was that

other women wanted to look like the ideal female bodies they see in the media and these were the body types that men found attractive. Female participants also assumed that men with ideal bodies felt more pressure to look their best and had less time available for other things in life. Women assumed that men with average bodies were more content and had more time available for work and family. Men's assumptions about male bodies differed depending on their own distance from their ideals. When male participants perceived their bodies to be closer to their ideals, they assumed that average men do not value fitness or health. However, if male participants perceived their physiques to be closer to the average, the assumption was that men in the ideal category valued their looks over work and family. All men expressed the judgment that ideal and average female bodies were more similar than they were different and assumed that both body types represented health and balance.

Research Question Six

The purpose of Research Question Six was to explore factors that influenced participants' emotional reactions to male and female body stimuli. The most influential of these factors was the media, which impacted participants' perceptions of and emotional reactions to all body types—average, ideal, and their own bodies. This finding is consistent with current research which points to the strong sociocultural impact of the social media on youth (Ahadzadeh, Sharif, & Ong, 2017; Brown & Tiggeman, 2016; Clark, 2017; Karazsia, Murnen, & Tylka, 2017; Lewallen & Behm-Morawitz, 2016; Sampasa-Kanyinga, Chaput, & Hamilton, 2016). These studies further note a relationship between social media, social comparisons, and negative affect, all being linked to the

current obsession with fitness (i.e., #fitspiration) and body dissatisfaction among young adults (Tiggemann & Zaccardo, 2016).

As described in more detail in the previous chapter, female participants most frequently chose as ideal the kinds of female and male bodies that are typically depicted in the media as ideal. Women's choices of average male and female bodies showed some "spillover" influence from the media ideals in the sense that the body stimuli they designated as average were significantly slimmer and fitter than the true average male or female body types encountered in the American population as a whole. In contrast to women's choices for ideal female and more recent ideal body research (e.g., Brierly et al., 2016), men most frequently selected ideal female bodies that were fuller, curvier, and with less muscle definition. Men's selections of average female physiques were fairly similar to their designated female ideals (i.e., slimmer than the true average female physique in America). Both visual and verbal evidence indicated that male participants had high expectations for themselves and other men, both in regards to their ideals and perhaps more importantly, their averages, which appeared to be somewhat slimmer and fitter than the average American male (Juraschek, Miller, & Gelber, 2013).

Another factor that seemed to impact men's and women's emotional reactions was physical attraction. Men noted being equally attracted to either average or ideal female physiques. Women, on the other hand, reported feeling more attracted to ideal male bodies than average male bodies. Although the notion of the female "hourglass" figure was mentioned by both genders, the term seemed to be used differently by women and men. Among women, "hourglass figure" was used somewhat inaccurately as a

synonym for “ideal” rather than as a term describing a woman’s actual shape. Men used the term hourglass to describe female photo stimuli that showed the classic hourglass shape: bigger, curvier, with larger breasts and buttocks, and wider waists. Among women, the term hourglass figure was used to describe female bodies with full breasts, moderately sized buttocks, but with thin arms and legs, narrow waist, and well-defined muscles, especially abdominals.

Attraction also seemed to relate to three sociocultural values (health, fitness, balance) that were either verbalized or inferred. All three values were equally present among men and women. Each value was used as the basis to assess a potential partner’s mental, emotional, and physical level of well-being. Men and women’s reactions to different body types also varied based on how they saw themselves in relation to their same-gender average and ideal bodies. For the most part, when women compared themselves to either ideal female bodies or ideal male bodies, the social comparison was upward. Women’s responses to average female physiques typically encompassed an equal comparison, but their responses to average male bodies notably utilized a downward comparison. Similar to women, men felt less secure when viewing ideal male and female stimuli and thus saw the images through the lens of an upward social comparison. An equal comparison depended on how men perceived their own bodies. About half believed that they were closer to their ideals, and another half believed that their bodies were closer to the average.

The findings from this study are consistent with other research (Fardouly, Pinkus, & Vartanian, 2017; Fox & Vendemania, 2016) in that upward social comparison appears

to be more common among women than men. However, as was previously noted, similar to women, men did experience some negative affect in response to ideal male images. This finding is consistent with other studies (Cordes, Vocks, Dusing, & Waldorf, 2017; Pila, Jovanov, Welsh, & Sabiston, 2017; Robl & Mulgrew, 2016) suggesting that both men and women experience emotional investment when it comes to their bodies. Other researchers have also noted that boys and young men may view media's ideal male bodies as a source of inspiration and, consequently, a source of encouragement and hope (Matthews, Lynch, & Martins, 2016; Tatangelo & Ricciardelli, 2017). The opposite appears to be true for girls and young women (Fardouly et al., 2017; Tatangelo & Ricciardelli, 2017) for whom media seems to be a source of hindrance, discouragement, and doubt.

Study One and Study Two Combined

Study One results revealed that emotions were more salient as a basis for sorting female body stimuli than male body stimuli and that this was equally true for both men and women. Study Two showed that women appear to have more emotional investment in their own bodies as well as the bodies of other women. Men's emotional responses to female bodies reflected feelings of attraction and appreciation. Men also reported significantly fewer emotional responses to male bodies than they did to female physiques. As mentioned before, female participants seemed to have a better awareness of their emotions than did men and were better able to talk about their emotional reactions. For the most part, men did not verbalize any other emotions beyond the six basic emotions used in Study One and Study Two.

Although Study One suggested that participants might be demonstrating somewhat greater body acuity for the male body than the female body, it was also noted there that this finding could be a spurious result of the body stimuli used in the study. Study Two did not support the conclusion that there is better acuity for male bodies. Most participants in Study Two leaned toward greater body acuity for the female body as was evidenced by participants' verbal feedback regarding the variability among female body stimuli.

The two studies also show that women *and* men have bought into the idea that physical attributes convey specific meanings. In Study One, for example, participants experienced greater negative affect and less positive affect in response to opposite-gender ideals than same-gender ideals. This suggests that participants were evaluating the stimulus photo models as though they were potential relational competitors in some imaginary social scenario. Participants easily rated the stimulus photo models for traits like activity and health, traits which were not visible in the photos and could only have been inferred. In Study Two, the emergence of the values of fitness, health, and balance (the "happy medium") is another example of participants inferring that the models in the stimulus photos who met the "not too much, not too little" standard must live balanced, healthy lives with fitness activities as a major component.

Study One and Study Two agreed on men's preference for ideal female physiques that included curvier, thicker, and shapely hourglass body types. In both studies, women chose a thinner, leaner, and more defined female physique to represent their ideal female body. The two studies also showed that both men and women agree the ideal male body

encompasses someone with a V-shaped body, defined abdominals, and muscle-shaped arms and legs. These results suggest that men and women are equally impacted by media's representation of ideal bodies. Similarly, both male and female participants have clearly internalized such ideals as a basis in their perceptual views of body stimuli. The extremely muscled look of competitive male body builders as a whole was perceived as unattractive and unhealthy by both genders. The same perception applied to very thin and defined female bodies.

Study One found that both male and female participants reacted in a somewhat negative manner to same-gender ideals, though it was also shown that those who were physically fit appreciated these same-gender ideals as models towards which they aspired. Some similar findings emerged from Study Two. Women's overall emotional responses to ideal female bodies conveyed feelings of insecurity, jealousy, and dissatisfaction with their own bodies. In contrast, women felt more secure and satisfied with their bodies when viewing images of average female bodies. For men in Study Two, the negative emotional reactions toward male ideals were contingent on where they judged their actual bodies to be located on the continuum. If men saw themselves closer to the ideal, their feelings conveyed security and pride in their own physique. This is precisely what was seen in Study One as well. If, however, they saw themselves closer to the average and, consequently further away from the ideal, their reactions indicated feelings of insecurity, jealousy, and less contentment with their bodies. Similar to Study One, men and women in Study Two expressed positive affect toward opposite-gender ideals.

In both studies, there was evidence that both male and female participants responded to physical characteristics through the lens of assessing a potential interpersonal relationship. Physical attributes were evaluated directly but also cued participants to go beyond the physical data to draw inferences about the personality and behavioral characteristics of the models depicted by the stimulus photos. "How would I experience an interaction with this person, physically, cognitively, and emotionally?" This finding might suggest another way of thinking about the media's impact on unrealistic expectations that young adults might face when it comes to their interactions with other women and men as well as relational insecurities (Meltzer & McNulty, 2013; Overstreet, Quinn, & Marsh, 2015; Zurbriggen, Ramsey, & Jaworski, 2011) they might experience as a result. The media teaches not only unrealistic expectations about bodies, but also relationships, in that body image is tied directly to how safe or unsafe, secure or insecure, a person may feel in his or her interpersonal and/or intimate realm.

Study One revealed no significant differences between men and women in terms of body dissatisfaction and found that men and women, on average, were both quite satisfied with their bodies. Study Two offered a more complex view on the matter. Most participants in Study Two reported feeling quite satisfied with their bodies, which mirrored the results from Study One. However, the emotional data from Study Two participants told a different story. Women in that study felt better and more satisfied with their bodies when viewing and talking about average female bodies. These emotions shifted negatively, however, when women worked with ideal female bodies. Emotional

reactions to their own bodies differed for men depending on how close they saw their actual bodies in comparison their ideal bodies.

Study One found that personal fitness variables, i.e., exercise intensity, dieting behavior, supplement use, and BMI, influenced several aspects of body perception. Most men and women in Study Two also verbalized fitness, health, and balance as important values that guided them as they sorted the body stimuli based on similarity. In terms of exercise intensity, both men and women felt better about themselves when they exercised more. Although supplement use did not come up in Study Two interviews, the more fit individuals felt physically, the better they felt mentally and emotionally. Interestingly, the word "dieting" has been replaced with "healthy eating." Healthy eating was important to both male and female participants in Study Two. However that term encompassed a wide variety of definitions and actions.

Previous Research

Research has shown that adolescent and young adult populations are at greatest risk for developing body image dissatisfaction and disordered eating behaviors (Fernandez & Pritchard, 2012; Sheldon, 2010). Both of the present studies were relevant to this concern by highlighting the fact that by the time men and women reach young adulthood, their internalizations of impossible standards for their physical bodies are well established and, for the most part, are outside of their awareness. Although past studies showed that men and women have a preference for a thinner female ideal (e.g., Koscinski, 2013; Swami et al., 2010; Willinge et al., 2006), the present research indicated otherwise. Most often, women selected a thin and well-defined body to represent the

ideal female physique, but men preferred a soft and curvy physique for their ideal female body. In regard to the ideal male body, most previous studies (Crossley et al., 2012; Frederick et al, 2007; McNeill & Firman, 2014) showed a preference for a lean, V-shaped, and muscular body for the ideal male physique. The present research confirmed this conclusion. Indeed, both men and women agreed on the well-defined and lean male physique, muscular, but not *too* muscular, as the ideal male body.

Not surprisingly, the U.S. cultural obsession with body fat and fitness was apparent in the data collected in this research, particularly in Study Two. Both men and women perceived more shaped and toned bodies as attractive and attributed a variety of positive attributes to those with these bodies: dedication, good health, success, and a well-balanced lifestyle. This confirms previous research (Crossley et al., 2012; Grogan, 2008; MacNeill & Best, 2015) and indicates that both genders value physical fitness above anything else as a sign of achievement (Grogan, 2008). Indeed, stimulus models whose bodies did not fit into the "happy medium" of fitness and health were perceived as weak, unmotivated, and lacking in control over their emotions. Similar to the conclusions from Bonafini and Possilli (2011), fat was associated in this study with either existing illness or a predisposition to develop health issues later in life. However, slenderness (Grogan, 2008) was perceived differently by men and women. Women associated slim female bodies with health, dedication, and motivation, even though they could not realistically look like the slim ideal female bodies they selected, even if they tried. Men did not find slim female bodies attractive and saw them as less healthy and less balanced in terms of overall well-being. Neither men nor women associated excessive slenderness

with the ideal male bodies. Both men and women seemed to be more concerned with tone, shape, muscularity, and size when viewing pictures of male body stimuli.

Gender-role socialization (Cash, 2011; Leaper & Friedman, 2007) was evident in both studies. Both men and women responded to body stimuli in a manner that reflects largely unrealistic notions about femininity and masculinity that are taught to boys and girls at a very young age. As a whole, women felt powerless to achieve the body types they labeled as ideal, and expressed seeing themselves as "not good enough" in comparison to those female body ideals. This negative self-evaluation was also reflected in their negative affective reactions to female ideals. At the same time, women also did not seem to recognize that *they chose their own ideals.* There was an alternative—to choose their own or other realistic bodies as the female ideal. It does not appear that the current movement toward body acceptance in the media (e.g., Andriakos, 2017; Gonzales, 2016; Hua, 2016; McCluskey, 2016; Waxman, 2015) has been enough to change women's perception of their own bodies in comparison to ideal female bodies, consequently lessening the gap between their ideal and actual bodies. As a group, men's reactions to the male ideal were internally inconsistent. On the one hand, their elevated negative emotions toward ideal male bodies confirmed their self-discontent. On the other hand, men verbalized seeing themselves as powerful, capable of making the "right" choices, and were confident that they could achieve their ideals if they chose to do so. For the most part, men seemed to be caught up in a culturally imposed and unattainable notion of what it means to be masculine (Dallesasse & Kluck, 2013; Sheldon, 2010; Tylka, 2011). Despite the powerful influence of those culturally imposed standards of

excellence, they were so strongly internalized that men seemed to believe that the standards were self-chosen.

The research literature indicates that body image attitudes directly interact with self-schemas, and vice versa (Cash, 2011; van den Berg & Thompson, 2007). That was seen in the present study as well. In a matter of seconds, participants were able to sort stimulus photos into categories, compare those categories, and, with some effort, explain their choices. It also quickly became apparent that both men and women were equally and highly invested in their physical appearance (Cash, 2005; Ip & Jarry, 2008); however, they differed in their appraisals of their own bodies. Although women reported feeling satisfied with their bodies and having positive appraisals of their actual physiques, their attitudes turned negative when they shifted their attention away from talking about average female bodies to talking about ideal female bodies. In other words, women saw themselves in a good light as long as they could compare themselves to women with similar bodies. However, as soon as they were asked to describe their reactions toward ideal female bodies, their attitudes became more negative not only toward ideal bodies, but also their own bodies. On the surface, men's attitudes remained positive toward their bodies even as they shifted attention from average to ideal male bodies. Further analysis of their emotions revealed, however, that underneath the verbal content, their emotional reactions were similar to those of the women in the study. Similar to women, as men shifted their focus from average male bodies to ideal male bodies, their attitudes also transformed from positive to negative.

According to Markus et al. (1987) self-salient attribute dimensions shape people's perceptions of others by influencing the kinds of information they select for processing and also by providing the dimensional structures by which they organize those perceptions. This principle was demonstrated repeatedly in Study One among participants in whom personal fitness was self-salient either because those participants were actively involved in fitness-seeking behaviors, or because of high BMI and accompanying body dissatisfaction. As one example, participants who dieted and exercised or used supplements to enhance their appearance were more likely to organize their body perceptions around attributes like *beauty*, *health, activity,* and so forth. Like any other self-salient attribute, one's body image can become a central and defining feature of self-concept for some individuals, leading them to seek out information pertaining to body image and to internalize it, including media definitions of the ideal male and female bodies (Markus et al., 1987).

This central aspect of self-schema theory was confirmed and expanded in Study Two. In addition, Study Two illustrated aspects of implicit personality theory that were originally proposed by Ashmore (1981). Combined, the two theories state that individuals' body perceptions are shaped by a complex, mostly unconscious, cognitive network that includes pre-existing schemas about self and others. Study Two expanded upon Study One by revealing just how important physical appearance is in allowing individuals to infer all sorts of attributes and meanings based on nothing more than black and white two-dimensional body stimulus photographs. Taken together the studies

revealed how schemas indeed can be utilized in a matter of seconds and influence body perceptions in a manner that takes place outside of awareness.

Objectification appeared to be equally present among young men and women, thus expanding previous research (e.g., Ahern et al., 2011; Vandenbosch & Eggermont, 2012; Graff et al., 2012) about female body objectification and confirming other studies (e.g., Martins et al., 2007; Martins et al., 2007; Schwartz et al., 2010) that suggest that men are just as objectified as women. One way that objectification can be understood is by exploring men's and women's levels of internalization of the physical beauty ideals to which they are exposed on a daily basis. Both studies showed that men and women held strongly internalized male and female body ideals and used these as the basis for evaluating their own bodies as well as those of others.

How can the different female ideals chosen by men and women be explained if both men and women are shaped by the same media in making these choices? Study Two data revealed that men and women do *not* pay attention to the same media sources and this is supported as well by marketing research (LaMontagne, 2016). *Sports Illustrated* was frequently mentioned by men as important media source. Women more frequently mentioned fitness magazines like *Shape* or *Health.* Based on the researcher's understanding of these publications, men's media are more likely to present images of curvy and shapely women, while women's media more frequently present women who are thinner and more athletic.

The current research also confirmed some notions (regarding to massive levels of exposure to media) from theories of evolutionary psychology, specifically, that physical

features associated with health and reproductive fitness are reflected in U.S. body ideals (Roberts, Miner, & Shackelford, 2010). The three most salient values that emerged in Study Two included health, fitness, and balance. All three values were equally present among both genders and were interrelated. Thus, if a model depicted in a stimulus photo was perceived as healthy, he or she was also perceived as fit and balanced. The opposite was true in regard to perception of someone as unhealthy. Although men's and women's male and female ideals are clearly slender (women's more than men's), the word "slender" did not surface. Instead, the descriptive terms that were most often used instead were "fit" or "fitness." Indeed it was fitness that was associated with happiness, success, social acceptability, will power, control, and attractiveness (Grogan, 2008; Swami & Furnham, 2007). Although it was historically true that a robust, even corpulent body was indicative of health, wealth, and balance, notably this is no longer the case. Both men and women in this study attributed characteristics such as laziness, lack of will power, inadequacy, and unattractiveness to body stimuli depicting corpulent models (Ricciardelli & Williams, 2012; Swami & Furnham, 2007).

Although previous research (Swami et al., 2010; Vartanian, 2012) has suggested that men believe that women prefer larger, heavily muscled male figures, this was not seen in either of the studies that formed this research. Both men and women agreed in their selections for ideal male bodies, and their most frequent choice for the ideal male physique was lean, and V-shaped with clearly defined abdominals and muscular, but not *too* muscular. Also, previous studies suggested that women show a preference for a thinner female ideal body than their current body (e.g., Ahern et al., 2011; MacNeill &

Best, 2015; Swami et al., 2010). Study Two revealed that even though women's ideal female bodies were inclusive of very thin physiques, women did not necessarily report having a preference for those bodies but rather believed that other men found them attractive. Women also believed that other women wanted to look like these very thin ideals and noted feeling insecure when presented with pictures of their ideal female bodies.

Current findings, particularly in Study Two, supported the conclusion that dissatisfaction with physical appearance among male and female college students is an issue and this confirms the findings of other researchers (Bucchianeri et al., 2013; Sheldon, 2010; Taniguchi & Aune, 2013). The fact that this dissatisfaction was somewhat beneath the surface (for example, it only appeared when participants in Study Two worked with same-gender ideals, not otherwise), may account for the fact that Study One found no strong evidence for body dissatisfaction. At times, participants in Study Two seemed to deny that concerns over body dissatisfaction applied to them but reported that they could see how media ideals could have an impact on either younger boys and girls, or older men and women, and cause those younger individuals to develop body image issues.

Confirming findings from Esnaola et al. (2010) and McNeill and Firman (2014), the present study revealed that young adult males are impacted by media messages regarding physical appearance. In fact, both media and peers were among the most influential factors that played a role in men's and women's perceptions of male and female bodies. Both genders remarked that their peers have similar views of ideal and

average bodies as well as similar values of health, fitness, and balance. These results match findings from previous research (Galioto et al., 2012; Jones, 2011; Thompson et al., 2012) that noted the importance of peer relationships and their impact on body change behaviors and young adults' views of their bodies.

Study One and Study Two both confirmed the significant role played by the media in young adults' lives as has been noted by others (Tylka, 2011; Vogel, 2015; Walker, 2015). Previous research (Bissell & Rask, 2010; Yu, 2014) suggested that intermittent exposure to plus-size or Dove models did not seem to have any substantial effect on altering perceptions of body ideals. In contrast to this, the present study, especially Study One, found that women showed considerable lack of consensus in their choices for ideal female body, and some fairly plump models were selected by substantial numbers of women as ideal. It is not known, of course, if this was due to exposure to plus size models in the media, and it is also true that the most frequently identified female stimulus photos were of thinner, athletic females. Men in this study were also impacted by the media. Study Two confirmed previous findings (Dallesasse & Kluck, 2013; Sheldon, 2010) that men have been convinced that what are truly unrealistic male bodies are realistic and achievable, given sufficient effort.

Strengths

Study One examined several basic body perception processes and parameters for the first time and did so with a large enough sample size to provide good statistical power and protection from Type II errors. For instance, as far as can be determined, no previous research has investigated which dimensional attributes are used in body perception or

evaluated the influence of observer gender and body stimulus gender on the salience of those dimensions. The current study filled that gap. The finding that male and female bodies are perceived differently has important implications because people bring their bodies with them in all interpersonal encounters. Study One also took a novel perspective on body ideals. Previous research has tended to focus on *the* ideal body, but this study took the perspective that ideal male and ideal female bodies are perceptual categories. This perspective gave rise to some new questions about body ideals that have not been previously addressed in the research literature.

How wide are the categories? What factors influence those category widths? Although flawed body stimuli created ambiguity in the answers to some of those questions, the findings were at least suggestive and the questions have been raised. Study One was not entirely about novelty, though. It also explored some recurring questions in the body perception literature. For instance, what do men and women think the ideal male and female bodies look like? The study showed men and women show some agreement on what defines the female ideal, and even more so, the male ideal. However, the present study was positioned to also notice what previous studies of body ideals have missed, i.e., where men and women *do* disagree on the ideal female body, those differences are fairly well-defined, with men preferring curvier figures and women preferring attributes that convey physical fitness. Additionally, the present study was able to show that there was a surprising lack of consensus, especially among women, in regards to the ideal female body. Over half of the female body stimuli used in the study, covering a broad range of body types, were selected as ideal by a substantial number of study participants.

Study One also both confirmed and challenged previously published results on the question of body dissatisfaction. In some ways, it was the researcher's professional concern with body dissatisfaction in the clinical setting that motivated this dissertation research. Young adults are especially vulnerable to internalizing media messages regarding unrealistic and even impossible ideal bodies. Compared to these ideals, perfectly healthy young women believe that they fall short, resulting in body dissatisfaction, lowered self-concepts, disordered eating, and extreme exercise regimens. The study also revealed that men are increasingly exposed to equally unrealistic ideals and experience some of the same resulting body dissatisfaction that women do. It was somewhat disturbing to discover in Study Two that participants of both genders believe that these unrealistic male ideals are realistic and achievable. Men believed this and women even expressed mild irritation at average male physiques, believing that men with average bodies are perhaps overly content and complacent and should be trying harder to achieve the male ideal. Findings from the present study of mostly college-aged participants confirmed that the vast majority of individuals experience some discrepancy between their actual bodies and their internalized ideal bodies. The study also confirmed that some individuals have very strong negative affective reactions to their bodies. However, the study also found that many individuals experienced strongly positive emotions about their bodies and that the average study participant, both among women and men, was emotionally well centered in regards to his or her body, though these emotions fluctuated as the context changed.

One of the biggest strengths of thematic analysis, as used in Study Two, is its flexibility and adaptability to many qualitative research designs (Braun & Clarke, 2006, 2012). Thematic analysis also tends to focus on individuals' experiences, including their perceptions, thoughts, emotions, and attitudes. This flexibility allowed for an in-depth exploration of men and women's internal experiences and their understanding of those experiences from an observer perspective. At the same time, thematic analysis provides specific guidelines, which helped create a blueprint for the steps of coding, interpretation, and write up. The analysis also allows a natural transition from research to application, since it develops themes. Themes also typically incorporate multiple factors, including internal and external experiences within a given context. The goal of thematic analysis is not only to understand a person's experience but also to view the world through his or her eyes. Thematic analysis tends to be relational at its core because it looks at relationships between themes and at what those themes mean to the individuals. Thus, from a clinical perspective, thematic analysis presents information in a way that can be incorporated into a therapeutic relationship. Thematic analysis can enhance awareness of factors that work implicitly. Study Two made this point quite clearly. Both men and women judged others and drew complex conclusions about them within a matter of seconds. At the same time, most participants were completely unaware of the underlying beliefs and emotional responses that produced these assessments.

Another strength of Study Two is the fact that in some ways it paralleled and helped expand Study One. Study Two further challenged findings from previous studies that focused on people's perceptions of ideal bodies. The most novel notion to emerge

from Study Two was that body ideals are not one-dimensional but rather include multiple ideals: the media ideals that have been internalized, the ideals that people think others hold, and their own ideals. How much of a person's perception of ideals reflects the media view, their own preferences, or their views of others' preferences is hard to tell. The answer is probably, "It depends on the individual." It depends on their personal experiences, past relationships, the social context, upbringing, background, culture, age, race/ethnicity, sexual orientation, socioeconomic status, and on and on. Study Two demonstrated that quantitative and qualitative research designs can inform each other and that both have their strengths and limitations. Without Study Two, the fact that, at least among young adults, the perceptions of ideals tend to be multidimensional would not have been known. Study Two allowed seeing beyond the numbers to explore what is underneath such perception. Finally, Study Two also provided an in-depth understanding of participants' cognitions, emotions, and attitudes as these factors applied to people's perceptions of ideal, average, and their own bodies. This information will be further explored later in the chapter and its application will be discussed in relation to an integrative therapeutic approach that incorporates cognitive behavioral and emotion-focused therapies (Beck, 2011; Greenberg, 2011).

Limitations

A number of limitations can be identified in the design and execution of Study One. Many of these resulted from the decision to use existing archival data rather than collecting new data. Those archival data were collected over a period of several years during which the goals of data collection changed and some of the measures collected

also changed. Since data for different cells of the factorial design were collected at different times and under different circumstances, participants were not randomly assigned to cells and this resulted in some confounding of treatment conditions with participant characteristics. Since funding for the research shifted over time, some participants were paid to participate while others were not. This undoubtedly introduced variability in participant characteristics, since volunteer research participants are well established to differ from paid participants on a host of motivational, personality, and demographic variables (Rosenthal & Rosnow, 1975). Payment received by most participants could not be determined precisely from records in the archival data. However, based on when the data were gathered, it was possible to identify a group of 53 males who were paid $20 to work with male stimulus photos and a second group of 99 males who also worked with male stimulus photos but were not paid. Those who were paid sorted male photos into significantly more piles (M = 6.55, SD = 1.45) than those who were not paid (M = 5.90, SD = 1.41), t (150) = 2.68, p = .008. Those who were paid also showed significantly better intra-rater reliability (M = .84, SD = 0.15) than those who were not paid (M = .77, SD = 0.16), t (150) = 2.79, p = .006. To the degree that these variables can be taken as indicators of effort expended, it would appear that payment differences across participants contributed to variability in the data collected. In defense of the use of archival data, however, the time required to collect and manually process this amount of data would have been prohibitive within the context of dissertation research.

The motivation of many of the participants to provide thoughtful, quality data can be questioned. As was described in Chapter Three, an effort was made to control the quality of the data by evaluating intra-rater reliability, and it is estimated that the data from about one in every six or seven study participants were discarded when the intra-rater reliability assessment failed to meet the quality standard ($r \geq .50$). In addition to screening for intra-rater reliability, univariate and multivariate outliers were also subsequently screened which eliminated some additional bad data from respondents whose responses were not well reasoned or even random. However, it is almost certainly true that some intra-rater reliability assessments were spuriously high and that some random responding was not detected. Issues related to the motivation of study participants are ubiquitous, however, and all researchers must at some point accept the inevitability of error variance in their data.

Another limitation in Study One concerns body perception variables which were derived from multidimensional scaling (MDS) analyses of participants' body similarity judgments. Those MDS analyses were used to produce body stimulus maps for each participant that summarized their body similarity perceptions. The problem is that those stimulus maps captured only very imprecisely the body similarities and differences that participants actually experienced. The process of gathering similarity data began by having participants sort stimulus photos into between four and nine piles. Participants then rated the piles for similarity, treating the stimuli within each pile as though they were essentially identical. This approach was necessary in order to keep the work load on participants manageable, but the assumption of equal similarity of photos within a pile

flies in the face of the facts. Certainly, some stimulus photos within any given pile were more similar and others were less similar. Thus, the method used in gathering data on body similarities introduced error into the stimulus maps and errors in the stimulus maps introduced errors into measures of body perception derived from those maps. Think of participants' actual perceptions of body similarities and differences as a high-definition image. Now think of the body stimulus maps which summarized these perceptions as a charcoal rendering of that high-definition image. The stimulus maps, and measures of body perception derived from them, lacked sensitivity. By definition, a measure that lacks sensitivity is a measure that lacks variability, and a variable that does not vary freely cannot covary or correlate with other variables (Miller et al., 2013). What this all means in the context of Study One is that several key dependent variables that were based on participants' MDS body stimulus maps showed limited sensitivity and restricted variance. Many of the effects that were observed in this study were of relatively low strength and reached statistical significance by virtue of the large sample sizes that were available to support the analyses. Some of those weak effects can certainly be attributed in part to the insensitivity of the measures that were derived from participants' body stimulus maps. It would seem reasonable to conclude that effects involving these variables were probably stronger than was indicated by the data that were available.

The measure of body perception acuity used in this study (i.e., the number of stimulus piles created) was also constrained in its ability to vary by the limitation imposed on participants that they sort body stimuli into between four and nine piles. A pilot study found that some observers sorted into as few as two piles while other more

meticulous observers sorted into as many as 14 piles. Allowing participants free rein to determine how many stimulus piles to use would have created a situation in which those who used extremely few piles would produce maps with extremely little fidelity in capturing true perceptions of body similarity and dissimilarity because with few piles, each pile would contain many stimulus photos, and all of those stimulus photos would be falsely assumed to be equally similar to each other. On the other hand, those who used an extremely large number of piles would have been hopelessly burdened by the large number of pairs of piles that would then have to be judged for similarity. The compromise chosen was to set limits between four and nine piles, but that compromise also limited the sensitivity of the study's measure of body perception acuity.

In planning for the collection of data that were subsequently analyzed in Study One, a decision had to be made regarding which attribute dimensions should be evaluated for salience in organizing body perceptions. Three semantic differential dimensions (*evaluative, potency,* and *activity*) were chosen from a much longer list of possibilities offered by Osgood et al. (1957). These three dimensions were chosen because they have been shown to be useful in studies across a wide variety of stimuli (Osgood et al., 1957). However, dozens of other attribute dimensions with potential relevance to body perception were *not* included in the study (e.g., sexy, physically fit, successful, content, striving, balanced). Some of these unchosen attribute dimensions might have produced more interesting results than those that were actually obtained. In like manner, the study chose to examine six affective reactions (*anger, sadness, surprise, disgust, happiness, fear*) based on their universality (Ekman, 1994; Ekman et al., 1982), but that left out

emotions that might have more accurately captured participants' affective reactions to the bodies they worked with (e.g., jealous, irritated, embarrassed, amused, apathetic, frustrated).

The biggest limitation of Study Two was the fact that the researcher herself was present in the room to interview participants as they worked with the body stimuli. The option of watching participants through a one-way glass and communicating via intercom seemed artificial, unlikely to establish rapport, and destined to fail. At the same time, it would be safe to assume that the presence of the female researcher had an influence on participants' responses. In fact, all male participants noted that if the researcher was a male, they would have responded differently. They might have reported that Internet pornography, not *Sports Illustrated*, was the most important media influence on their body perceptions. They might have demonstrated a broader, but more vulgar, body vocabulary. On the other hand, there were some suggestions that the presence of female interviewer opened men up to discuss topics that they would have been less comfortable talking about with a male researcher, such as their own body image and their emotions. It is unknown whether women would respond differently to a male researcher, since the topic of gender did not come up during interviews with women. However, based on the finding that female participants' experiences of their own bodies varied as a function of which stimulus photos they were working with (i.e., average female bodies, ideal female bodies), it can be assumed that the researcher's physical presence also created a context that affected the women in the study. It would be informative to consider researcher gender as a factor in future studies of this sort.

Another limitation of Study Two is its size in comparison to Study One. Findings that aligned, as well as findings that differed, were discussed previously. However, caution needs to be exercised in reading too much into these comparisons, since the sample sizes and circumstances were so obviously different between the two studies. A mixed methodology was used in this research in hopes of capitalizing on the unique advantages of each method. Quantitative studies provide the reliability that comes with larger samples; qualitative studies provide the opportunity to delve more deeply into the phenomena under investigation. However, to a surprising extent, Study Two findings were simply unrelated to the findings of Study One. Study Two did not so often *inform* the findings of Study One as it added *new* information. Consequently, the two studies could be treated as more separate than related, despite those occasions where the studies overlapped.

A limitation of this, and any qualitative research, resulted from the fact that the researcher was an active part of the methodology. This created the opportunity for two possible biases: (a) the effects of the researcher on the case, and (b) the effects of the case on the researcher. These effects can lead the researcher into biased observations and inferences, thus confounding the natural characteristics of the environment with the artificial effects of the researcher-researchee relationship (Miles et al., 2014). Sensitive questions posed in Study Two undoubtedly elicited socially desirable responses from participants (Krumpal, 2013). Men might have felt less comfortable being completely honest due to researcher's gender, age, and physical appearance. Women, on the other hand, might have felt more comfortable and less inhibited in sharing of their thoughts.

The researcher's choice of clothing (i.e., casual jeans and a t-shirt) was intentional and carefully thought-through. The hope was to create a casual feeling despite the interviews taking place in a research laboratory setting. The researcher's gender was verbally acknowledged by male participants and noted as a source of both comfort and discomfort.

Both Study One and Study Two used naturalistic photos in an effort to provide participants with a large number of physically diverse, ecologically valid, and financially accessible body stimuli, but those naturalistic stimuli came with their own disadvantages. The biggest disadvantage was the lack of control that naturalistic photos provided on the actual, physical variability among stimuli. For example, although male stimuli were sorted into more categories than female stimuli, it was not clear if this represented better acuity for male bodies than female bodies or if the collection of male bodies was actually more physically diverse. As another example, a larger number of female photos were chosen as ideal than were male photos, but it was not clear if that was a result of a wider perceptual category for the ideal female than the ideal male or if the female photos simply contained a larger number of physically similar attractive exemplars.

Another limitation of study related to the stimuli used was the decision to use stimulus photos that all depicted light-skinned models of indeterminate race and ethnicity. The focus of this study was on the effects of *gender* on body perception, not race/ethnicity, whether that might be the gender of the observer, the gender of the stimulus photos, or the interaction of these two variables. As seen in Figure 1 in Chapter One, other studies of body perception have also used body stimuli that either hold race/ethnicity constant (Stewart et al, 2009; Swami et al., 2008) or use stimuli that lack

cues to racial/ethnic identity (Anderson et al., 1997; Segura-Garcia et al., 2012; Stunkard et al., 1983). Since the present study was not designed to include race/ethnicity as a variable that might influence body perception, the race/ethnicity of the stimulus photos was controlled by holding that variable constant. The race/ethnicity of observers was not restricted intentionally, but the demographic characteristics of the population from which subjects were drawn for this study meant that the vast majority of study participants were light skinned, like the stimulus photos they worked with. Caucasians comprised 67.0%, Asians 3.8%, Hispanic 8.9%, Native American 0.3%; totaling 80.0%. Of the remaining 20%, only 7.0% described themselves as African American, and 13% either did not respond or described themselves as "Other," typically a multi-racial/multi-ethnic combination. So while the stimulus photos did not support the investigation of effects of stimulus race/ethnicity on body perception, neither did the racial/ethnic composition of the sample.

The photo stimuli were also limited in age to depict models who appeared to range in age from about 20-40. This was again intentional and provided study participants with stimulus photos depicting individuals about their own age. However, the restricting the ages of both stimuli and participants means that the results obtained in the study may not extend to the perception of individuals of other ages. The background of the stimulus photos presented additional problems. The photos were cropped as much as possible but still contained various scenery such as sand, ocean, or objects which probably distorted perceptions of the body stimuli. Individuals in the pictures were sometimes in motion and other times stationary and were in differing stances, all of which might have

influenced participants' perceptions. Some were in the water and some were on land. Clothing styles differed somewhat as well from one stimulus photo to the next. In defense of the decision to use naturalistic body stimuli, it should be recalled (from Chapter Three) that the alternatives (e.g., computer-generated virtual bodies, figural outlines, standardized photographs) carry their own disadvantages.

A final limitation of both Study One and Study Two is the possibility that order effects may have influenced participants' responses (Gravetter & Forzano, 2016). No attempt was made in either study to randomize or counterbalance the sequence of activities and it is possible that responses to any given task were affected by the tasks that preceded them. For example, the order in which emotional ratings were collected did not differ from one participant to another. Thus, it may be that some of the earlier emotional ratings impacted emotional ratings given later in the sequence. Future studies can focus on counterbalancing or randomizing the order in which tasks are presented in order to lessen the potential impact of order effects on research outcomes.

Future Directions

Since the focus of the present studies was on gender (i.e., the gender of the participants and the gender of the stimulus photos), future research may want to focus on exploring body image in relation to other diversity factors, such as race/ethnicity, socioeconomic status, sexual orientation, and so on. The present research also focused specifically on college students and young adults. Future studies might examine adolescents or even children and their attitudes toward media as well as messages they receive from others, such as their parents and peers. Both Study One and Study Two

revealed that media ideals are strongly internalized by the time men and women reach young adulthood. A lot could be learned about the effects of the media and the internalization process from studies of individuals at other points in life.

Future studies may also want to examine if and how researcher (or therapist) gender affects participants' reports about body perception, body image, the accompanying emotions, and the underlying beliefs. During data collection for Study Two, men admitted that the interviews would have looked much different if the researcher was a man. It is likely that women would have also responded differently to a male researcher.

Future studies could investigate methods of helping clients to develop a better awareness of the influence of internalized media ideals on their notions of body ideals. This is especially true for men, who showed little awareness of the media influence in Study Two. Related to this, future studies need to investigate methods by which clients can be assisted in seeing that they do not have to accept those externally imposed ideals but can choose their own ideals, including the option of seeing themselves as their own ideals. Despite increased exposure to more realistic female bodies in the media, body dissatisfaction among women is still commonplace. Apparently, *seeing* more realistic bodies and *talking* about them does not change how women *feel* about their bodies. Thus, research needs to focus on how to combine cognitive insight and emotional processing.

Study Two showed that women had considerably more insight into their body perceptions than did men. However, insight alone does not create a change in one's experience if the affective component is neglected. The same is true when the sole focus

is on emotions; catharsis is not fully effective in bringing change because the reflective, cognitive component that is required to bring about that change is missing. This research attempted to create a bridge between cognition and emotion in relation to body image and body dissatisfaction. However, as with any study, only so many variables and layers can be explored. Future studies may focus on the idea of expanding cognitive and emotional processes as they apply to body image.

Clinical Implications

Since most of the emotions that women and men expressed in this study were negative, at least in Study Two (e.g., hate, disgust, envy, insecurity), future practice needs to shift attention to intentional expressions of positive emotions (e.g., gratitude, kindness, compassion, acceptance, hope, pride) during tasks involving the evaluation of diverse male and female bodies. This strengths-based approach could serve to highlight the fact that clinicians might be missing the mark by attending so much to the negative aspects of body image. Exploration of the impact of positive emotions on women's and men's attentive and evaluative processes could further current therapeutic practices by improving clients' awareness of the cognitive and emotional schemas that more often than not operate implicitly. The fact that study participants of both genders had strongly internalized media ideals with only limited awareness of this fact, especially among men, signals that psychoeducational body image interventions need to be geared toward adolescents or perhaps even children, since body image development takes place during these phases of life (Eisenberg et al., 2012; Fernandez & Pritchard, 2012; Hart, Damiano, & Paxton, 2016; Tatangelo & Ricciardelli, 2017).

However, providing psychoeducation is not enough. Cognition and emotion go hand in hand. Insight alone does not bring about behavioral change (Castonguay, Newman, Borkovec, Holtforth, & Maramba, 2005; Greenberg, 2011; Samoilov & Goldfried, 2000; Thoma & Greenberg, 2015). Catharsis and over-engagement in emotional processing also does not by itself create change in either thinking or behavior. In order to bring real change, a person must be able to think and reflect in order to understand what he or she feels. Results of the current research suggest that this combination of cognitive and affective therapies may be more readily achieved in women. Men in this study responded from a more cognitive and content-oriented perspective; women were able to not only think about their emotions but understand the reasoning behind them.

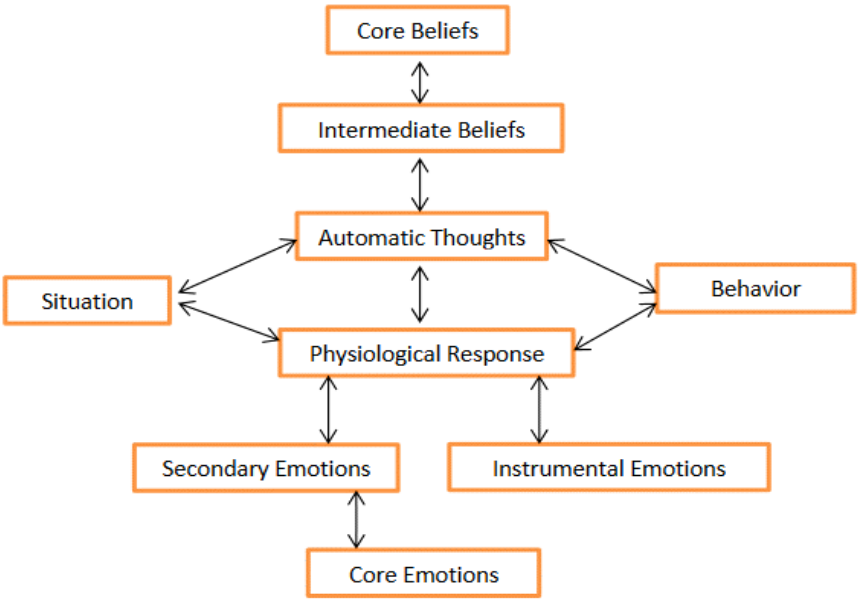

Figure 41. Cognitive-emotional-behavioral theory based on integration of Greenberg (2011) and Beck (2011) therapeutic theories of change.

Figure 41 illustrates a proposed integrative and assimilative theory (Messer, 1992) that can be utilized in practice as an approach to helping clients attend to both their cognitive and emotional processes in regard to their struggles with body image. In addition to psychoeducation about body image and its neurobiology, clients can be taught about the role of emotions and physical reactions that people have in response to their own bodies and the bodies of others. Frequent core beliefs that were identified in this dissertation research included themes of "I am not good enough," "I am not attractive," and "I am insecure." This was true for both men and women. Intermediate beliefs typically reflect the rules that people make in order to change negative emotions (e.g., anxiety, shame, envy, hate) that arise whenever negative core beliefs resurface (Beck, 2011). The most frequent intermediate belief among both men and women was, "If I want to be healthy, then…" This stem was in turn followed by numerous completions involving exercise, time and effort, food choices, and so on. Both the think aloud method (Ericsson & Simon, 1984, 1993) and card sorting can be utilized as a way to engage clients to start paying attention to their automatic thoughts and the content (themes) of those thoughts.

The proposed model is inherently relational, since both cognitive and emotional theories (Beck, 2011; Greenberg, 2011) focus a great deal of attention on interpersonal factors, and the therapeutic relationship is the core of the both approaches. Current research presents body image as a relational concept in the sense that how people view their bodies and those of others impacts relationships with others, and how they feel about themselves. According to Greenberg (2011), primary or core emotions are our true

emotions in response to some sort of event. In the present research that event was exposure to ideal and average male and female bodies. Secondary emotions, on the other hand, are reactions to reactions and tend to skew perceptions or awareness of what lies underneath (i.e., core emotions). Instrumental emotions (e.g., sadness, anger, fear) are emotions that people use in order to change behaviors of others (Greenberg, 2011). The three core emotions that emerged for both men and women in this study were comfort, contentment, and confidence. All three core emotions were directly related to the needs for relational and physical safety. The point that the current research makes is that getting to the core beliefs and emotions takes time. Thus, exploring people's thoughts and feelings about their bodies is a process requiring patience and careful examination of all the layers that may be impacting that person's experience.

In order to utilize both cognition and emotion when working with clients who struggle with body image, clinicians will need to begin the process by attending to automatic thoughts, physiological responses, secondary emotions, and behaviors in response to events. Of course, it is important to note that a reversed process can be utilized as well, where one may focus on behaviors and then attend to other surface aspects of the process. The current example is merely a suggestion, since many combinations of attending to thoughts, emotions, and actions are possible, depending on the client's presenting concerns, needs, individual difference characteristics, level of awareness, emotional regulation, therapeutic relationship, and many other factors.

Next, an understanding of thoughts and emotions can be achieved by intentionally directing clients' attention and reflection to their cognitive and emotional

processing. Explorations of diversity factors (e.g., gender, age, race/ethnicity, SES) can also shine light on factors that may lie outside of one's awareness but nonetheless impact a person's expression of thoughts and/or emotions. As clients become more comfortable with understanding their internal experiences, their focus can be shifted to understanding their intermediate beliefs and instrumental emotions as well as the purpose of those beliefs and emotions in helping them manage their core beliefs and emotions. Finally, core emotions and beliefs can be brought into awareness so that clients can understand, experience, and process what is at the root of their body image struggles. However, getting to this root takes time. Both cognitive and emotional therapies are brief (Beck, 2011; Greenberg, 2011) (i.e., 8-12 weeks) and thus severity of symptoms and clients' readiness for change must be considered and collaboratively explored.

Conclusion

This study sought to investigate both the basic processes that are involved in human body perception (e.g. body perception acuity, widths of the perceptual categories for male and female ideals) and some of the more clinically relevant aspects of human body perception (e.g., affective reactions to own body and same- and opposite-gender ideals, implicit attributive projections based on body type). Data were collected using a mixed-method research design. The quantitative component focused mostly on the basic mechanisms of body perception. The qualitative component dealt with more clinically salient aspects of body perception—the deeper, often implicit, cognitive and affective processes that are involved. The integrating thread of the research was gender, specifically, the search for the influence of observer gender and body stimulus gender on

body perception. Unlike many previous studies of body perception, which dealt just with body ideals or perceptions of one's own body, the stimulus materials used in this study included the full gamut of male and female body types and physiques, and study participants also provided data about how they perceived and experienced their own bodies, ideal bodies, and average bodies.

Two findings from Study One stood out as especially interesting because of the implications they carried. First, it was demonstrated that different perceptual dimensions were salient as observers worked with male and female body stimuli. Female body perception is filtered by evaluative considerations (good-bad, beautiful-ugly, healthy-sick) and affective reactions (anger, sadness, surprise, disgust, happiness, and fear), while male bodies were judged primarily on potency (large-small, strong-weak, masculine-feminine), with affect playing a much less important role. This was true for both male and female participants in the study. What does it mean for the goal of treating each other as equals when we see men and women through different lenses? Study One also revealed differences between men's and women's perceptions of the ideal female body that were different because they do not correspond to findings from some other studies. Men in this study preferred women who are curvy, with larger breasts and less muscle definition and the ideal female body was fairly narrowly defined. Women, in contrast, preferred indicators of health and fitness, including thinner figures with smaller breasts and more muscle definition, but women expressed less consensus than men in regards to the ideal female and were willing to accept more diverse female forms as ideal. Previous research has mostly suggested that men and women agree about what constitutes the ideal

female body, although there has been disagreement from one study to the next regarding how this ideal should be defined.

On the qualitative side, one of the interesting findings was how important the media are to influencing both men's and women's notions of the physical ideal. Both men and women are impacted by media pressure, more so than any other factor, to look perfect, and the extent of this influence came as a surprise to several participants. The internalized images that come from media exposure shape how young adults perceive themselves and others around them in ways that operate automatically and outside their awareness. Study participants projected an assortment of personality and behavioral characteristics to people based solely on black and white photographs. A second interesting finding was the frequency with which photos identified by participants as ideal female and male physiques tapped into something primal, implicit, and fundamental—the assessment of the acceptability of a potential mate based on the desire to feel safe. This was seen in both male and female participants. Also interesting, and unexpected, was the discovery of the "happy medium" criterion for choosing potential mates. Ideal males and ideal females really were not ideal; they were too good. Both male and female participants reported only half-hearted attraction to the body stimuli that they themselves had labeled "ideal." Ideals were assumed to be self-absorbed, too easily lost to competitors, and made the study participants feel "less than" in comparison. Rather, study participants were searching for the "happy medium;" not too much and not too little.

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APPENDIX A

QUANTITATIVE STUDY (MSU) MATERIALS

FOR ARCHIVAL STUDY ONE

Human Subjects In Research Committee

Institutional Review Board in Compliance with 45 CFR 46

MSU Policy 2.37

MEMORANDUM

TO: George Diekhoff

RE: A Multidimensional Scaling Analysis of Male Body Perception among Males with Muscle Dysmorphia: The Adonis Complex.

DATE: March 10, 2011

Your proposal for research utilizing human subjects has been reviewed and approved by the above named committee.

The number assigned this project is 11031001

Please include this file number in any presentation or publication arising from this research. You may be required to place a copy of this letter within the thesis or other class, department, or college documentation. This approval is valid for one calendar year following granting of approval status. Your may request an extension by submitting a letter requesting such to the HSRC committee chair.

Respectfully,

Robert Rodriguez

Chair, Human Subjects in Research Committee (IRB)

Human Subjects
In Research
Committee

Institutional Review Board in
Compliance with 45 CFR 46

MSU Policy 2.37

MEMORANDUM

TO: George Diekhoff

RE: IRB Claim for Exemption – A multidimensional scaling analysis of female body perceptions

DATE: September 13, 2013

Your proposal for research utilizing human subjects has been reviewed and determined to be exempt from further IRB monitoring of your research.

The number assigned this project is 13090601.

Please include this file number in any presentation or publication arising from this research. You may be required to place a copy of this letter within the thesis or other class, department, or college documentation.

Respectfully,

Laura C Spiller

Laura C. Spiller, Ph. D.
Chair, Human Subjects in Research Committee (IRB)

Human Subjects
In Research
Committee

Institutional Review Board in
Compliance with 45 CFR 46

MSU Policy 2.37

MEMORANDUM

TO: George Diekhoff

RE: A factorial investigation of human body perception

DATE: February 2, 2015

Your proposal for exempt research utilizing human subjects has been reviewed and approved by the above named committee.

The number assigned this project is 15012701.

Please include this file number in any presentation or publication arising from this research. This approval is valid for one calendar year following granting of approval status. Your may request an extension by submitting a letter requesting such to the HSRC committee chair.

Respectfully,

Suzanne F. Lindt, Ph.D.
Chair, Human Subjects in Research Committee (IRB)

Human Subjects In Research Committee

Institutional Review Board in Compliance with 45 CFR 46

MSU Policy 2.37

MEMORANDUM

TO: Deana Diekhoff, Claudia Porras

RE: A Mixed-Method, Factorial Examination of Men's and Women's Perceptual and Affective Responses to Ideal, Actual, and Average Male and Female Bodies, STUDY 2 - INTERVIEWS

DATE: January 12, 2016

Your proposal for research utilizing human subjects has been reviewed and approved by the above named committee.

The number assigned this project is 16011102.

Please include this file number in any presentation or publication arising from this research. You may be required to place a copy of this letter within the thesis or other class, department, or college documentation. This approval is valid for one calendar year following granting of approval status. Your may request an extension by submitting a letter requesting such to the HSRC committee chair.

Respectfully,

Suzanne F. Lindt, Ph.D.
Chair, Human Subjects in Research Committee (IRB)

Institutional Review Board
Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378
email: IRB@twu.edu
http://www.twu.edu/irb.html

DATE: January 15, 2016

TO: Ms. Deana Danilova
Psychology & Philosophy

FROM: Institutional Review Board (IRB) - Denton

Re: Exemption for A Mixed-Method, Factorial Examination of Men's and Women's Perceptual and Affective Responses to Ideal, Actual, and Average Male and Female Bodies (Protocol #: 18837)

The above referenced study has been reviewed by the TWU IRB (operating under FWA00000178) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. Because a signed consent form is not required for exempt studies, the filing of signatures of participants with the TWU IRB is not necessary.

Although your protocol has been exempted from further IRB review and your protocol file has been closed, any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All forms are located on the IRB website. If you have any questions, please contact the TWU IRB.

cc. Dr. Shannon Rich Scott, Psychology & Philosophy
Dr. Claudia Porras, Psychology & Philosophy
Graduate School

Institutional Review Board
Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378
email: IRB@twu.edu
http://www.twu.edu/irb.html

DATE: March 1, 2016

TO: Ms. Deana Danilova
Psychology & Philosophy

FROM: Institutional Review Board (IRB) - Denton

Re: Approval for A Mixed-Method, Factorial Examination of Men's and Women's Perceptual and Affective Responses to Ideal, Actual, and Average Male and Female Bodies: Study 2 - Interviews (Protocol #: 18907)

The above referenced study has been reviewed and approved by the Denton IRB (operating under FWA00000178) on 2/5/2016 using an expedited review procedure. This approval is valid for one year and expires on 2/4/2017. The IRB will send an email notification 45 days prior to the expiration date with instructions to extend or close the study. It is your responsibility to request an extension for the study if it is not yet complete, to close the protocol file when the study is complete, and to make certain that the study is not conducted beyond the expiration date.

If applicable, agency approval letters must be submitted to the IRB upon receipt prior to any data collection at that agency. A request to close this study must be filed with the Institutional Review Board at the completion of the study. Because you do not utilize a signed consent form for your study, the filing of signatures of subjects with the IRB is not required.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All forms are located on the IRB website. If you have any questions, please contact the TWU IRB.

cc. Dr. Shannon Rich Scott, Psychology & Philosophy
Dr. Claudia Porras, Psychology & Philosophy
Graduate School

1. Midwestern State University Body Perceptions Study

If you participated in an MSU body perceptions study before, please DO NOT participate again, but instead, choose another research option.

1. Are you male or female? (We need to know in order to send you the right materials.)

- ◯ Male
- ◯ Female

2. WELCOME TO THE BODY PERCEPTIONS STUDY!

The Body Perceptions Study investigates differences from one of us to the next in how we perceive the human body.

George M. Diekhoff, Ph.D., Professor and Chair of Psychology, Midwestern State University, 3400 Taft Blvd., Wichita Falls, TX 76308 is the Principal Investigator of the study.

WHAT TO EXPECT
If you decide to participate in this study, you will need to tell us your POSTAL MAILING ADDRESS. We'll use that address to mail you additional instructions and a set of modest photographs of 25 men or women. NONE of these photos are sexually explicit.

You will study the photos and sort them into piles so that similar photos are grouped together. When you're done, you'll be instructed to come to another SurveyMonkey.com website where you'll be asked to continue working with the photo piles you've created.

You will also be asked to provide some information about yourself, like your age, weight, exercise habits, and so on. You will also be asked a series of questions about how you feel about your own physique.

IT IS IMPORTANT THAT YOU COMPLETE THE STUDY IN A SINGLE SITTING,AND IT WILL TAKE YOU ABOUT 30-40 MINUTES TO DO THAT.

CONFIDENTIALITY
You can be confident that YOUR INFORMATION WILL BE KEPT ABSOLUTELY CONFIDENTIAL and all of the materials you complete will be identified only by a code name that you will choose for yourself.

TO STUDENTS WHO ARE COMPLETING THE STUDY FOR COURSE CREDIT:
In order to receive course credit for completing the experiment, you will need to come to O'Donohoe 118 (Dr. Diekhoff's office) and turn in the COVER LETTER that will accompany the study materials you will receive, ALONG WITH YOUR NAME, THE NAME OF THE COURSE YOU'RE IN, AND YOUR INSTRUCTOR'S NAME. Dr. Diekhoff will confirm that you've completed the study satisfactorily and contact your course instructor.

TO BE ELIGIBLE TO WIN A $20 WALMART GIFT CERTIFICATE:
All study participants who apply to participate in the study on or after February 1, 2014 will be eligible to participate in a drawing for one of five $20 Walmart gift cards. Eligibility also requires that the participant complete the study in a manner that meets the data quality standards described below. Entry into the drawing for a $20 Walmart gift card also requires that you turn in the cover letter that accompanied the study materials, along with your name, and so on, as described in the section immediately above. We will notify winners by mail and those individuals will have two weeks from the time of notification to come to the Dept. of Psychology office (O'Donohoe 110) to pick up their gift card and sign a statement confirming that they have received the card.

DATA QUALITY CHECKS
All surveys are checked for the consistency or reliability with which ratings have been made. Participants with intra-rater reliability correlations of less than r=.50 or whose data show other indications of carelessness will not receive credit for the study. So please THINK and BE CAREFUL as you complete the study and DO NOT RUSH.

TO READ THE INFORMED CONSENT DOCUMENT AND GIVE US A POSTAL MAILING ADDRESS TO WHICH WE CAN MAIL YOUR STUDY MATERIALS, please click on the "Next" button at the bottom of the page.

3. INFORMED CONSENT STATEMENT

INFORMED CONSENT STATEMENT

I am between 18 and 50 years of age. I have not previously completed the body perceptions study. I agree to participate in this research project examining individual differences in the perception of the human body. I understand that I am only eligible to participate in this study one time. I understand that I will study a series of sexually NON-explicit photos of men or women and that I'll complete a series of tasks and questionnaires designed to tell the researchers a little about myself and help them better understand how I perceive the human body. The average time taken to complete this survey is about 30-40 minutes and I agree to complete the study in a single sitting.

The principal investigator for this research is Dr. George M. Diekhoff who can be contacted by telephone at (940)397-4340 or by email at bodyperceptions@mwsu.edu. I understand that my participation in this research is completely voluntarily and that I can choose not to participate at any time.

I understand that my responses to this survey will be held in strictest confidence. My real name and identity will not be attached to the other information I provide.

I understand that I will not receive credit for completing the study if I fail to follow instructions or if an evaluation of my data otherwise suggest that I didn't understand how to use the rating scales or that I was careless in completing the study.

I know that I can withdraw from the study at any time by simply leaving the website.

After completing the study, I understand that to get course credit for completing the study and to be entered into a drawing for one of five $20 Walmart gift cards, I will need to come to the Midwestern State University Dept. of Psychology, O'Donohoe Hall 118 (Dr. Diekhoff's office) where I will turn in the cover letter I receive with study materials ALONG WITH MY NAME, THE NAME OF THE COURSES FOR WHICH I'M REQUESTING CREDIT, AND THE NAME OF MY COURSE INSTRUCTOR. Dr. Diekhoff will notify my instructor that I've completed the study.

I understand that I'll be notified at the end of the semester if I've won one of the Walmart gift cards and I will have two weeks from that notification to come to the Psychology Department office in O'Donohoe 122 to get the card and sign a statement confirming receipt of the card.

Dr. Diekhoff will answer any questions I may have concerning the study and I may also contact the Midwestern State University Human Subjects Review Committee by writing to: Chair, Human Subjects Review Committee, c/o Office of the Provost, Midwestern State University, 3410 Taft Blvd., Wichita Falls, TX 76308, or by calling the Provost at (940) 397-4226.

The HSRC Number for this research is 13090601.

If you consent to participate, please enter a POSTAL MAILING ADDRESS below (NOT AN EMAIL ADDRESS!!) that will be used to mail you additional instructions and materials needed for the study. Then click on the "Done" button.

1. What POSTAL mailing address (NOT email, but US Mail) should we use to mail you instructions and materials needed for the study?

You should expect to receive a letter from us in 7-10 days. That letter will contain the pictures you'll need for the study along with complete instructions on what to do next.

BE SURE TO CHECK YOUR MAIL REGULARLY.

Don't hesitate to contact us by email if you have any questions at: bodyperceptions@mwsu.edu

WHEN YOU RECEIVE YOUR STUDY PACKET IN THE MAIL, BE SURE TO COMPLETE THE STUDY PROMPTLY. NO RESPONSES RECEIVED AFTER APRIL 28, 2014 WILL BE ACCEPTED.

Before we start....

It is possible to complete this survey quickly by randomly clicking numbers here and there and hurrying through to the end.

Most study participants don't do that, but instead, take time to think about the questions that are asked and answer those in a thoughtful manner.

To enable us to identify low-quality data, and to encourage participants to provide us with high-quality data, WE HAVE BUILT INTO THE SURVEY A MECHANISM FOR EVALUATING THE CARE AND CONSISTENCY WITH WHICH YOU RESPOND TO THE QUESTIONS. SURVEYS THAT DO NOT MEET THAT MINIMUM STANDARD OF QUALITY WILL NOT RECEIVE CREDIT FOR RESEARCH PARTICIPATION.

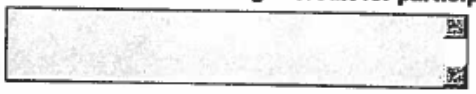
So, please DO THE HONORABLE THING. Make this a transaction between you and us that you can be proud of and that we value for the accuracy of the information you've provided.

1. Will you complete this survey with honesty and integrity?

- ☐ Sure. I'm ready to go.
- ☐ No. I'm really not interested in doing this.

We need to know your participant code number, please.

1. Please write in the box below the 8-digit UNIQUE PARTICIPANT CODE NUMBER that appears in bold print at the top of the letter you received from us. (Remember to keep that letter. You'll need it to get credit for participating in the study.)



As you move through the remainder of this survey you will be able to track your progress using the Percent Completion bar at the top of the screen.

Please complete each section of the survey in the sequence provided. YOU WILL NOT BE ABLE TO GO BACK in the survey, only forward.

Describe the Photo Piles

You have sorted the pictures, INCLUDING "IDEAL FEMALE" and "AVERAGE FEMALE" into piles based on their similarity. (Remember that a single image can be in a pile by itself if is sufficiently different from the others.)

Now we need to know which pictures you put into each pile. Please LIST BELOW THE IDENTIFYING NUMBERS OR LABELS OF THE PICTURES IN EACH PILE AND DON'T FORGET TO TELL US WHICH PILES THE "IDEAL FEMALE" and "AVERAGE FEMALE" ARE IN.

(Common Error #1: Don't tell us HOW MANY pictures are in each pile. We need to know WHICH pictures are in each pile.)

(Common Error #2: Don't forget to tell us into which piles you've place the "Ideal" and "Average" cards.

(Common Error #3: "Ideal" and "Average" can each only go into ONE PILE. For example, you can't include "Ideal Female" in more than one pile.

Finally, please remember to give us a BRIEF description of the women in each of the piles.

1. List below the pictures that you placed into Pile A and describe briefly in words why you put those pictures into the same pile.

2. List below the pictures that you placed into Pile B and describe briefly in words why you put those pictures into the same pile.

3. List below the pictures you placed into Pile C and describe briefly in words why you placed those pictures into the same pile.

4. List below the pictures that you placed into Pile D and describe briefly in words why you put those pictures into the same pile.

Inter-Pile Similarity Judgments

In the next several sections of the study, you will be making a variety of subjective judgments about the pictures you sorted into piles. Because of the subjective nature of these tasks, and because we need to be able to evaluate the care with which you are making the judgments, a small number of judgments you make here will be repeated later in the survey so that we can check the consistency of your answers. Therefore, do be careful in making your judgments, but don't get bogged down over-thinking them.

1. Although the photos within each of the piles you created are quite similar, it is also true that the photo piles vary in their similarity to each other. Some piles are more similar to each other; other piles are less similar to each other.

Your job here is to use a 1-8 scale to rate how similar the piles are to each other: 1 = very different to 8 = very similar. Try to use the full range of the scale--1 through 8, but only if those ratings reflect your actual perceptions of similarity.

The pairs of photo piles you are to rate for similarity are listed in the left-hand column: A-B, A-C, A-D, etc. Check ratings of 1-8 on the right to judge the similarity of the two piles.

TAKE IT SLOW HERE! THIS WILL TAKE YOU AWHILE IF YOU'RE THINKING ABOUT WHAT YOU'RE DOING. It gets a lot easier after this section. Don't worry!

	1 - Very Different	2	3	4	5	6	7	8 - Very Similar
A-B	◯	◯	◯	◯	◯	◯	◯	◯
A-C	◯	◯	◯	◯	◯	◯	◯	◯
A-D	◯	◯	◯	◯	◯	◯	◯	◯
B-C	◯	◯	◯	◯	◯	◯	◯	◯
B-D	◯	◯	◯	◯	◯	◯	◯	◯
C-D	◯	◯	◯	◯	◯	◯	◯	◯

Rate the Attributes of Each of the Photo Piles

Lay the photo piles in front of you.

Your next task is to study again each of the photo piles you created and rate each pile on each of the characteristics listed below.

Use a 1-5 scale in describing each photo pile.

Use a rating of 1 to indicate that the photo pile is best described by the term on the far LEFT SIDE of the pair (for example, "Good" on the "Good - Bad" rating scale, "Beautiful" on the "Beautiful - Ugly" rating scale, etc.)

Use a rating of 5 to indicate that the photo pile is best described by the term on the far RIGHT (for example, "Bad" on the "Good - Bad" rating scale, "Ugly" on the "Beautiful - "Ugly" rating scale, etc.)

A rating of 3 indicates that the photo pile is "neutral" in regard to the attribute being rated.

1. Describe Photo Pile A

	1	2	3	4	5
Good - Bad	○	○	○	○	○
Beautiful - Ugly	○	○	○	○	○
Healthy - Sick	○	○	○	○	○
Large - Small	○	○	○	○	○
Strong - Weak	○	○	○	○	○
Masculine - Feminine	○	○	○	○	○
Active - Passive	○	○	○	○	○
Fast - Slow	○	○	○	○	○
Hot - Cold	○	○	○	○	○

2. Describe Photo Pile B

	1	2	3	4	5
Good - Bad	○	○	○	○	○
Beautiful - Ugly	○	○	○	○	○
Healthy - Sick	○	○	○	○	○
Large - Small	○	○	○	○	○
Strong - Weak	○	○	○	○	○
Masculine - Feminine	○	○	○	○	○
Active - Passive	○	○	○	○	○
Fast - Slow	○	○	○	○	○
Hot - Cold	○	○	○	○	○

3. Describe Photo Pile C

	1	2	3	4	5
Good - Bad	○	○	○	○	○
Beautiful - Ugly	○	○	○	○	○
Healthy - Sick	○	○	○	○	○
Large - Small	○	○	○	○	○
Strong - Weak	○	○	○	○	○
Masculine - Feminine	○	○	○	○	○
Active - Passive	○	○	○	○	○
Fast - Slow	○	○	○	○	○
Hot - Cold	○	○	○	○	○

4. Describe Photo Pile D

	1	2	3	4	5
Good - Bad	○	○	○	○	○
Beautiful - Ugly	○	○	○	○	○
Healthy - Sick	○	○	○	○	○
Large - Small	○	○	○	○	○
Strong - Weak	○	○	○	○	○
Masculine - Feminine	○	○	○	○	○
Active - Passive	○	○	○	○	○
Fast - Slow	○	○	○	○	○
Hot - Cold	○	○	○	○	○

Rate Your Emotional Reaction to Each of the Photo Piles

Here you will rate each of the photo piles according to how strongly you react to it emotionally.

Use a 1-5 scale to rate the strength of YOUR EMOTIONAL REACTION to each photo pile.

Use a rating of 1 to indicate that you don't experience any reaction of that type to the photos in the pile.

Use a rating of 3 to indicate a moderate reaction.

And use a rating of 5 to indicate that the photos in the pile elicit a fairly strong emotional reaction of the type you are rating.

1. Pile A

	1-No Reaction	2	3-Moderate Reaction	4	5-Strong Reaction
Anger	○	○	○	○	○
Sadness	○	○	○	○	○
Surprise	○	○	○	○	○
Disgust	○	○	○	○	○
Happiness	○	○	○	○	○
Fear	○	○	○	○	○

2. Pile B

	1-No Reaction	2	3-Moderate Reaction	4	5-Strong Reaction
Anger	○	○	○	○	○
Sadness	○	○	○	○	○
Surprise	○	○	○	○	○
Disgust	○	○	○	○	○
Happiness	○	○	○	○	○
Fear	○	○	○	○	○

3. Pile C

	1-No Reaction	2	3-Moderate Reaction	4	5-Strong Reaction
Anger	○	○	○	○	○
Sadness	○	○	○	○	○
Surprise	○	○	○	○	○
Disgust	○	○	○	○	○
Happiness	○	○	○	○	○
Fear	○	○	○	○	○

4. Pile D

	1-No Reaction	2	3-Moderate Reaction	4	5-Strong Reaction
Anger	○	○	○	○	○
Sadness	○	○	○	○	○
Surprise	○	○	○	○	○
Disgust	○	○	○	○	○
Happiness	○	○	○	○	○
Fear	○	○	○	○	○

Demographic Questionnaire

Please tell us a little about yourself.

1. What is your age?

2. What is your ethnicity? (check all that apply)

- ☐ 1 - Caucasian
- ☐ 2 - Asian
- ☐ 3 - Hispanic
- ☐ 4 - African-American
- ☐ 5 - Native American
- ☐ 6 - Other

3. What is your current marital/relationship status? (select one best answer)

- ◯ 1 - single
- ◯ 2 - in a relationship
- ◯ 3 - married

4. What is your weight (in pounds)?

5. What is your height?

6. How many days per week do you exercise?
How many minutes per day?

7. How many days per week do you typically eat a special diet (i.e., eat low-fat, low-carb, high-protein foods; use diuretics or laxatives, etc.) with the purpose of enhancing your appearance?

8. How many days per week do you typically use supplements (e.g., creatine, protein shakes) to enhance your appearance?

9. What is your sex?

- ◯ Male
- ◯ Female

You're Almost Done!

You're almost done! Click on DONE below to be redirected to the final, brief task.

MIDWESTERN STATE UNIVERSITY
Department of Psychology
Prothro-Yeager College of Humanities and Social Sciences
3410 Taft Boulevard Wichita Falls, Texas 76308-2099
Office: 940-397-4340 Fax: 940-397-4682
E-mail: bodyperceptions@mwsu.edu

Dear Body Perceptions Research Participant:

Thank you for your interest in this study of individual differences in the perception of male bodies.

BE SURE TO KEEP THIS LETTER. You will need it to obtain credit for completing the experiment. It contains your UNIQUE PARTICIPANT CODE NUMBER: 98105071

It will take you 30-40 minutes to complete this experiment. It is important that you complete the study in a single sitting, so please WAIT TO BEGIN until you have the time available to complete the task. You will need:

- a pencil or pen and a piece of paper
- a table to work on
- a computer with Internet access

Step 1: When you are ready to begin the experiment please SPREAD OUT THE PHOTOS enclosed with this letter so that you can see them all at once. There are 28 images, including one labeled "Ideal Female" and another labeled "Average Female," and "Myself." Think of the "Ideal Female" icon as representing your idea of the perfect female body, think of "Average Female" as your idea of what the typical female in this age range actually looks like, and let "Myself" represent how you see your own body.

Step 2: Sort the photos, including the "Ideal Female," "Average Female," and "Myself" into piles according to their similarity. You should form AT LEAST 4 piles and NO MORE THAN 9 piles. Each pile should contain bodies that you consider to be fairly similar. If one or more of the bodies, including "Ideal Female, "Average Female," or "Myself" is so different and unique that it requires its own pile, that's okay. A single image can form its own "pile."

Step 3: Label the piles A, B, C, etc. using as many letters as you need. KEEP THE PILES IN FRONT OF YOU since you will be working with them in Step 4.

Step 4: The number of piles that you created will determine where you go now to complete the experiment. Please go to the SurveyMonkey.com web address below that is appropriate for the number of piles you created:

4 piles (A,B,C, D) go to: https://www.surveymonkey.com/s/4_Piles
5 piles (A,B,C,D, E) go to: https://www.surveymonkey.com/s/5_Piles
6 piles (A,B,C,D,E,F) go to: https://www.surveymonkey.com/s/6_Piles
7 piles (A,B,C,D,E,F,G) go to: https://www.surveymonkey.com/s/7_Piles
8 piles (A,B,C,D,E,F,G,H) go to: https://www.surveymonkey.com/s/8_Piles
9 piles (A,B,C,D,E,F,G,H,I) go to: https://www.surveymonkey.com/s/9-Piles

Again, *Thank You!* for participating in this research. We'll see you at SurveyMonkey for the next phase of the experiment. Please don't hesitate to contact us if you have any questions.

George M. Diekhoff, Ph.D. , Principal Investigator
Midwestern State University Body Perception Studies

Ratings Reliability Assessment

1. We need to be able to evaluate the consistency with which you are responding to the tasks in this experiment. To do that, please RE-rate the photo piles listed below on the attributes and emotions indicated. Use the same 1-5 scales that you used previously.

HERE'S A REMINDER OF HOW TO MAKE THE RATINGS:

For items that ask you to provide a rating on two-ended rating scales (like Large-Small, Active-Passive, Good-Bad, etc.) use ratings of 1 to indicate that the photo pile leans strongly toward the first of the two terms, a rating of 3 to indicate the photo pile is neutral on that scale, and a rating of 5 to indicate the photo pile leans strongly toward the second of the two terms.

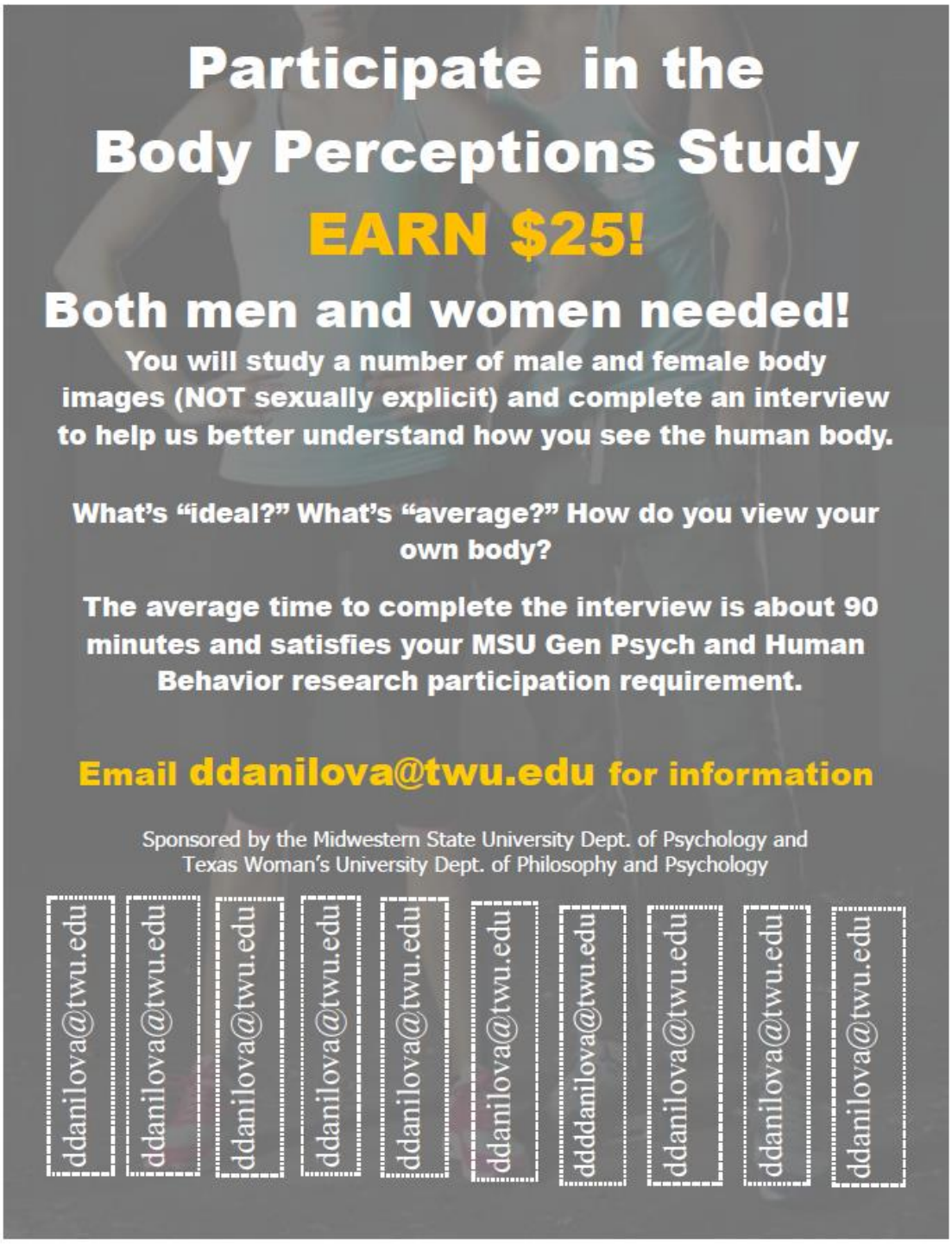
On rating scales that ask you to rate the degree to which the photos in a pile elicited an emotional reaction from you (like Happiness, Surprise, or Sadness) use a rating of 1 to indicate that you had no emotional response of that sort, 3 to indicate a moderate emotional response, and 5 to indicate a strong emotional response.

	1	2	3	4	5
1. Photo Pile A rating on Large-Small	○	○	○	○	○
2. Photo Pile A rating on Active-Passive	○	○	○	○	○
3. Photo Pile A rating on Happiness	○	○	○	○	○
4. Photo Pile B rating on Good-Bad	○	○	○	○	○
5. Photo Pile B rating on Hot-Cold	○	○	○	○	○
6. Photo Pile B rating on Surprise	○	○	○	○	○
7. Photo Pile C rating on Strong-Weak	○	○	○	○	○
8. Photo Pile C rating on Disgust	○	○	○	○	○
9. Photo Pile D rating on Healthy-Sick	○	○	○	○	○
10. Photo Pile D rating on Sadness	○	○	○	○	○

APPENDIX B

STUDY TWO (TWU)

RECRUITMENT FLYER


Participate in the
Body Perceptions Study
EARN $25!
Both men and women needed!
You will study a number of male and female body images (NOT sexually explicit) and complete an interview to help us better understand how you see the human body.
What's "ideal?" What's "average?" How do you view your own body?
The average time to complete the interview is about 90 minutes and satisfies your MSU Gen Psych and Human Behavior research participation requirement.
Email ddanilova@twu.edu for information
Sponsored by the Midwestern State University Dept. of Psychology and
Texas Woman's University Dept. of Philosophy and Psychology
ddanilova@twu.edu
ddanilova@twu.edu
ddanilova@twu.edu
ddanilova@twu.edu
ddanilova@twu.edu
ddanilova@twu.edu
ddddanilova@twu.edu
ddanilova@twu.edu
ddanilova@twu.edu
ddanilova@twu.edu

APPENDIX C

STUDY TWO (TWU)

POSTING FOR ONLINE RESEARCH

PARTICIPATION OPTIONS MENU

THE TWU BODY PERCEPTIONS INTERVIEW STUDY IS NOW BEING CONDUCTED ON THE MIDWESTERN STATE UNIVERSITY CAMPUS

THIS STUDY INVESTIGATES HOW WE PERCEIVE AND REACT EMOTIONALLY TO A WIDE VARIETY OF MALE AND FEMALE BODIES—IDEAL, AVERAGE, AND ONE'S OWN BODY.

EARN $25 AND SATISFY YOUR RESEARCH PARTICIPATION REQUIREMENT!

THE STUDY IS OPEN TO

- MEN AND WOMEN
- 18-55 YEARS OF AGE
- WITH ACCESS TO A COMPUTER

THIS IS A TWO-PART STUDY:

PART 1 ELIGIBILITY QUESTIONNAIRE: 10 MINUTES OF CREDIT. COMPLETE A BRIEF QUESTIONNAIRE ABOUT YOUR AGE, RACE/ETHNICITY, SEXUAL ORIENTATION,EXERCISE HABITS, AND OTHER CHARACTERISTICS THAT WILL DETERMINE IF YOU ARE ELIGIBLE FOR PART 2.

PART 2 BODY PERCEPTION INTERVIEW: 90 MINUTES OF CREDIT + $25. FIVE MEN AND FIVE WOMEN WHO HAVE COMPLETED PART 1 WILL BE SELECTED TO TAKE PART IN A 90-MINUTE INTERVIEW. YOU WILL SORT PHOTOS OF MALE AND FEMALE BODIES (INCLUDING CARDS REPRESENTING "IDEAL," "AVERAGE," AND "MYSELF") FOR SIMILARITY (NONE OF THESE ARE SEXUALLY EXPLICIT) AND RATE YOUR EMOTIONAL REACTIONS TO THOSE DIFFERENT BODY TYPES. YOU WILL BE ASKED TO TALK ALOUD THROUGHOUT THE PROCESS SO THAT THE RESEARCHER CAN UNDERSTAND WHAT YOU ARE THINKING AND FEELING.

DEPENDING ON YOUR RESPONSES TO THE PART 1 QUESTIONNAIRE, YOU MAY OR MAY NOT BE CHOSEN FOR AN INTERVIEW IN PART 2. THUS,***WE KINDLY REQUEST THAT YOU ONLY COMPLETE PART 1 IF YOU ARE WILLING TO BE CONSIDERED FOR AN INTERVIEW IN PART 2.***

CONTACT INFORMATION

MY NAME IS DEANA DANILOVA DIEKHOFF. I AM A DOCTORAL STUDENT IN THE TEXAS WOMAN'S UNIVERSITY COUNSELING PSYCHOLOGY PROGRAM AND THIS RESEARCH IS PART OF MY DOCTORAL DISSERTATON. THE RESEARCH HAS BEEN REVIEWED AND APPROVED BY BOTH THE TWU INSTITUTIONAL REVIEW BOARD (####) AND THE MSU INSTITUTIONAL REVIEW BOARD (####). YOU CAN CONTACT ME AT DDANILOVA@TWU.EDU

IF YOU ARE INTERESTED IN PARTICIPATING IN THIS STUDY, EITHER EMAIL ME OR GO DIRECTLY TO THE PART 1 QUESTIONNAIRE WEBSITE AND GET STARTED IMMEDIATELY

httpS://www.SurveyMonkey© .com/r/Body_Interview_Study

APPENDIX D

STUDY TWO (TWU)

INFORMED CONSENT

TEXAS WOMAN'S UNIVERSITY and MIDWESTERN STATE UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

Title: A Mixed-Method, Factorial Examination of Men's and Women's Perceptual and Affective Responses to Ideal, Actual, and Average Male and Female Bodies: Study Two—Verbal Protocol Analysis

Investigator: Deana D. Diekhoff, M.A.……ddanilova@twu.edu
Advisor: Claudia Porras, Ph.D……cporras@mail.twu.edu

Explanation and Purpose of the Study

This study is being conducted by Deana D. Diekhoff, a doctoral student in the Texas Woman's University Counseling Psychology Program as part of a doctoral dissertation directed by Claudia Porras, Ph.D. The purpose of this research is to better understand the perceptual and emotional processes that are involved in perceptions of the human body. You have been asked to participate because you are a student at Midwestern State University where previous research on this topic has been conducted. This study will also be conducted on the campus of Midwestern State University.

Description of Procedures

This study takes place in two parts. In PART 1, you will complete a 10-minute online questionnaire that asks you your gender, age, year in school, current relationship status, race/ethnicity, sexual orientation, weight, height, exercise and diet habits, and television, internet, and social media habits. You will not be asked to provide your name, but you will be asked for an email address at which you can be reached. If your responses to this Part 1 Questionnaire indicate that you are eligible for Part 2 of the study (described next), you will be contacted using the email address you give to arrange an appointment to interview on the MSU campus.

In PART 2, you will complete a 90 minute interview on the MSU campus. Five men and five women will be invited to complete this Part 2 Interview. During the interview you will be shown a collection of photos of men and women clothed in bathing suits and similar attire. These photos are typical of what you would see in popular magazines and on television and none of the photos are sexually explicit. You will be asked to sort the photos into piles based on similarity along with cards labeled "Ideal Female," "Average Female," "Ideal Male," "Average Male," and "Myself." You will next be asked to rate the strength of your emotional reactions (e.g., anger, disgust, happiness) to the photos. As you complete these tasks, you will be asked to talk aloud so that the researcher can gain insights into the thought processes that are involved in perceiving, judging, and responding emotionally to examples of the male and female bodies. Finally, after the interview has been transcribed, you will be sent a copy using your email address and asked to substantiate its accuracy.

_____
Initial here if you understand everything so far

Potential Risks

You will engage in tasks and be asked questions that explore your perceptions and emotional reactions to your own body as well as those of others. However, this study carries no risks to you that exceed those that you would be expected to encounter normally outside the research situation. You may stop answering questions at any time without any penalty if you become uncomfortable. If you feel you need to talk to a professional about your discomfort, the investigator will provide you with a list of resources.

Another risk in this study is loss of confidentiality. Confidentiality will be protected to the extent that is allowed by law, but there is a potential risk of loss of confidentiality in all email, downloading, and internet transactions. In the Part 1 Questionnaire, your questionnaire responses will not include your name and those questionnaires will be kept in a locked filing cabinet in a laboratory on the Midwestern State University campus, to be shredded within 5 years following completion of the study. In the Part 2 Interview, you will be asked for your first name only. An audio recording of the interview will be made and a verbatim written transcript of this recording will be prepared, but these records will contain your first name only and no other identifying information. Only the investigator, her advisor, and the person who transcribes the interview will hear the recording or read the written interview. The recordings and transcripts will be stored in a locked filing cabinet in a laboratory on the Midwestern State University campus to be destroyed within 5 years following completion of the study. The results of the study may be reported in scientific magazines or journals, but your name or any other identifying information will not be included.

The investigator will try to prevent any problems that could happen because of this research. You should let the investigator know at once if there is a problem and she will help you. However, neither Texas Woman's University nor Midwestern State University provides medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time without penalty. If you are enrolled in PSYC 1103—General Psychology or PSYC 2203—Human Behavior at Midwestern State University you will receive research participation credits toward the90 minutes that are required. If you are enrolled in a class whose instructor awards bonus points for research participation, you will be eligible to receive those bonus points as determined by your instructor. If you would like to know the results of this study, the investigator will provide those to you using the email address you provide in the Part 1 Questionnaire upon completion of the study.

Completion of the PART 1 Questionnaire will earn 10 minutes of research participation credit; completion of the PART 2 Interview will earn an additional 90 minutes of research participation

_____
Initial here if you understand everything so far

credit and a cash payment of $25. Remember, however, that not all students who complete the Part 1 Questionnaire will be selected to participate in the Part 2 Interview. If you are not selected to participate in the Part 2 Interview your only compensation for participation will be 10 minutes of research participation credit.

Question Regarding the Study

If you have any questions about this research study you should ask the investigator or her advisor. Their email addresses are provided at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-893-3378 or via email at IRB@twu.edu and/or the Chairperson of the Midwestern State University Institutional Review Board at 940-397-6334 or by email at suzanne.lindt@mwsu.edu.

HOW TO GIVE YOUR INFORMED CONSENT TO PARTICIPATE

PART 1 QUESTIONNAIRE: By checking the YES button below and completing the survey that follows, you are giving your informed consent to act as a participant in the PART 1 QUESTIONNAIRE to determine your eligibility to continue to Part 2.

PART 2 INTERVIEW: If you are selected to participate in the PART 2 INTERVIEW and if you agree to do so, you will be asked to add your dated signature below to a printed copy of this same informed consent agreement when you meet with the researcher for that interview. You will be given a copy of the signed and dated informed consent form to keep at that time.

_____	_____
Sign here when you meet with the researcher to give your informed consent to participate in this study.	Date here when you meet with the researcher for your interview

CHECK THE YES BUTTON BELOW TO GIVE YOUR INFORMED CONSENT TO PARTICIPATE IN THIS STUDY.

___ NO

___ YES

APPENDIX E

STUDY TWO (TWU)

DEMOGRAPHIC ELIGIBILITY SURVEY

Body Perceptions Interview Eligibility Questionnaire

Thank you for agreeing to complete this brief preliminary questionnaire. We will ask you several questions to determine your eligibility to participate in the Part 2 Interview. We will not ask your name. If you meet the eligibility requirements to participate in the 90-minute Part 2 Interview we will contact you using the email address you provide below.

Please provide an email address at which you can be contacted.

Please confirm your email address by typing it again.

How old are you?

What is your sex/gender?

How would you describe your parents' socioeconomic status? (Please choose one response that provides the best answer.)

◯ Poor ◯ Working Class ◯ Lower Middle Class ◯ Middle Class ◯ Upper Middle Class ◯ Upper Class

How would you describe your own socioeconomic status? (Please choose one response that provides the best answer.)

◯ Poor ◯ Working Class ◯ Lower Middle Class ◯ Middle Class ◯ Upper Middle Class ◯ Upper Class

What is your current relationship status?

◯ single

◯ in a relationship

◯ married/partnered

◯ Other (please specify)

Which of the following most closely captures your racial/ethnic identity?

- ◯ Caucasian/White
- ◯ Latina(o)
- ◯ African American
- ◯ Asian/Pacific Islander
- ◯ Native American
- ◯ Multi-Racial/Multi-Ethnic (please specify)

Which of the following most closely describes your sexual orientation?

- ◯ lesbian/gay
- ◯ bisexual
- ◯ heterosexual
- ◯ queer
- ◯ undecided/questioning
- ◯ Other (please specify)

What is your weight (in pounds)?

What is your height (in feet and inches)?

How many days per week do you exercise?

On days that you exercise, how long do you typically exercise (in minutes)?

How many days per week do you typically eat a special diet (e.g., low-fat, low-carb, high-protein foods)?

How many days per week do you typically use supplements (e.g., creatine, protein shakes) to enhance your appearance?

Body Perceptions Interview Study

Body Perceptions Interview Eligibility Questionnaire

Thanks for completing this questionnaire. If we determine that you are eligible to participate in the 90-minute interview we will contact you using the email address you provided. You can expect to hear from us within 3-4 weeks to set up an interview if you have been selected.

PLEASE WRITE DOWN THIS CONTACT EMAIL ADDRESS:
ddanilova@twu.edu

Use this email address to contact us with questions in the meantime.

INSTRUCTIONS TO RECEIVE 10 MINUTES OF RESEARCH PARTICIPATION CREDIT:

To get 10 minutes of research participation credit, you MUST send an email to george.diekhoff@mwsu.edu with the following information:

1. state that you completed the Body Interview Questionnaire

2. provide the same EMAIL ADDRESS that you gave in this questionnaire

3. give YOUR NAME

4. indicate which CLASS (General Psychology, Human Behavior, some other class) you want to have credit in

5. indicate the name of your INSTRUCTOR

APPENDIX F

STUDY TWO (TWU)

SEMI-STRUCTURED INTERVIEW

Introduction

Thank you so much for coming today, and I want you to know that I really appreciate your interest and willingness to participate in my study.

I am interested in what you think about as you study examples of the female and male bodies. I am going to ask you to think aloud as you work on the tasks I give you. In other words, I need you to tell me everything you are thinking from the time I start you on each task until you are finished. I need you to talk aloud constantly. It might be hard at first, since this is not something you are used to doing. However, with time, it will get easier. If you find at times that you cannot think and talk at the same time, then it will be okay for you to gather your thoughts and then tell me what you are thinking.

Do you have any questions?

Instructions

The first thing I need for you to do is to take this packet of pictures and spread them out in front of you so that you can see all of them. Now that you have the pictures spread out, I would like for you to sort them into between four and nine piles based on their similarity.

Once you are done sorting, I would like for you to label the piles with letters (e.g., Pile A, B, C, etc.), and then place the Ideal, Average, and Myself icons into a pile or piles of pictures that you think they belong to. The icons represent (1) how you see the ideal female/male body, (2) how you see the average female/male body, and (3) how do you see yourself.

> **Question 1:** What prompted you to place the Ideal/Average/Myself in this particular pile?
>
> **Question 2:** What is the difference between the Ideal, Average, and yourself?
>
> **Question 3:** How do you compare yourself to the Ideal and the Average?
>
> **Question 4:** When you look at the Ideal, is this your own ideal, the media's ideal, or what you think others see as the ideal?

Prompts: Remember to tell me everything that you are thinking as you are doing this. What are you thinking right now?

Closing Statement

Now that we are done with the interview, what else, if anything, you would like to me to know?

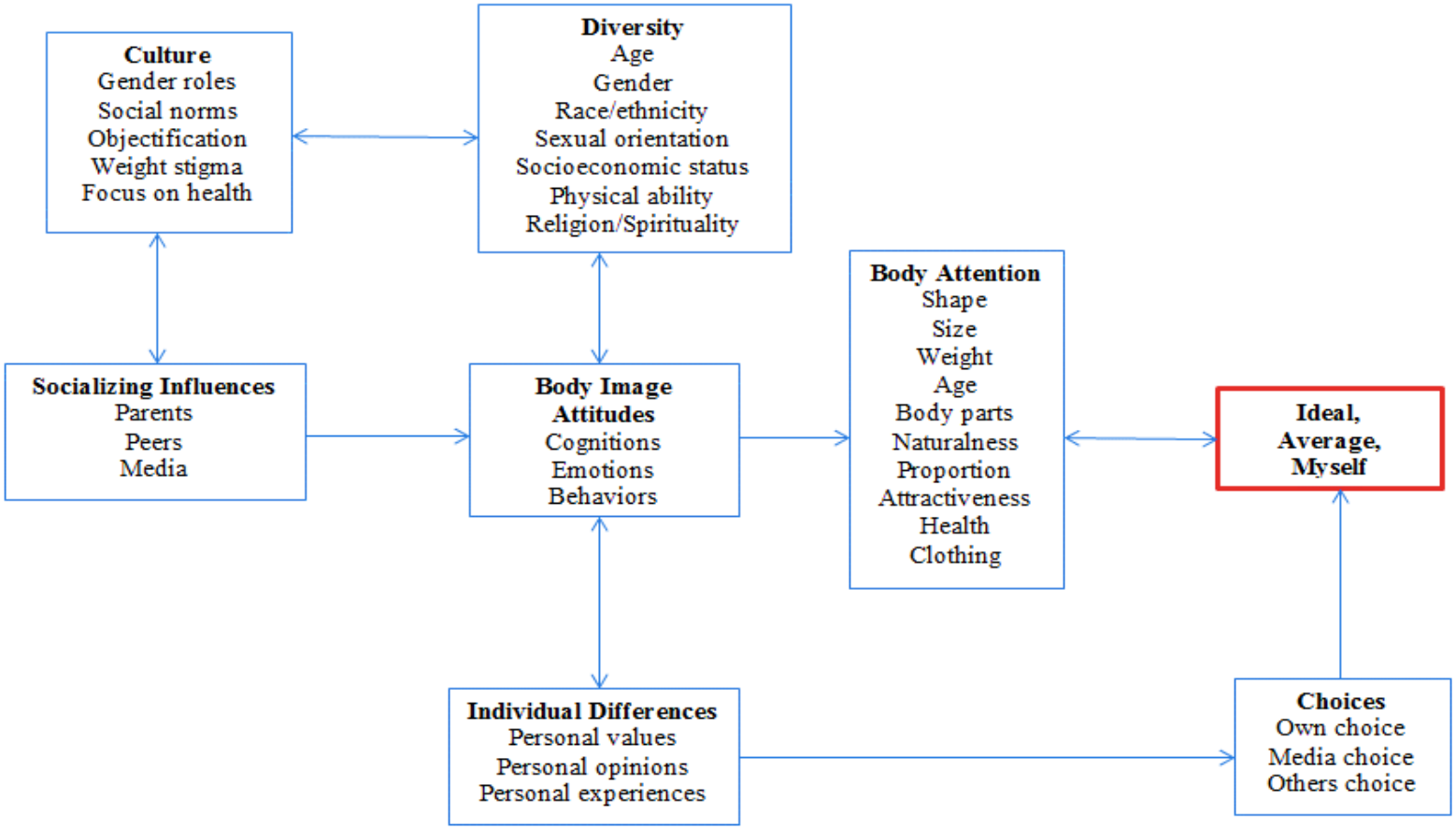
Thank you for putting in such great effort! Remember, I will be in touch with you as soon as these transcripts are transcribed. I will email you a copy of your transcript, so you can look it over and make sure it is accurate. Also, if there is any kind of sensitive information that you would like me to remove, I will do so. Once the coding is complete and results are written, I will email you a small summary to, once again, check for accuracy and a chance for you to give me feedback. How does that sound? Thank you for coming and taking your time to participate in my study!

APPENDIX G

STUDY TWO (TWU)

CONCEPTUAL MAP OF

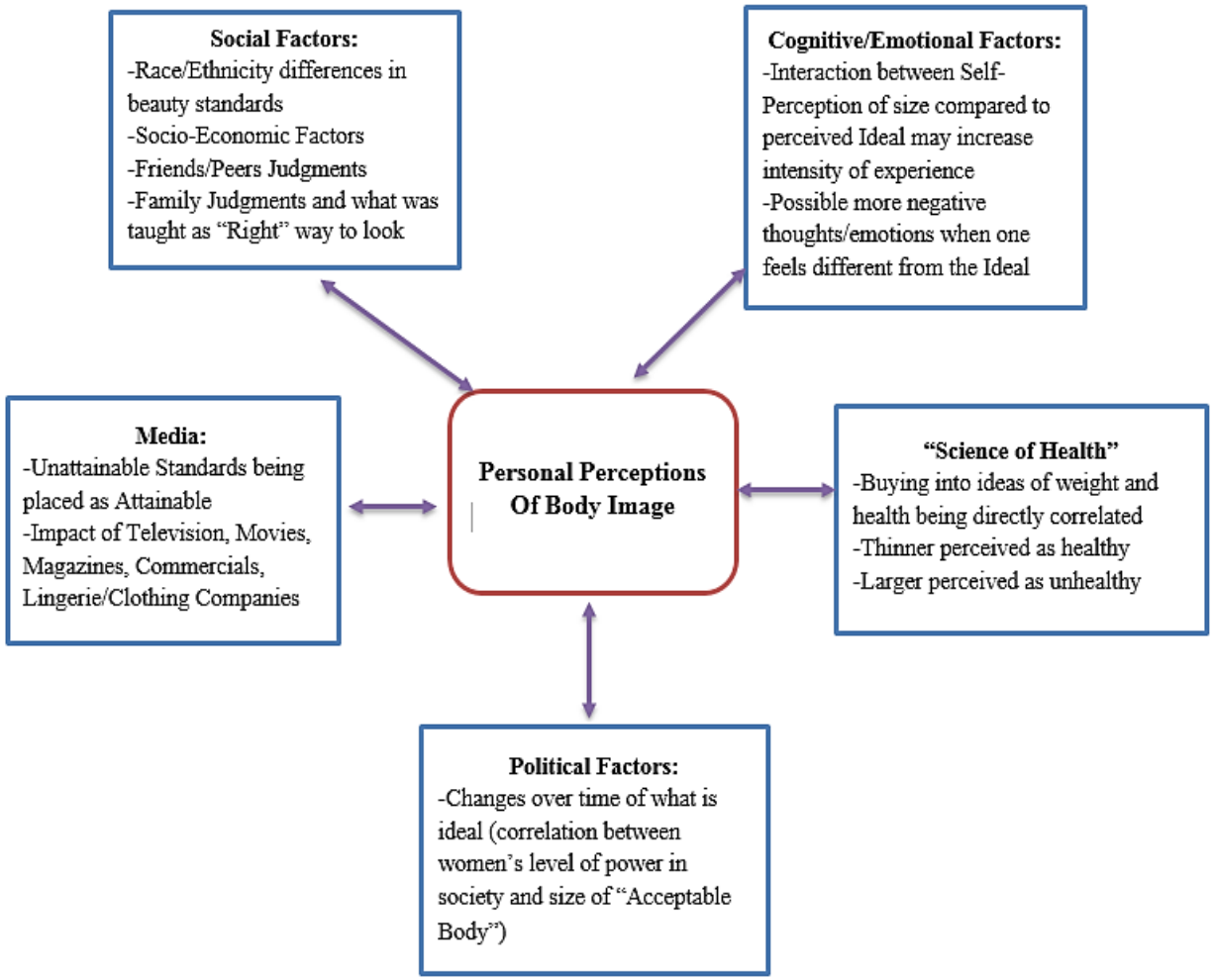
PRIMARY RESESARCHER


Culture
Gender roles
Social norms
Objectification
Weight stigma
Focus on health
Diversity
Age
Gender
Race/ethnicity
Sexual orientation
Socioeconomic status
Physical ability
Religion/Spirituality
Body Attention
Shape
Size
Weight
Age
Body parts
Naturalness
Proportion
Attractiveness
Health
Clothing
Socializing Influences
Parents
Peers
Media
Body Image Attitudes
Cognitions
Emotions
Behaviors
Ideal, Average, Myself
Individual Differences
Personal values
Personal opinions
Personal experiences
Choices
Own choice
Media choice
Others choice

APPENDIX H

STUDY TWO (TWU)

CONCEPTUAL MAP OF CROSS-CODER


Social Factors:
-Race/Ethnicity differences in beauty standards
-Socio-Economic Factors
-Friends/Peers Judgments
-Family Judgments and what was taught as "Right" way to look
Cognitive/Emotional Factors:
-Interaction between Self-Perception of size compared to perceived Ideal may increase intensity of experience
-Possible more negative thoughts/emotions when one feels different from the Ideal
Media:
-Unattainable Standards being placed as Attainable
-Impact of Television, Movies, Magazines, Commercials, Lingerie/Clothing Companies
Personal Perceptions Of Body Image
"Science of Health"
-Buying into ideas of weight and health being directly correlated
-Thinner perceived as healthy
-Larger perceived as unhealthy
Political Factors:
-Changes over time of what is ideal (correlation between women's level of power in society and size of "Acceptable Body")

APPENDIX I

STUDY TWO (TWU)

CODE BOOK OF PRIMARY RESESARCHER

Ideal Male/Female Body	**Personality Attributes**	**Happy Medium**	**Explicit Emotions**
SH-shape SZ-size HT-height W-weight D-definition T-tone SD-steroids PS-posture BP-body parts BT-body types CO-combination PP-perspective preference M-media OI-others ideal NM-normality R-reality BE-beauty N-naturalness SA-societal acceptance SE-societal expectations GRE-gender roles/ Expectations	CF-carefreee FN-funny JK-jerk/cocky RD-rude TO-tough PL-popular MN-mean CL-cool FU-fun FR-friendly AGR-aggressive MES-mentally/ emotionally stable LE-leader/executor CN-confident GDM-goal driven/ motivated LZ-lazy TTH-trying too hard IM-impression managing CN-clean FS-financially stable NA-negative attitude AS-attention seeking IC-in control E-egoistic	MG-middle ground TM/TL-too much/ too little IME-immediate environment **Social Comparison** UC-upward comparison DC-downward comparison EC-equal comparison **Values** H-health LG-looking good DG-doing good FG-feeling good F-fitness B-balance	**Basic** AN-anger SS-sadness DI-disgust HA-happiness FE-fear TO-toward others TS-toward self TST-toward stimulus AO-about others FO-for others **Prime** SU-surprise **Cognitive Processing** PS-processing speed CT-categorization of the stimuli
Implicit Cognitions	**Implicit Needs**	**Implicit Emotions**	**Generalized Assumptions**
GST-general safety/ threat MI-media internalization CD-cognitive distance CDI-cognitive dissonance AP-attributive projection	RES-relational safety PHS-physical safety	D-doubt F-frustration E-envy J-jealousy S-shock H-hopelessness G-guilt P-pressure HT-hate BI-bitterness FH-false hope I-intimidation DI-discomfort CM-competition DIS-discontent C-confidence JY-joy AD-admiration EM-empathy AT-attraction CT-comfort EX-excitement CON-content	ACL-activity level GM-gym RU-running SW-swimming FC-food consumption AlC-alcohol consumption AB-anorexia/bulimia LvL-life versus looks AGvH-age versus health PvL-personality versus looks WvH-weight versus health TaE-time and effort

APPENDIX J

STUDY TWO (TWU)

CODE BOOK OF CROSS-CODER

Objective Features

Sk= Skinny
B= big
MS= muscly
Th= Thick
O= overweight, obese
W= weight/size mentioned
Ho= hourglass figure
Mt= muscle tone/definition
Sr= straight figure
BB= body builder
BP= mention of specific body parts
A= only mention 'average' as defining characteristic
F= Fit
DB= dad bod
Ta= tattoo
Ha= body hair

Assumptions Related to the Features

He= Health
Fo= Food
Al= alcohol consumption
G= gym going perceptions
E= effort
At= attainability
N= natural no effort
AB= mention of Anorexia or Bulimia
St= looks like stripper
Wk= perception that being muscly takes lots of time to achieve
Co= competition
S= on steroids
R= Runner
Sw= swimmer
SS= weight/health as a slippery slope
Ca= taking "care" of oneself
LvL= life versus looks (are in opposition to one another)
LvP= assumption that ideal image is more concerned with looks over personality
PvL= well roundedness comes from personality, not looks (personality and living life more important than looks)

Personal Judgments

PP= personal preference
Mj= perceptions of the majority agreement
SJ= social judgements
IB= in between muscle and thin, or fat and thin
RF= reflections from the participant (metacognition)
J= jealousy noted
Sf= safety perceptions
In= Intimidation
Nt= non-threatening
Cm= comfort and confidence of one's body type
Ex= "excessive" perception
Sc= self-comparisons
Aa= average as "acceptable"
JR= look just right
LH= looks ≠ happiness
Ax= attraction
LVL= life gets in the way of attention to body

Cultural Factors

H= hype over thin ideal
MI= media influence
Sp= supermodel/ actors
Cf= other cultural factors (including perceptions of social change)

Personality Traits

CF= carefree
Fn= funny
JK= jerk/cocky
Rd= rude
T= tough
MG= popular/mean girl
Cl= cool

Personality Traits (cont.)

L=lazy
C=clean
TI=trying too hard to reach an ideal
Fi= financially stable
Na= negative attitude
As= attention seeking

(Continued)

U= unfair standards (can also
relate to perceptions of what "should" be)
Eg= expectation gaps between ideal vs average
Rr= rare to be ideal or perfect
GD= gender differences in expectations

Fu= fun
Fre= friendly
Agg= aggressive
MH= mentally healthy/emotionally well-rounded
GD= goal driven/motivated

Le= leader or executor
IC= in control of life and looks

APPENDIX K

STUDY TWO (TWU)

REFERRAL LIST

Counseling Resources Available to Study Participants

Midwestern State University Counseling Center

Clark Student Center
3410 Taft Blvd.
Wichita Falls, TX 76308
Phone: (940) 397-4618
Email: pam.midgett@mwsu.edu

Midwestern State University Psychology Clinic

O'Donohoe Hall
3410 Taft Blvd.
Wichita Falls, TX 76308
Phone: (940) 397-4791
Email: psychology.clinic@mwsu

Wichita Falls Community Counseling Center

3100 10th Street
Wichita Falls, TX 76309
Phone: (940) 757-0598
Website: http://www.wfcommunitycounseling.org/index.html

Helen Farabee Crisis Hotline

1-800-621-8504