

SOCIAL COMPARISON OF BODY IMAGE IN MIDDLE-AGED WOMEN:  
IMPLICATIONS FOR BODY IMAGE THEORY

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by  
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ABSTRACT

Body image dissatisfaction persists into middle age for women. Despite this, most research addressing this area has focused on younger adult women. Therefore, this study sought to explore middle-aged women's body image experience in more depth. Specifically, aspects of the Tripartite Influence Model, including media pressure, interpersonal pressure, internalization, and social comparison were explored to examine their relevance for middle-aged women's body image. A sample of 158 predominately White participants completed this online study (87 younger adult women, 71 middle-aged adult women). Participants completed questionnaires which examined perceived interpersonal pressure within close relationships, media usage, self-comparison to media and to close others, and eating disorder symptoms. Results indicated that middle-aged women were frequently exposed to different forms of media than younger adult women; however, parallel to younger adult women, they compared their body shape to similarly-

aged media models. Further, body shape and weight comparisons were made to peers and family members to a similar degree as in a younger sample. Middle-aged women reported perceiving the most consistent pressure to alter their shape and weight from their children and partners, though peer pressure to alter the body was more closely related to disordered eating symptoms. These findings suggest that elements of the Tripartite Influence Model apply to middle-aged women. Clinically, these findings may be used to inform treatment for body image concerns and disordered eating among middle-aged White women.

## APPROVAL PAGE

The faculty listed below, appointed by the Dean of the College of Arts and Sciences have examined a dissertation titled “Social Comparison of Body Image in Middle-Aged Women: Implications for Body Image Theory,” presented by Frances M. Bozsik, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

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## CHAPTER 1

### INTRODUCTION

Body image refers to the internal subjective evaluation that one makes of their own body (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Body image dissatisfaction has been referred to as “normative discontent,” because it is so widespread for women (Rodin, Silberstein, & Striegel-Moore, 1984). Body dissatisfaction can interact with multiple biological and sociocultural factors to increase risk for the development of eating disorders such as anorexia nervosa, bulimia nervosa, and binge eating disorder (Ahrberg, Trojca, Nasrawi, & Vocks, 2011; Polivy & Herman, 2002); it is also associated with body dysmorphic disorder (Sarwer, Wadden, Pertschuk, & Whitaker, 1998).

Theories exist to explain the development of positive and negative body image. Sociocultural theory, social comparison theory, and interpersonal pressure have been among the theories used to explain the onset and maintenance of eating and body image pathology in young, predominately White women (Thompson et al., 1999). Sociocultural theory posits that media and society influence the development of beauty ideals. This is often tied to larger socioeconomic factors, such as the financial status (i.e., independence) of women within the society. Regardless of why certain ideals develop, dissatisfaction often develops in those women who do not meet them (Grabe, Ward, & Hyde, 2008).

Theories have been developed to explain how the sociocultural ideals “get inside” an individual to create dissatisfaction, and to explain why some women are impacted

more than others. Social comparison is hypothesized to moderate the relationship between sociocultural pressure and body image distress (Thompson et al., 1999). This theory posits that women compare themselves to peers and media figures who are similar in age, or another key characteristic, in order to gain information about their own performance or status in regards to meeting beauty ideals (Festinger, 1954). Interpersonal influences from family and peers also reinforce the sociocultural beauty ideal through means such as providing a behavioral model of how to attain the ideal or through providing the individual with feedback regarding how closely they fit the ideal (Thompson et al., 1999).

There is preliminary evidence to suggest that these theories apply to middle-aged women. There is not a consensus in the literature regarding age cutoffs to define middle-aged and older adult women. Therefore, the following outlined studies are divided so that middle-aged women are comprised of those predominately 35-60 years of age, and older adult women are generally comprised of women 60 years of age and older. Younger adult women are those 18-34 years of age.

Slevec and Tiggemann (2011b) found that, for middle-aged women, televised media exposure was related to body dissatisfaction indirectly through social comparison, thin ideal internalization, appearance investment, and aging anxiety, suggesting that these theories may generally fit middle-aged women. Specific factors promoting body image and eating disturbance in middle-aged women, however, may be different than in younger women.

One such difference is that middle-aged women, as compared to younger women, may not find the same kind of media to be salient. Namely, middle-aged women may not compare themselves to prominent media figures because of the discrepancy in age between themselves and those in advertisements (Ogle & Damhorst, 2005). Bessenoff and Del Priore (2007) completed a content analysis, which established that models over the age of 35 are rarely shown in magazines, regardless of target readership age. They hypothesized that the age of comparison targets may be protective for middle-aged women, but did not establish this experimentally. Televised media does appear to include more middle-aged models, a more viable comparison group (Hefner Woodward, Figge, Bevan, Santora, & Baloch, 2014). In response to an open-ended question, a sample of middle-aged women reported that they would most like to look like middle-aged actresses (e.g., Jennifer Aniston; Slevic & Tiggemann, 2011b). Additionally, Slevic and Tiggemann (2011b) found that television, but not print media, exposure was related to body dissatisfaction among middle-aged women. Further, Hefner et al. (2014) found that middle-aged women viewing televised midlife actresses (i.e., aging media) with greater frequency reported greater disordered eating, stricter food choices around others, and body dissatisfaction.

Despite these findings, research has not directly examined why televised media is more salient for middle-aged women than print media. It remains to be seen whether this relationship can be explained by the similarity in age between middle-aged women and middle-aged actresses, as opposed to fashion models, as would be suggested by social comparison theory. Additionally, in qualitative studies, older women report comparing

themselves to images of women who were popular when they were young (Hurd, 2000; Hurd Clarke, 2002). This suggests that older women may harbor different beauty ideals, and this cohort effect may also be present for middle-aged women. Research in this area would benefit from answering these questions, as well as identifying what middle-aged women attend to and compare themselves on (e.g., certain body parts, general figure, etc.).

Additionally, there is a dearth of research examining interpersonal factors related to family, partners, peers, and historical figures, and their impact on body image in middle-aged women. Women endorse engaging in social comparisons with peers throughout the lifetime (Homan & Tylka, 2015; Morrison et al., 2003; Sharp, Tiggemann, & Mattiske, 2014). Middle-aged women may have more avenues for comparison as opposed to younger women making this process more nuanced. For example, older women report comparing their bodies to their previous selves (Hurd Clarke, 2002). Additionally, a study with a slightly younger adult sample ( $M_{age} = 25.04$ ;  $SD = 3.53$ ) established that women have a propensity to compare themselves to female family members and friends, and the latter comparison influences body dissatisfaction (Lev-Ari, Baumgarten-Katz, & Zohar, 2014). Research has not thoroughly explored to whom middle-aged women are comparing themselves (e.g., peers, previous selves, acquaintances), and similarly to media, on what factors. It would be beneficial to know if middle-aged women also make comparisons to family members and friends, and if so, to examine the impact of these comparisons.

Most of the research on body image development and maintenance has focused on adolescents and young adults. Because body image dissatisfaction persists throughout a woman's life (Tiggemann, 2004), and the biological and sociocultural factors that influence body image change across the lifespan (e.g., motherhood, graying and thinning hair, menopause, etc.), theories of body image development and maintenance need to reflect the processes and experiences of middle-aged adult women. Additionally, because rates of inpatient hospitalization for the treatment of disordered eating behavior in middle-aged women has increased over the past 20 years (Ackard, Richter, Frisch, Mangham, & Cronmeyer, 2013), there is a need to update theory to inform prevention and intervention for poor body image and disordered eating behavior in this population.

Despite an awareness that body image and disordered eating behavior continue to be problematic, even among non-clinical middle-aged women, few treatments have been developed for this age group (Lewis-Smith, Diedrichs, Rumsey, & Harcourt, 2016). In a review of available treatments, Lewis-Smith et al. (2016) found that those treatments that overtly focused on body image led to sustained improvement in body image and disordered eating behavior among participants, suggesting that this is an important area to examine. Further, they suggested existing interventions (e.g., cognitive dissonance) developed for other age groups should inform successful interventions for this age group. Developing and/or tailoring interventions to address specific mechanisms associated with middle-aged women's body image experience could be facilitated through developing a better understanding of the body image experience of middle-aged women.

Unlike older women, middle-aged women may be similar enough in age to younger media figures that they compare themselves to these media, as younger women do. Conversely, they may be only impacted by a subset of media figures who are similar to them in some way. In any case, it would be helpful to have an understanding of which media are most salient, and therefore, most important to address in interventions. Additionally, it is not clear if their pattern of social comparison among peers mirrors that of younger women. This project promotes a clearer understanding of body-related social comparisons that take place among middle-aged women. As part of a larger program of research, these findings may help to contribute to the development of efficacious interventions for body dissatisfaction and disordered eating behavior in middle-aged women.



## CHAPTER 2

### REVIEW OF THE LITERATURE

#### **Body Image as a Construct**

Body image is a multidimensional construct that refers to one's subjective evaluation of the function and appearance (i.e., size, shape) of the body (Cash & Pruzinsky, 1990). This construct has been subdivided into many components (e.g., size perception accuracy, body esteem, etc.; Thompson et al., 1999). Two components frequently emphasized in the literature are importance of appearance and appearance evaluation. Importance of appearance, also referred to as appearance orientation, captures the amount of "cognitive, behavioral, and emotional" investment one has in their appearance (Slevec & Tiggemann, 2010). Appearance evaluation refers to the judgment that one holds towards aspects of their appearance. Body image dissatisfaction, a commonly studied subset of appearance evaluation, is often operationalized as the discrepancy between one's current appearance and preferred appearance in the body image literature (Slevec & Tiggemann, 2010). This self-appraisal affects individuals' subsequent health behaviors and emotions (Kilpela, Becker, Wesley, & Stewart, 2015). Body appearance tends to hold greater importance for women, as compared to men, because their worth is more likely to be socially evaluated based on their appearance (Thompson & Stice, 2001). This is particularly evident in highly visible populations such as models, actresses, and singers.

## **Thin Ideal Internalization**

In Western culture, the term “thin ideal” refers to the socially desirable female body to which White women, in particular, are often compared. This figure typically includes a young, tall, thin, physically fit female with White features (Thompson et al., 1999). For most women, across age ranges, there is a discrepancy between their body size and shape and the thin ideal body size (Thompson & Stice, 2001). Consequently, this term highlights the word “thin” because, although this cultural ideal includes other aspects of appearance, the emphasis on weight is considered one of the aspects that leads women to be dissatisfied with their bodies, and for a subset, to engage in disordered eating behavior (Thompson & Stice, 2001).

Thin ideal internalization occurs when women decide to adopt the societally-defined standard as their own, and take steps to achieve this standard of beauty (Thompson & Stice, 2001). Among this subset of women, negative self-evaluation surrounding weight and shape, as well as maladaptive weight control behaviors such as purging via vomiting and fasting, are more common (e.g., Engeln–Maddox, 2005; Stice & Shaw, 1994; Tiggemann & McGill, 2004).

## **Theories Regarding the Development of Body Image**

### **Social Comparison Theory**

Sociocultural theory has been used to explain why Western women engage in disordered eating and body alteration in an attempt to appear beautiful (Tiggemann & McGill, 2004). The thin ideal female figure has been disseminated and promoted by the mass media where it has reached and impacted women through the process of social

comparison (Thompson et al., 1999). In the interest of establishing a stable self-concept, social comparison theory hypothesizes that individuals compare themselves to others in order to gain information about their skill level, social standing, and group contribution (Festinger, 1954). Performance on objective skills (e.g., running speed) is more straightforward, and easier to assess, than subjective attributes (e.g., beauty, intelligence). In the latter case, social comparison becomes a principle means for lowering uncertainty regarding relative status. When assessing the beauty of one's own body, Thompson et al. (1999) hypothesized that social comparison may be a primary rather than a secondary process—even when objective measures are available (e.g., BMI). In other words, an individual may prioritize a visual scan of their own body to ascertain whether it is thinner or heavier than a target comparison rather than comparing BMI score, an objective measure.

Individuals tend to choose others who are similar to them as comparison targets. That is, they tend to compare themselves to those with similar skill levels or traits. When a comparison group is extremely attractive to the individual an exception is made. Festinger (1954) argued that the stronger the attraction or desire to be similar to a comparison target, the more pressure is experienced to acquire the target's characteristics. This may partially explain the widespread influence that thin ideal media models have on women even though they represent a highly deviant sample. Despite this sample's appeal, alteration of body weight is not easily achieved and most recognize a discrepancy where their desired weight is lower than their current weight. If one's

standards are not met, this theory suggests that feelings of disappointment and inadequacy are likely to develop.

Social comparison theory additionally proposes that individuals make both upward and downward comparisons. The type of comparison influences subsequent affect and self-confidence. A downward comparison is made when someone compares the self to an “inferior” comparison target. This direction of comparison typically produces positive affect and a feeling of relative superiority (Festinger, 1954). Research completed since the original development of this theory suggests that upward comparisons may be more complicated (Collins, 1996). Upward comparisons involve focusing on another who appears to be better off, and typically result in lowered self-image. Collins (1996) proposed that these comparisons can be beneficial and used in a self-serving manner, however. In other words, someone might make upward social comparisons to liken themselves to or “bask in the reflected glory” of a similar, better off comparison target. An example is when one reminds themselves of the success of a celebrity from their hometown.

The effects of social comparison occurring between females and thin ideal media images has been thoroughly empirically explored in younger samples. Studies have reported consequences such as lowered self-esteem, increased self-consciousness and physique anxiety (Thornton & Maurice, 1997), higher negative mood and body dissatisfaction (Tiggemann & McGill, 2004), and increased thoughts about altering body shape and guilt (Leahey, Crowther, & Ciesla, 2011)—all following upward appearance-based social comparison.

The functional advantage of the social comparison process is that it allows an individual to assess his or her competency and significance and to potentially increase their ability to become a member of a group they find to be desirable. An unfortunate outcome associated with the process, however, is that making appearance-based comparisons can reinforce women's belief in their worth being defined by their weight status. Research regarding social comparison in aging women is less common.

Kozar and Damhorst (2009) examined participants' (30-80 years old;  $M_{age} = 61$ ) likelihood of comparing various body features to fashion models. Participants completed a questionnaire assessing the frequency with which they made these comparisons as well as questionnaires asking them about satisfaction with various aspects of their bodies. They found that participants rarely compared themselves to models in magazines. However, the women who reported higher rates of comparison also reported greater body dissatisfaction. Younger participants in the sample, as well as those with a larger discrepancy between their actual and ideal age (i.e., those who wanted to be younger than they were), were more likely to compare themselves to fashion models.

Sharp et al. (2014) examined the influence of media and peers on cosmetic surgery attitudes. Their sample consisted of 351 predominately White Australian female participants ages 18-69 years old ( $M_{age} = 29.7$  years). Around 10% of the sample had undergone cosmetic surgery. They found that, among these women, having conversations with friends regarding appearance and exposure to cosmetic surgery-related (e.g., *Extreme Makeover*) or appearance-related television programs (e.g., *Desperate Housewives*) was positively associated with internalization of the thin ideal, frequency of

comparing one's body to others', body dissatisfaction, and positive attitudes towards cosmetic surgery. Further, having conversations with friends regarding appearance and thin ideal internalization predicted their frequency of body comparison to others.

Morrison et al. (2003) examined social comparison in a sample of 92 women (ages 18-63 years old) in outpatient eating disorder treatment as compared to a nonclinical sample of women ages 17 to 36 years old. Participants completed measures of self-esteem (Rosenberg Self-Esteem Inventory [RSE]; Rosenberg, 1965), eating disorder symptoms (Eating Disorder Inventory-2 [EDI-2]; Garner, 1991), and a measure examining frequency of social comparison to others (Iowa-Netherlands Comparison Orientation Measure [INCOM]; Gibbons & Buunk, 1999). This measure examined participants' likelihood of comparing their own abilities or behaviors and opinions to others'. There was no difference in social comparison orientation between clinical and nonclinical participant groups. Among the clinical group, comparing abilities and behaviors to others was associated with a higher likelihood of restricting food intake, where in the nonclinical group this tendency was related to bulimic behaviors and body dissatisfaction. They also found that low self-esteem, rather than eating disorder behaviors, accounted for a higher likelihood of comparison across domains in women with clinical eating disorders as compared to the nonclinical group.

One interesting comparison relationship that exists for aging women, but not younger women, is the comparison between the aging body to one's previous body. Krekula (2016) examined whether women judge their bodies as compared to their previous versions. Interviews were conducted with 12 heterosexual, middle class women

who were 75-90 years old. The interview asked women to reflect upon changes in their identities over time and to provide photos of important times in their lives. Body was explored through presenting participants with a mirror and having them describe their body and face. They were also asked to describe a woman that they thought was beautiful. Women reported changes such as saying that they had *gotten* wrinkles. Krekula (2016) suggested that this is evidence that women think of changes to the body as a process that happens over time. Women also tended to speak of their appearance in negative terms, while simultaneously comparing themselves to similar, or worse off, peers. This comparison to similarly aged peers buffered them against sociocultural pressure to fit the thin ideal. Women compared themselves to their previous selves, and some suggested that, in relation to peers, they did not perceive a change in their attractiveness over time. Finally, most participants reported methods used (i.e., behavioral or through attire) to compensate for changes to their bodies (i.e., making sure to use good posture, always wearing long sleeves to cover arms).

Bessenoff and Del Priore (2007) conducted a visual content analysis of fashion models in magazines targeting both younger and middle-aged women. The purpose of the study was to explore whether there is a match between readership and model appearance due to the ramifications for social comparison theory, and specifically, body dissatisfaction. They analyzed images of models from eleven different magazines on age, body size, and “clothedness.” They noted that models over the age of 35 were rarely shown regardless of the target readership. Body size was rated using the Figure Rating Scale (FRS; Stunkard, Sørensen, & Schulsinger, 1983) for comparison. Raters

determined that models appeared to be thinner than the average U.S. woman. Overall, younger and thinner models were depicted in magazines with a readership of under 35 years. These models were also more likely to show exposed arms and midriff. Also, the younger the model, the thinner she tended to be and the greater the likelihood that her midriff was shown. In magazines targeting women over 35, models did not match the age of readers. That is, 35-55+ year old women were typically being presented with 25-34 year-old models. However, 25-34 year old models were thinner when they were presented in magazines targeting younger women, rather than the 35+ group. The authors suggested that, theoretically, because of the ages of the presented models, readership over 35 years old are less likely to make social comparisons with media images. Further, the authors argued that because the models presented in magazines targeting an older demographic appear heavier, this may be better for women—however, these models are still 4-6 BMI points less, on average, than the typical American woman consuming these media. Further, these authors suggested that because older models are more likely to have their bodies covered in magazines, this is a way in which society is communicating that older individuals are not “sexy” and, therefore, are not objectified in the same way. Two undergraduates coded the magazine images. While they had a high rate of agreement, their ages were not disclosed and may have impacted their perception of the rated factors. Further, the authors concede that their advertisement inclusion criteria were strict, and so this may have limited the sample of coded advertisements. While the information collected in this study is helpful in conceptualizing the social comparison process that may take place between middle-aged women and the media, the authors expand the



findings of their content analysis beyond the data collected in this study. That is, without examining the social comparison process in this sample, the authors are speculating about the proposed relationships presented here.

Slevec and Tiggemann (2010) found that television viewing, rather than magazine reading, correlated with body dissatisfaction and disordered eating in middle-aged women. While magazines often target middle-aged and older women, Bessenoff and Del Priore (2007) demonstrated that middle-aged women are not often featured. This may be in contrast to televised media showing middle-aged celebrities with thinner physiques.

Pinto-Gouveia, Ferreira, and Duarte (2014) examined social comparison in the context of social rank theory. This theory suggests that some are more oriented to noticing their place in a social hierarchy and are focused on competing and securing greater power and control through social acceptance. This stance fosters self-criticism and shame. They studied 102 female eating disorder patients and 123 women from the general population. Their sample age ranged from 13 to 47 ( $M_{age} = 23.54$  years), and there was not a difference in age between the two subsamples. Participants completed measures of social comparison, body shame, self-compassion, eating disorder symptoms, self-criticism, and self-reassurance. Path analysis demonstrated that a model including external shame, insecure striving, social comparison, body dissatisfaction, self-criticism, and self-compassion predicted 61% variance in drive for thinness. In this model, favorable social comparison lowers drive for thinness through higher self-compassion and lower self-criticism. This model fit for both the clinical and non-clinical groups of

women. Overall, this study helped to elucidate *how* social comparison relates to drive for thinness.

### **Social Reinforcement Theory**

Apart from direct comparison between the individual and the societally accepted thin ideal comparison target, women's immediate social circle, including friends, family, and partners, also influence body image through subtle or overt praise or criticism of weight gain or loss—and thus, reinforces the social values of the group (Kandel, 1980). Hurd Clarke and Griffin (2007) explored the impact that women's mothers had on their body image throughout their life. Forty-four Canadian women ages 50 to 70 completed two semi-structured interviews regarding changes in body image and body work, or manipulation of appearance (e.g., through the use of cosmetics, hair dye, etc.), they engaged in throughout the lifespan, as well as their mothers' impact on these thoughts and behaviors. Overall, women reported that their mothers shaped their idea of how they should present their bodies to others through verbal comments and evaluation. One-third believed that their mothers had a positive influence on their body image, and reported “vague” or “non-committal” evaluations of their own body in youth. Few made positive comments regarding their current appearance, but those who did focused on their health. The remaining two-thirds believed that their mothers had a negative influence on the way they viewed their body in youth, particularly their weight. The reported negative maternal evaluations primarily occurred during interviewees' youth (i.e., childhood, adolescence, and young adulthood). One-fourth reported that these negative evaluations continued into adulthood. Those who were in a lower socioeconomic group reported that their mothers

had not spent much time or money focusing on their appearance, and so they did not either. Most women reported learning from observing their mother's beauty practices. Half of the sample believed their mothers had aged in an attractive manner, and they committed a similar amount of time and energy to their appearance as they aged. Half believed their mothers had aged in an unattractive manner and reported undertaking body work to avoid appearing similar to their mothers. Green and Pritchard (2003) also found that middle-aged women reported that perceived pressure from family and peers to alter their bodies was associated with body dissatisfaction. Additionally, McLaren, Kuh, Hardy, and Gauvin (2004) indicated that partner comments impacted participants' body esteem, with positive comments leading to an increase in body esteem, and negative ones leading to a decrease in body esteem, regardless of BMI. Further, Gravener, Haedt, Heatherton, and Keel (2008) reported that if women perceived that their female peers were dieting, this was related to increased drive for thinness in the participant.

### **Objectification Theory**

Objectification Theory hypothesizes that women learn to view themselves from an observers' perspective as a result of living in a societal context that emphasizes an external view of women (Fredrickson & Roberts, 1997). Over time, women begin to view their bodies as objects to be evaluated based on appearance. This self-evaluation primarily values the body as a sexual object as a result of society's priming (Gay & Castano, 2010). Objectification may explain how thin ideal internalization cognitively impacts a woman—particularly when she is viewing mass media and engaging in a social comparison process. When a woman is self-objectifying, she is engaging in more than

one cognitive task – that is, she is monitoring her performance on the task she is carrying out, while also thinking about how she is being perceived while carrying it out. This internal division between body and mind is hypothesized to be detrimental through causing an increased cognitive load, in turn impairing performance. Apart from impairing performance, this view of the self is also hypothesized to lead to body dissatisfaction and shame, as well as disordered eating (Fredrickson & Roberts, 1997).

Tiggemann and Lynch (2001) studied a convenience sample of Australian participants who were 20-84 years of age ( $M_{age} = 45.02$ ). Participants completed the FRS (Fallon & Rozin, 1985), Body Esteem Scale (BES; Franzoi & Shields, 1984), Self-Objectification Questionnaire (SOQ; Noll & Fredrickson, 1998), Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996), Body Consciousness and Body Shame subscales, Appearance Anxiety Scale short form (AAS; Dion, Dion, & Keelan, 1990), Revised Restraint Scale (RRS; Herman & Polivy, 1980), and the Self-Esteem Scale (SES; Bachman & O'Malley, 1977; Rosenberg, 1965). They broke the sample into age groups by decade (i.e., 20-29, 30-39, etc.). When comparing the mean for each group, they found that significant body dissatisfaction was evident in all age groups. Body satisfaction, body shame, and body esteem were not related to age. The remaining measures (self-objectification, body monitoring, dietary restraint, appearance anxiety, and disordered eating) decreased with age. Self-objectification and body monitoring was highest for women ages 20-39. Scores on these measures decreased slightly for those 40-69 years old and further decreased for those above 70. For appearance anxiety, those between the ages of 20-29 reported the highest levels. Again, those 70 years old and

above evidenced lower appearance anxiety. There was a slight decrease in dietary restraint over time that did not allow for significance testing. Finally, for disordered eating, those ages 20-29 scored the highest, followed by those 30-59. Self-objectification completely mediated the relationship between age and disordered eating. Interestingly, a path model suggested that greater objectification leads to increased body monitoring, which consequently increases body shame and appearance anxiety, and finally greater disordered eating.

McKinley (1999) assessed middle-aged mothers and their undergraduate daughters on objectified body consciousness, a construct that incorporated one's likelihood of viewing their own body from an outsider's perspective, likelihood of feeling like a bad person when not achieving societal beauty standards, and likelihood of believing that one is in control of one's appearance. In addition, body esteem (one's appreciation of various body parts), psychological well-being, BMI, weight dissatisfaction, and dietary restraint were also examined. Finally, a partner and parent approval measure was administered whereby daughters rated how much their mothers approved of their daughter's weight, of their own weight (i.e., mother's self-rating), and how much their mother's partner approved of their mother's weight. They also asked mothers how much they approved of their daughter's weight and how much their partner approved of their own weight.

Among mothers, body shame and BMI were negatively correlated with body esteem, and control beliefs were positively correlated with body esteem. Body surveillance—a construct examining the individual's propensity to assess their body as

though they were viewing it from a third-party perspective—and BMI were positively related to body shame. BMI was negatively related to body surveillance and appearance control, a measure of the degree to which someone believes that people can control their appearance with sufficient effort. Appearance control was related to personal growth and purpose for mothers. Body esteem and control were more strongly related for mothers than for daughters. Mothers were less likely to engage in surveillance and reported less body shame. Interestingly, mothers typically had a heavier BMI and desired weight, and reported more weight dissatisfaction (measured as discrepancy between current and desired weight) than their daughters. There were no differences on body esteem, control, dieting, and restrictive eating. Middle-aged women with partners who disapproved of their bodies reported lower body esteem than those who were non-partnered or with approving partners. Those with approving partners had a significantly lower BMI than those in the other two groups. For all women, body esteem was positively related to psychological well-being.

### **Tripartite Influence Model of Disordered Eating**

The tripartite influence model of disordered eating is a multifactorial theoretical model which proposes that peers, media, and family influences can potentially lead to disordered eating through thin ideal internalization and social comparison (see Figure 1; van den Berg, Thompson, Obremski-Brandon, & Covert, 2002).

van den Berg et al. (2002) completed a study among 196 college females ( $M_{age} = 19.5$  years) in which they used covariance structure modeling to establish that family and the media influence the development of body image dissatisfaction and eating

disturbances. Additionally, they found that social appearance comparison mediated these relationships. They also found that peer relationships can lead to restrictive eating behavior. Slevec and Tiggemann (2011b) examined whether the relationships between these variables are similar for middle-aged women. They found that media exposure is related to body dissatisfaction and disordered eating through thin ideal internalization, social comparison, appearance investment, and aging anxiety—suggesting that these are all important factors to take into account when working with this group.

These theories suggest ways in which body dissatisfaction and disordered eating come to exist, particularly among samples of women. While they have been well-established in younger women, they have not been tested or modified among middle-aged women. Before discussing the methodology for this study, I have reviewed the current understanding of aging and body image in middle-aged and older women.

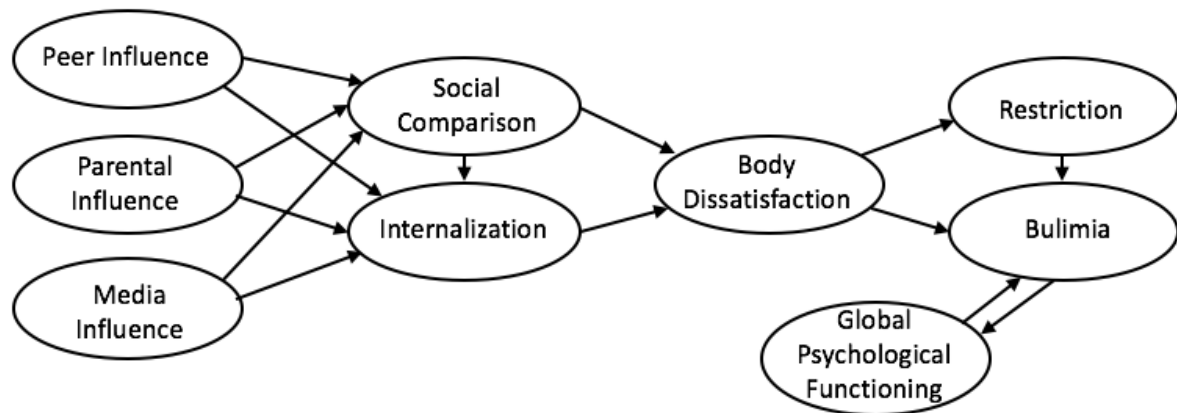


Figure 1. The Tripartite Influence Model (Reproduction of Figure 11.7A p. 320; Thompson et al., 1999)

## **Aging and Its Physical Impact on Body Image**

Characteristic changes to females' bodies take place with age and often influence body image (Chrisler & Ghiz, 1993). Specifically, pregnancy is more common with increased age and menopause is unique to the aging process as well. Each trimester of pregnancy is associated with characteristic changes to the body (e.g., nausea, swelling, difficulty breathing); however, there are differences between women and between pregnancies in the same woman that make it difficult to predict exactly which symptoms a woman will experience. Pregnancy is accompanied by bodily changes including weight gain, redistribution of weight, changes to hair texture, and body shape (Tiggemann & Slevec, 2012). The average female gains 25-35 pounds throughout pregnancy, and as a result, negative body image can develop postpartum—particularly when women are unable to lose pregnancy weight as quickly as they desire (Tiggemann & Slevec, 2012).

Menopause refers to twelve consecutive months in a female's life when she no longer has menstrual periods (UCLA Health, 2017). On average, this process takes place around the time when a female is 40-50 years old and marks the end of fertility for the female, as the ovaries stop releasing eggs. Medical procedures, such as hysterectomy, can cause "premature menopause," when menopause occurs earlier than 40 years old (National Institute on Aging, 2017). Within the body, a female's estrogen level drops as well as her follicle stimulating hormone (FSH). Low estrogen is associated with vasomotor instability, mood disturbance, decreased skin elasticity, insomnia, and loss of sex drive, among other changes (National Institute on Aging, 2017). Other changes that



women note as impacting body image are dry and discolored skin tone, sagging breasts, and undesirable hair growth (Tiggemann & Sleviec, 2012).

The process of menopause includes three stages. Perimenopause precedes menopause by several years and is the term for the time when the ovaries begin to produce less estrogen. The decrease in estrogen proceeds at a faster rate over time. Postmenopause refers to years following menopause. At this time, some symptoms such as vasomotor instability decrease in severity; however, females are at greater risk of developing cardiovascular disease and osteoporosis (National Institute on Aging, 2017). Some women receive hormone replacement therapy (HRT) to thwart the bodily changes associated with menopause, or to avoid gaining weight. Also referred to as menopausal hormone therapy (MHT), these supplements contain estrogen and serve to relieve hot flashes, night sweats, and some of the other undesirable aspects of menopause. Women taking hormone replacements report greater body satisfaction (Tiggemann & Sleviec, 2012). However, use of HRT is not ubiquitously recommended because there are health risks, such as increased likelihood of cardiovascular events, associated with use based on the woman's age and time elapsed since menopause (Sood, Faubion, Kuhle, Thielen, & Shuster, 2014).

More broadly, changes associated with aging that impact body image include an increase in body fat, redistribution of body fat to increase weight around the waist, wrinkles and sunspots on the hands and face, and graying and thinning hair (Chrisler & Ghiz, 1993; Tiggemann & Sleviec, 2012). Changes to the body can also accompany health conditions such as arthritis, osteoporosis, or cancer and include joint stiffness,

scars, and muscle stiffness among others. Additionally, these changes may necessitate hearing aids, canes, pacemakers, and walkers. Reliance on assistive devices affects women's mobility and perceived sexuality, which in turn may also influence body image. Due to these changes, and the resulting difference in women's bodies with age, women often experience anxiety surrounding aging, referred to as aging anxiety (Barrett & Robbins, 2008). For women who endorse the thin ideal standard of beauty, aging anxiety is related to unhealthy weight control behaviors (Gupta & Schork, 1993), disordered eating, body shame, increased consideration of cosmetic surgery, and body dissatisfaction (Tiggemann & Sleviec, 2012).

### **Body Image in Aging Women**

Body image has been extensively explored in high school and college-aged women. Research examining body image across older age ranges has not been studied as comprehensively, however. With age, the female body naturally begins to drift away from the societal ideal due to the aforementioned characteristic physical changes (e.g., naturally increasing BMI, changes to skin elasticity and firmness, and fat redistribution) as well as role changes (e.g., motherhood). Consequently, research has investigated the impact of these changes on women's body image.

### **Middle-Aged Women**

Rodgers, Paxton, McLean, and Damiano (2016) studied attitudes towards physical changes in midlife women. They conducted this study through analyzing 87 comments made by an Australian sample of self-identified "midlife" women (actual age not reported) on a Facebook page in response to the prompt, "Does the voice in your

head get kinder as you get older?” Fifty-six percent of the sample reported that they had experienced a positive shift in body image as they aged. A group of participants (22%) reported a shift from focusing on external appearance to internal characteristics (e.g., wisdom) or health. Thirty-five percent indicated that their body image had decreased as they aged or was currently negative. Fifteen percent reported body dissatisfaction related to perceived pressure from the media. Of this group, some (percent not provided) reported that they wanted to set an example of positive body image for their daughters. Nine percent indicated that they held both positive and negative body-related attitudes. Eighteen percent discussed physical changes in their bodies related to aging. Of this group, many expressed that they wished they had enjoyed their younger body, rather than being dissatisfied with it.

Ogle and Damhorst (2005) completed semi-structured interviews with a sample of 20 women between the ages of 37 to 47 years old ( $M_{age} = 43.3$  years). All participants lived in middle to upper-middle class homes and were the mothers of adolescent female daughters. Interviewees indicated aspects of their body that they both liked and disliked. For example, women noted that they did not appreciate gaining weight with age, and did not like a few distinct areas of their bodies; however, they were content with their body shape, overall. The authors began to explore where this acceptance came from. Participants noted that they became more comfortable with their body’s unique history and identity and began to know the limits of how malleable (i.e., through diet, surgery, exercise) their bodies were. They also described being aware of the importance of appearance fostered by society, and perpetuated by acquaintances; however, they noted

an internal dialogue that had begun to focus on the internal self (i.e., “the soul,” “personal character,” and personal accomplishments). The authors suggested that this change in perspective created a buffer against the social messages regarding aging that surrounded participants. Finally, participants noted that they sought to balance not looking “too young” or “too old.” They also noted that despite their internal emphasis, they still felt pressure from society to conform in certain ways (e.g., dyeing their hair) and noted that this was impacted by the norms of their geographic location.

Paquette and Raine (2004) studied 46 heterosexual women between the ages of 20-60 years old who were self-reported to be “healthy” and not pregnant, or with a child under the age of one, and without an eating disorder. Participants were interviewed twice within the same month regarding their experience of body image. Participants noted that body image fluctuated over time. They noted that they were impacted by the media, and those with greater body dissatisfaction made comments suggesting that they were more vulnerable to its influence. Participants noted that their partner’s comments towards their bodies influenced the impact of the media; however, the authors noted that it was not the actual comments, but the perception of the comments that mattered. This was also the case for comments made by other women. The only messages that were not reinterpreted were those made by health professionals. In some cases these messages positively influenced body image, and in some cases, they had a negative influence.

Halliwell and Dittmar (2003) also conducted interviews with a sample of 20 men and 22 women between the ages of 22 and 62 years old. Compared to the men, women reported experiencing their body as a collection of individual parts, rather than a whole

entity. Female participants prioritized “looking good” to a greater degree than male participants and reported that age had a negative impact on appearance. Men, on the other hand, prioritized being able to complete activities (as opposed to appearance), and noted that age could make them more attractive.

Collectively, this research suggests that middle-aged women have an ambivalent relationship with their bodies. That is, while they began to experience acceptance towards their body through focusing on internal characteristics (e.g., accomplishing goals) and familiarity with their body, they were still aware of negative body-related thoughts, and pressures from partners, and the media.

### **Older Women**

Hurd (2000) completed interviews with 22 White, heterosexual women ages 61-92 years old. Themes were identified after the interviews, and participants provided feedback on themes throughout the process. Hurd (2000) found that most participants viewed their bodies in a negative manner. The area of greatest concern was one’s weight, and preventing weight gain. Participants reported that they relied heavily on significant others’ and society’s opinions regarding their appearance. Some reported feeling a sense of acceptance towards their body, despite not liking it. This was facilitated through a focus on health and the resulting independence that comes with staying healthy. In fact, participants noted that they derived a stronger sense of self-worth from health than appearance. Participants also indicated that they compared their bodies to women that were famous when they were younger, and they rejected the current thin and toned “ideal” figure.

Liechty (2012) examined body image in older women (ages 60-69 years old) through qualitative interviews, both in an individual context and in the context of a focus group. Participants were recruited through a combination of flyers, which indicated that the study would examine body image, and through snowball sampling. Participants reported various SES levels, employment and marital statuses, and all had lived in the United States for at least 30 years. Race, ethnicity, and sexual orientation were not reported.

Participants indicated that body image encompassed more than their attitudes towards their weight/appearance, although, for the majority of participants, this was the first thing that came to mind when asked about body image. There was variation in the importance of appearance among participants—although the control they felt they had over their appearance seemed to be more important than whether or not they prioritized their appearance. For two of the 13 women, appearance was noted as being very important. They conceptualized attractiveness as having a thin and youthful body and, therefore, experienced lower body satisfaction with age. Four participants noted that body appearance was moderately important. They had an awareness that others judged them on appearance, but they noted that they were “not trying to look like celebrities.” These participants endorsed body dissatisfaction, but also self-acceptance. Finally, three noted that appearance was not important. They stated that they had always dressed in a sloppy way and preferred to focus on health and activities that they could engage in.

Overall, participants expressed a desire for thinness, or change to a certain area of the body, but expressed overall body satisfaction. This contradiction was also evident in

some of their other behaviors. For example, some noted that they weighed themselves more than they previously had, but were satisfied with their bodies. They also noted a degree of habituation to disliking their bodies. In explaining this discrepancy, most noted that they viewed themselves as younger and thinner than they currently were and that this self-view facilitated engagement in valued activities. They indicated that they were okay with aging and knew that other aging women shared the same experience. Some highlighted that how others perceived their body had a large impact on their evaluation of their own body. Those who expressed this sentiment typically communicated a desire to change if they felt that others' opinions impacted them too much. Physical health was prioritized in the conceptualization of body image (Liechty, 2012). Participants noted that looking good was tied to feeling good (i.e., healthy). Most also noted that appearance was not a vital part of their identity – they focused on internal characteristics. Many also noted self-acceptance, saying “I am who I am,” and this was independent of feeling either satisfied or dissatisfied with the body. Finally, participants noted feeling more confident when clothed.

Liechty and Yarnal (2010) examined personal and environmental factors that shape women's body image throughout their lives. They conducted individual interviews and subsequent focus groups with 13 women ages 60-69 years. Eleven of the 13 women expressed dissatisfaction with one area or aspect of their bodies (e.g., stomach, skin). They also simultaneously reported satisfaction with their bodies, however. Participants reported that different physical changes had an impact on their body image. Seven participants indicated that periods of weight loss positively impacted their body image.

Nine women indicated that they had experienced a shift in how they viewed their body due to education, divorce from a critical partner, role changes, or changes in self-perception, and this resulted in a more positive evaluation. All participants reported that close (i.e., spouse, parents, children) and more distant (i.e., peer) interpersonal relationships influenced how they perceived their bodies. The direction of this relationship varied with the nature of the relationship, overall. That is, if the relationship was characterized by conflict, then it also typically had a negative influence on participant body image. Ten participants reported societal influences on body image, although this varied by participant. Some reported that media models had aligned with their body type in youth, therefore, increasing their positive self-perception, whereas others reported feeling pressured by the thin ideal. Eleven participants reported that body image was shaped more by health as they aged. Six reported that personal characteristics had become more important to them in evaluating their body image. Nine of the women reported that their body image improved with age as a result of cognitive shifts in their perception of their bodies, though eight of these women reported that their body image fluctuated throughout their lives.

Hurd Clarke (2001) conducted semi-structured interviews with 22 White, heterosexual women ages 61-92 years old. Each woman completed two to three interviews (three to six hours each), so that themes could be clarified throughout the process. Participants described their sense of self, concept of beauty, life and body histories, changes that had occurred to their bodies while aging, and their feelings about these changes. Themes that emerged included the following: Most women reported that



they felt a discrepancy between their inner and outer self. That is, they reported that they felt as though their outer self, or body, was a “shell,” or even “prison,” for an inner self that was both younger and more stable than their exterior. Consistent with this idea, the majority of women also reported feeling “anxiety, shock, and disappointment” when viewing their reflected image because of the disparity between how they felt and looked. Finally, women indicated that mental health is more important than having an attractive body. Further, they posited that a healthy mental perspective influences the way that others perceive an individual’s physical attractiveness.

In a review of literature on body image in older women, Marshall, Lengyel, and Menec (2014) summarized qualitative studies that have been completed among women residing in areas where Western culture is prominent. Marshall et al. (2014) highlighted that there has been agreement among studies that women perceive sociocultural pressure to self-monitor, or objectify, their bodies from a young age, and also, to appear young.

Subsequently, women perceive the physical changes that occur with aging to have a negative impact on their bodies and appearance and they tend to compartmentalize and describe these changes in a negative manner. It is common for older women to hold discrepant views of their body. For example, they may report dissatisfaction with certain areas of their bodies, but also indicate overall satisfaction. Overall, older women appear to reach a level of satisfaction with their bodies and the importance of appearance decreases for this group over time.

Taken together, this research suggests that older female participants also report ambivalence surrounding body image (Hurd, 2000; Liechty, 2012; Liechty & Yarnal,

2010; Marshall, Lengyel, & Menec, 2014). That is, they concurrently hold acceptance and discontent with the body. Typically, discontent surrounds feeling as though there is a discrepancy between how old one feels (i.e., "felt age") and the appearance or functionality associated with this age versus their chronological age. Older participants also seem to experience a shift in body image whereby they begin to prioritize the health and functionality of the body over its appearance (Hurd, 2000; Hurd Clarke, 2001; Liechty, 2012). They also report not feeling pressure to conform to the current societal standards of beauty (Liechty, 2012), and instead, hold themselves to the standards that were in place when they were young (Hurd, 2000).

### **Differences in Body Image Among Diverse Racial and Cultural Identity Groups**

Research in this area is limited, not only by a smaller number of articles, but also by the conceptual limitations that occur when women of color complete questionnaires designed by White researchers and normed on predominately White participants. This process limits the conclusions that can be drawn and oversimplifies the complex body image experience of women of color (Watson, Lewis, & Moody, 2019). With these limitations in mind, the research that has been done in this area demonstrates that older participants report similar attitudes regarding aging, regardless of racial or ethnic identity. Jankowski, Diedrichs, Williamson, Christopher, and Harcourt (2016) conducted four focus groups (50-63 minutes each) to evaluate body image within a relatively diverse group of 28 men and women who were 66-92 years old and either White or South Asian. Using inductive thematic analyses, four themes emerged. Participants identified appearance as an outward representation of one's global health and social status.

Particularly, keeping oneself “clean and tidy” was a way of communicating self-esteem and respect for others. Social pressure determined the “appropriateness” of clothing – namely, whether it was “too young.” Both men and women reported pressure to age gracefully, without trying too hard to appear young. Participants indicated that being healthy is more important than looking good, although some noted that they are often intertwined. Across genders, participants believed that women face more pressure regarding their appearance and invest more in it. In this sample, participants denied a desire to appear younger and reported satisfaction with their appearance – although some women reported a desire to weigh less. They also reported that they do not believe that the media represents aging people well, if at all, and that even in their daily lives they felt disregarded in social situations more often.

Altschuler and Katz (2010) presented seven case examples of racially and ethnically diverse older women. These women all evidenced body image concerns related to aging. The theme of each woman’s concern was clarified during case consultation and during a national conference. Themes that arose included grief, loss, and shame surrounding bodily changes that had occurred with aging, a history of incest/sexual abuse altering the client’s relationship with their body, anger at society for setting unrealistic standards for women’s aging bodies, and frustration with disability accompanying age.

### **Body Dissatisfaction**

#### **Middle-Aged Women**

Although the term “body dissatisfaction” is often used interchangeably with “body image” in the literature, dissatisfaction is one component of body image that

appears to be more commonly assessed than other facets. This construct has importance because it is associated with a number of factors, such as mental health, health behaviors, etc. In a review of the literature, Slevec and Tiggemann (2011a) noted that body dissatisfaction is commonly reported in middle-aged women, and is associated with disordered eating, thin ideal internalization, negative affect, and dieting. These relationships are consistent with those reported among younger women; however, aging anxiety and menopause also contribute to the experience of body dissatisfaction in this age group. The time period surrounding menopause is associated with variables that may increase women's risk of developing body dissatisfaction. During this time, weight gain, increase in body fat, and redistribution of body weight move the body further from the sociocultural ideal. Unpredictably, there have been equivocal findings surrounding menopausal status. That is, some postmenopausal participants report higher body dissatisfaction, while others do not. In one study, women who engaged in hormone replacement therapy (McLaren et al., 2004) were more satisfied with their weight than a premenopausal sample; however, they were at a lower weight than the premenopausal group. Independent of menopausal status, a higher BMI is associated with body dissatisfaction, as is aging anxiety. In fact, Tiggemann and Slevec (2012) note that higher BMI has been most constantly related to body dissatisfaction and disordered eating among women. A higher BMI as early as seven years of age and greater increase in BMI throughout life predict body dissatisfaction among middle-aged women (Slevec & Tiggemann, 2011a).

Slevec and Tiggemann (2011a) note that there are equivocal findings surrounding

appearance investment and body dissatisfaction as well. Some have found that there is a positive relationship between appearance investment and body dissatisfaction, while others have found that there is no relationship between these factors (Slevec & Tiggemann, 2011a). Liechty's (2012) study suggests that appearance investment may be positive or negative depending on the level of control one feels over her appearance.

Grippe and Hill (2008) examined whether age and feminism moderated the links from self-objectification or body monitoring to body dissatisfaction. Their sample consisted of 138 heterosexual White American women between 40 and 87 years of age ( $M_{age} = 51$  years). Forty percent of their sample expressed body dissatisfaction. They found that age moderated the relationship between body surveillance and body dissatisfaction. As women aged, the relationship between these two weakened, suggesting that there is a similar relationship for middle-aged women as has been demonstrated in younger women, with body dissatisfaction being tied to body monitoring. Age was not correlated with self-objectification, body monitoring, or body dissatisfaction. One weakness of this study was that the authors dichotomized the sample based on the median age (51) and classified those who were above this cutoff as older, and those under it as younger. This distinction is not consistent with existing literature and may have made it more difficult for the authors to find differences between groups.

Runfola et al. (2013) examined body dissatisfaction in women ages 25-89 years. They operationalized dissatisfaction as a discrepancy between current and preferred figure using the FRS (Stunkard et al., 1983). Body dissatisfaction was highest for women ages 35-44 years (93%). There was a decrease in dissatisfaction with age; however, this

was not significant. They also conversely examined body satisfaction, operationalizing this as a preferred body and current body that were the same size. They found that this was the case for only 12% of the sample. Interestingly, satisfied women had lower BMIs, fewer eating disordered symptoms, and unhealthy weight control behaviors, and better overall functioning, than women with body dissatisfaction. Tiggemann and McCourt (2013) examined body satisfaction in a predominately White sample of women ages 18-75 years old. They found a positive relationship between body appreciation and age, and body satisfaction predicted body appreciation.

Gagne et al. (2012) conducted a study in which they surveyed 1,849 predominately White women (92% of the sample) over the age of 50 ( $M_{age} = 59$ ). Participants completed an online questionnaire that assessed demographic characteristics, present and past eating disorder symptoms, weight control techniques, as well as body concerns. Participants were also asked to compare their body to when they were younger. Sixty-two percent of the sample reported that concern regarding eating, weight, or shape occasionally to often impacted their lives, 63% reported that they thought about their weight daily, and 79% of women stated that this aspect of the self ranged from moderate to the most important aspect of their self-evaluation. Seventy-one percent were currently trying to lose weight as a result. In comparison to their younger selves, they indicated the most dissatisfaction with their stomach, shape, skin, weight, arms, face, and thighs.

Studies have also directly compared body dissatisfaction in middle- versus older age and younger versus older women. Kilpela et al. (2015) completed a review of body image in adult women. They reported that body dissatisfaction persists as women age,

remaining constant throughout mid- and late-life. They noted that older women demonstrate less thin ideal internalization than mid-life women. There also appears to be a consistent relationship between aging anxiety and body dissatisfaction, in that those with more aging anxiety demonstrate higher body dissatisfaction. Self-objectification continues to be related to body dissatisfaction; however, older women appear to experience less self-objectification than younger women. There are equivocal findings related to importance of appearance, with some finding that appearance concerns persist into old age, and others finding that these concerns decrease. Characteristic physiological changes tend to impact women's body image. For example, women tend to increase in weight during middle age, and then decrease in weight after 60 years of age. This period of increased weight is associated with greater body dissatisfaction. Finally, body dissatisfaction is negatively related to health behaviors in that greater body dissatisfaction is related to less exercise and increased smoking.

Lewis and Cachelin (2001) also compared two groups of predominately White women who differed on body image, drive for thinness, and eating attitudes. They compared a group of 125 middle-aged (ages 50-65) and 125 older (ages 66+) women. Participants completed the FRS (Stunkard et al., 1983) and the Eating Disorder Inventory (EDI; Garner, Olmstead, & Polivy, 1983). Results suggested that there was a significant discrepancy between the current and ideal bodies for the middle-aged, but not older group, suggesting higher body dissatisfaction among middle-aged women. The middle-aged women also endorsed significantly higher scores on the Drive for Thinness, Bulimia, and Interoceptive Awareness subscales of the EDI than older women.

Pruis and Janowsky (2010) compared a group of 19 younger (ages 25-35) and 19 older (ages 65-80) women on body image and body dissatisfaction. Participants completed a specialized FRS based upon morphed images of each participant's own body shape, the Sociocultural Attitudes toward Appearance Questionnaire-3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004), Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairbum, 1987), and an alternate version of the EDI (Schoemaker, van Strien, & van der Staak, 1994). They calculated body dissatisfaction through examining the difference between an individual's perceived current versus ideal body. On the SATAQ-3, younger women scored higher than older women on three of the four subscales, suggesting that they perceived more pressure to fit the thin ideal. Drive for thinness, as measured by the EDI, was higher in the younger group. Body dissatisfaction, as measured by the figure rating scale discrepancy score, did not differ between groups and BMI predicted dissatisfaction in both groups.

### **Older Women**

Roy and Payette (2012) completed a review of the existing literature on aging in Western older adults. They designated the studies they found as quantitative or qualitative. Outcomes found across quantitative studies included the following. Overall, body dissatisfaction continued to exist into old age, and was greater for women than men. Women identified being particularly concerned with their weight. There may be an age (79 or 80), whether determined subjectively (i.e., felt age) or objectively (i.e., actual age), where concern with appearance decreased, however. Certain areas or characteristics of the body (e.g., face, arms, weight) were identified as more distressing than others. As



people aged, there appeared to be a relationship between appearance and physical competency, whereas while appearance concern decreased, concern with competency increased. Diet and exercise were the most commonly reported techniques for losing weight, although these techniques changed with age. With increasing age, exercise frequency was positively associated with body satisfaction, and inversely related to dissatisfaction. Body dissatisfaction was related to mental health problems. Black seniors evidenced more body satisfaction than White seniors, and underestimated their weight when compared to White adults of a comparable size.

Qualitative studies examining body image in older women demonstrated the following. Women who used non-surgical procedures to alter the body reported that aging was undesirable for appearance, whereas women who rejected these procedures viewed aging-related changes to the body positively. Participants reported a belief that investment in health is legitimate, whereas investment in appearance is vain. Further, women endorsed making social comparisons with other women their age, and emphasized internal beauty more than they had in younger years. Women identified three life phases associated with increased body dissatisfaction: puberty, pregnancy, and menopause. Across all studies, it was clear that body dissatisfaction persists with age, and so do efforts to manage weight. Body dissatisfaction continues to be associated with negative mental and physical health outcomes. Further, older women desire a BMI that is 4 points below their current BMI, which is the same as in younger samples.

Ferraro, Muehlenkamp, Paintner, Wasson, Hager, and Hoverson (2008) assessed body image and body shape in 25 White men (ages 50-87 years) and 27 White women

(ages 56-85 years). Participants also completed measures of depression, anxiety, and intelligence. Participants completed the Body Dissatisfaction Subscale of the EDI (Garner et al., 1983), BSQ (Cooper et al., 1987), and Body Image Perception Scale (BIPS; Ferraro et al., 2008). The BIPS, developed for this study, asked participants to rate various areas of their body and their perception of the size of each. Finally, participants viewed figure line drawings of male and female older adults. Participants indicated which figures were socially acceptable, acceptable, which they liked the best, which they found to be ideal, which represented their current body size, and which were ideal for their age group on a 1-9 scale. As compared to the men, women in the study preferred thinner line drawings and showed greater concern about their weight and shape, despite the greater prevalence of overweight men in the sample. Generally, the results of this study suggested that older women continue to experience greater concern about shape and weight, as compared to men, even with age.

Bedford and Johnson (2006) also examined body image dissatisfaction in a sample of 49 predominately White younger ( $M_{age} = 21$  years) and older women ( $M_{age} = 70$  years). Participants in both age groups reported using exercise, dieting, and herbal supplements to control their weight. Overall, 78% of both groups of women reported body dissatisfaction. Younger women reported higher SATAQ-3 scores, while older women only reported elevated scores on the Pressure subscale. A linear regression indicated that, of the SATAQ-3 subscales, only Pressure was related to body dissatisfaction in younger and older women. This suggests that, for all women, an increased perception of pressure from the media is tied to increased body dissatisfaction.

Older participants reported that Protective Social Comparison on the Concern for Appropriateness Scale (CFA; Lennox & Wolfe, 1984) was related to body image dissatisfaction.

### **Differences in Body Image Among Diverse Racial and Cultural Identity Groups**

Middle-aged and older women tend to report some level of dissatisfaction with their bodies, regardless of racial or ethnic identity. However, overall, Black women report less dissatisfaction than White women of a similar age and weight status. Jackson et al. (2014) examined the relationship between body image satisfaction and depression in middle-aged women. Participants included 405 women (245 White and 160 Black) between the ages of 42 and 55 years. Participants completed measures of depression, figure ratings, BMI, perceived attractiveness, and weight satisfaction. Black women in this sample had a higher BMI than White women. The majority of the women, regardless of race, selected the same figure drawing as the “ideal” one. Black women were more likely to perceive their body as smaller than it actually was. Overall, body dissatisfaction, perceived attractiveness, and body weight satisfaction were similar in both races. Women with higher body image dissatisfaction believed themselves to be more unattractive, and were more likely to report higher levels of depression.

Schuler et al. (2008) examined body shape perceptions in a sample of 115 Black and 89 White women ages 55-86 years old. Participants identified the figure that they believed most closely matched theirs (i.e., their perceived figure) on the FRS (Stunkard et al., 1983) as well as the figure that they found to be “ideal.” A discrepancy score was formed by taking the difference between the participant’s “ideal” and current body. Body

mass index was also calculated for each woman so that a discrepancy between the BMI associated with their perceived figure and actual figure (i.e., actual BMI) could be calculated. They found that all women preferred an “ideal” body that was smaller than their own. They also found that Black women underestimated their body shape, as compared to White women. That is, for each one figure increase on the rating scale, White women increased in BMI by a smaller amount as compared to Black women. Sharpe, Vaca, Granner, Greaney, Sargent, and Rheume (2001) found this same discrepancy among an all-Black female sample ( $M_{age} = 73$  years).

Stevens, Kamanyika, and Keil (1994) studied eating behaviors and perception of body size in 278 White and 126 Black women over the age of 65 years ( $M_{age} = 73$  years). Women completed questionnaires assessing eating behaviors, body size perceptions, and dieting. Similar to Schuler et al. (2008), line drawings were used to create a discrepancy score between perceived and ideal body size. Among the overweight Black and White women, Black women were, on average, one BMI unit larger than White women. Additionally, 65% of Black women and 35% of White women were in this weight category. Black women reported being more satisfied with their body size, as compared to White women, and their self-rated attractiveness was independent of weight status.

Finally, Reboussin et al. (2000) conducted a study with a sample of 471 men and 383 Black and White women ages 35-75 years old ( $M_{age} = 51$  years). Participants completed measures of body satisfaction, depression, overall life satisfaction, feeling states related to exercise, and physiological fitness assessments (i.e., BMI, measurement of fat in skin folds, and a cardiorespiratory fitness via a graded treadmill exercise). The

authors completed a factor analysis to identify which factors comprise body satisfaction. They found that body satisfaction had two components: (1) satisfaction with one's body function, and (2) satisfaction with the body's appearance. They found that women were less satisfied with both components as compared to men. White individuals were also less satisfied with both components as compared to Black individuals. Feeling states and life satisfaction were both positively related to satisfaction with appearance and function, whereas depression and physical exhaustion were negatively related to both components of body satisfaction. The physiological measures of fitness were related to appearance satisfaction in expected directions for both men and women. For body function, however, there was only a (weaker) relationship for men and this consisted of BMI and body fat only.

Overall, it appears that, across different age and racial or ethnic groups, the desire to remain thin persists throughout the lifespan for women. Tiggemann and Sleviec (2012) refer to the static nature of body dissatisfaction as "somewhat surprising," expecting it to worsen with age due to the premium placed on female youth in the conceptualization of Western female beauty, coupled with the characteristic physical changes associated with aging noted earlier. Based on previous research, they hypothesized that there may be some protective factors afforded with aging. That is, women may make social comparisons to their peers, a more forgiving group than media models; they may have come to understand what is realistic for their own body; and/or they may have a better understanding of what men find attractive (the authors are assuming that women are sexually attracted to men here). While these hypotheses are viable, few studies have

examined them experimentally.

### **Behaviors Related to and Impacting Body Image**

The following section outlines a number of behaviors that women commonly report using to manipulate the way that their body appears, or that impact how they view, or interpret, their bodies. Some are related to negative body image; however, some allow women to have a sense of control over their self-presentation and are therefore, experienced positively.

### **Disordered Eating in Middle-Aged Women**

Mangweth-Matzek, Hoek, and Pope (2014) reviewed research on disordered eating and body dissatisfaction in a middle-aged female sample. In a study by Hilbert, de Zwaan, and Braehler (2012) that examined EDE-Q scores in a German sample of women ages 14-95 years, women under 24 years old had the highest EDE-Q scores; however, there was a second increase in EDE-Q scores that occurred for women who were ages 45-55 years old on all subscales with the exception of eating concerns. Mangweth-Matzek et al. (2014) also cited another study (Hay, Mond, Buttner, & Darby, 2008) in which eating disorder behaviors were assessed in an Australian sample ( $M_{age} = 44.3$  years) in the years 1998 and 2008. Binge eating and “extreme dieting” were the most common behaviors reported, and there was an increase in these behaviors over the course of 10 years, suggesting that they were becoming more prevalent among women over time. Ackard et al. (2013) also found a significant increase in the percentage of middle-aged women (defined as 40+ years of age) who sought treatment for an eating disorder between the years 1989-2001 (4.7%) as compared to 2002-2006 (11.6%). They reported

that these treatment seekers were similar to younger women in treatment, except for the fact that their reported age of onset was slightly older (21 years versus 17 years). They were more likely to be married and reported a longer duration of illness.

Mangweth-Matzek and Hoek (2017) again conducted a review of eating disorders in middle-aged women. They cited a prevalence study where 3.6% of women 40-50 years of age had an eating disorder in the course of the past 12 months (Micali et al., 2017). Other specified feeding or eating disorder (OSFED), followed by binge eating disorder (BED), were the most common diagnoses. The women reported a lifetime prevalence of 15.3% and childhood sexual abuse was related to all disorders characterized by binge eating.

McLean, Paxton, and Wertheim (2010) assessed body appearance and self-care in an Australian sample of 200 women ages 35-65 years. Thirty-four (17%) of these women scored high enough on the EDE (Fairburn & Cooper, 1993) to suggest that they had an eating disorder. One qualification to their findings, though, is that the sample was recruited via advertisement. This suggests that they may have been a group with a greater amount of eating disorder behavior than would be found in the average population. They established that disordered eating behavior was positively associated with importance of appearance and BMI, and negatively associated with importance of body function, cognitive reappraisal, and self-care. Overall, this also suggested that disordered eating behavior is associated with fewer positive self-care behaviors.

Mangweth-Matzek, Hoek, Rupp, Kemmler, Pope, and Kinzl (2013) examined menopause as a period of potential elevated risk for disordered eating behavior. They

evaluated a sample of 715 Austrian women between the ages of 40-60 years in various stages of menopause. They found that perimenopausal women had a significantly higher rate of eating disorders compared to premenopausal women (2% versus 9%, respectively), higher scores on the BSQ, and higher rates of “feeling fat” compared to the rest of the sample. Gagne et al. (2012) surveyed 1,849 predominately White women ( $M_{age} = 59$  years). Overall, 13% of the sample endorsed current eating disorder symptoms, and the presence of these symptoms coincided with greater body concern. The prevalence of current eating disorder symptoms (e.g., laxative use, vomiting) was inversely related to age.

In a summary of literature on middle-aged women, Slevec and Tiggemann (2011a) noted that inpatient hospitalization for eating disorders has reportedly risen by 100-400% throughout the past decade, further suggesting that there has been an increase in eating disorders among this age group. One-third of middle-aged women with an eating disorder reported an onset after young-adulthood. While anorexia nervosa does not appear to be as prevalent in this age group, as compared to younger samples, the rate of bulimia symptoms is similar (Perez, Hernandez, Clarke, & Joiner, 2007). Disordered eating also appears to be common in this age group. Across studies, women report restricting their food intake to control their weight and experience dissatisfaction or anxiety around eating (Slevec & Tiggemann, 2011a). Self-objectification, negative affect, perfectionism, and aging anxiety appear to be related to disordered eating as well (Slevec & Tiggemann, 2011a).

In a literature review, Baker and Runfola (2016) highlight that medical



complications associated with eating disorders in middle-age may be more common, and have a greater negative impact on these women due to their lowered ability to fight disease – in comparison to young women. They also noted that around the time of perimenopause, the risk of eating disorders and disordered eating symptoms—especially those that include binge eating—increases for women. They hypothesize that this may be due to the changes in estrogen levels that occur during this time of a woman’s life.

Cumella and Kally (2008) compared women who presented for inpatient eating disorder treatment either between the ages of 18-25 years (younger adult) or between 40-65 years old (middle-aged). Of note, the authors did not compare two samples from their facility—rather they compared the information of their own middle-aged clients to literature published on younger women in other inpatient treatment facilities. Participants completed the BDI-II (Beck, Steer, & Brown, 1996), BAI (Beck & Steer, 1993), MMPI-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), and EDI-2 (Garner, 1991). They found that middle-aged women were more likely to present with restricting behaviors (64%) than with symptoms of bulimia nervosa (8%), which is markedly different from younger samples where up to 40% present with bulimia. They were more likely to have made suicide attempts, have a trauma history, higher rates of previous inpatient treatment, comorbid depression, bipolar disorder, and substance dependence—specifically cannabis and opioids than younger women in inpatient treatment. They endorsed a pattern of scores on the MMPI-2 consistent with relying on denial, a lack of emotional awareness. Their scores suggested less impulsive behavior than was found in the literature on younger women. The middle-aged women in this sample endorsed lower

levels of body image disturbance than has been found in younger samples.

### **Disordered Eating in Older Women**

Guerdjikova, O'Melia, Mori, McCoy, and McElroy (2012) examined weight and shape concerns in a sample of 20 predominately White (90%) women ( $M_{age} = 68.5$  years) who endorsed clinically significant objective binge episodes. They found that these women endorsed moderate weight and shape concerns, and indicated that these factors were important in their self-evaluation as measured by the EDE (Fairburn & Cooper, 1993). Sixty-five percent of participants reported that they had tried more than five diets throughout their lives.

Roy, Shatenstein, Gaudreau, Morais, and Payette (2015) examined rates of obesity, anorexia of aging (a term more commonly used in medical literature operationalized as endorsing decreased appetite over the previous 6 months), and body dissatisfaction over the course of five years in Canadian male and female participants between the ages of 67-84 years old. Anorexia of aging was associated with increased mortality in older individuals. They found that, at the first follow-up, body weight dissatisfaction and anorexia of aging were higher in women than men. Higher education was associated with anorexia of aging in both men and women, whereas depression was uniquely associated with anorexia of aging in men and obesity in women. Rates of obesity were similar in both sexes. Weight dissatisfaction was not associated with weight loss in both sexes, but was associated with weight gain in men. The strengths of this study included the sample size and the measurement over time. However, important constructs (i.e., anorexia of aging, and body dissatisfaction) were measured using a single

item, which may not have adequately captured these constructs.

### **Body Work**

In a review on body image and body work, Marshall et al. (2014) found that while some women accept “aging gracefully” as they become older and do not engage in body work, others engage in body work to appear younger. Regardless, women report wanting to appear as though they are aging in a “natural” manner. Muise and Desmarais (2010) found that age, income, and aging anxiety were highly related to women’s intent to purchase, and use, anti-aging products. Younger women reported that they were likely to use anti-aging products as a preventative measure.

Tiggemann and Slevac (2012) noted that middle-aged women comprised the majority of the consumer group purchasing cosmetic surgeries in 2009. They most commonly had liposuction, breast implants, eyelid surgery, tummy tucks, and facelifts—all surgeries aimed at appearing younger. This profile barely changed a decade later in 2018, with those ages 40-54 consuming half (7.8 million) of all the cosmetic surgical procedures performed, with the most common being liposuction, breast implants, eyelid surgery, tummy tucks, and rhinoplasty. Further, women consume 92% of surgeries (American Society of Plastic Surgeons, 2019). Slevac & Tiggemann (2010) examined women’s attitudes towards cosmetic surgery. Participants included 108 women ages 35-55 years. The majority of their sample was married and White. Participants completed paper and pencil questionnaires that included the Acceptance of Cosmetic Surgery Scale (ACS; Henderson-King & Henderson-King, 2005), the Body Areas Satisfaction Subscale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash, 2015), the

Appearance Schemas Inventory (ASI; Cash & Labarge, 1996), and the Physical Appearance subscale of the Aging Anxiety Scale (AAS; Lasher & Faulkender, 1993). Results indicated that appearance investment, body dissatisfaction, media consumption, and aging anxiety all predicted consideration of cosmetic surgery.

### **Clothing Use**

Some studies suggest that clothing and grooming may take on a greater importance as women age. Tiggemann and Sleviec (2012) noted that those middle-aged women higher in body dissatisfaction reported less enjoyment of shopping, and using clothing as camouflage. They reported that all women identified fitting into clothes as motivation to maintain a certain weight. Liechty's (2012) sample of older women (ages 60-69 years old) noted that they use clothing to highlight features of their body/coloring that they appreciate. The focus on clothing offered a sense of control over how they present their bodies to others, and allowed them to avoid calling attention to an older appearance. In the context of a focus group, older female participants who endorsed high importance of appearance reported that they engaged in appearance management throughout life (e.g., focusing on clothes, makeup, hair) and anti-aging measures later in life (i.e., hair dye and anti-aging creams) (Liechty, 2012).

Two others who endorsed high appearance importance conceptualized it as wearing clothing that makes you feel confident so that you look good. They noted that they tried to look stylish and color-coordinated, and reported a positive body image. They explicitly noted a lack of focus on the body. For individuals who endorsed moderate appearance importance, they found it important to appear well-groomed and

appropriately dressed. Tiggemann and Sleviec (2012) noted that measures for younger women (which are often applied to older female samples) do not capture this aspect of body manipulation, despite its recurrence in the middle-aged and older women's literature.

### **Media Use**

Hefner et al. (2014) assessed whether viewing televised midlife actresses (i.e., aging media) was related to disordered eating, stricter food choices, and body dissatisfaction. Participants included 166 predominately White participants ages 30-66 years old ( $M_{age} = 44.57$  years) who completed survey questions online. Participants indicated how often they viewed aging media, completed a measure of disordered eating (Eating Attitudes Test; Garner & Garfinkel, 1979), identified an "ideal" and their own perceived body size using a FRS (Stunkard et al., 1983), and completed a food choice questionnaire. As a manipulation check, participants estimated the age of 22 different presented actresses. The media related to actresses appearing younger than their age was used in analyses. Viewing aging media was positively related to disordered eating, strict food choices around others, and body dissatisfaction.

Borland and Akram (2007) examined young and middle-aged women's reactions to media advertisements as well as differences in body satisfaction. Participants included a convenience sample of 40 participants who were divided into two groups based on age. The younger group consisted of individuals ages 18-30 years, and the older group consisted of women ages 35-50 years old. Participants identified their current and ideal body size using the Contour Drawing Rating Scale (CDRS; Thompson & Gray, 1995).

Participants were then shown three advertisements and asked to identify their reactions to the images as well as their willingness to buy the advertised product.

Older participants reported greater body dissatisfaction, in that they reported a greater distance between their current and ideal body size. When women viewed the advertisements, the younger group reported striving to appear similar to thin models and finding those images inspiring, whereas older women reported that they were unlikely to purchase items after viewing it on a thin model and found one of the images to be objectifying. They reported greater motivation to purchase realistic items, and viewed an image of “normal” weight models to be inspiring. Overall, this study suggested that younger and older women may be motivated or impacted by different media images. Of note, the authors did not classify racial or ethnic identifiers for their United Kingdom sample.

Del Rosso (2017) conducted a textual analysis of full page print advertisements in three magazines (Fitness, Shape, and Women’s Health) whose target age groups are women around 40 years of age, who are married, mothers, college-educated, employed, and upper middle class. In the review of these advertisements, Del Rosso (2017) noted that women were commonly shown groomed in a feminine manner, while displaying masculine body language (e.g., in action or dominant poses, arms or legs filling the space). Del Rosso (2017) also noted the emphasis on heteronormative capitalism; that is, suggesting that women should buy products that will increase their outward appearance and improve their desirability to a heterosexual partner. The author found that there were many pseudoscientific claims made regarding products (e.g., anti-wrinkle cream), and

that age and beauty were correlated with health, suggesting that age was an ailment that could be treated. The final note made by the author was that groups other than White women were not well-represented, which served to make other groups invisible.

Kaiser and Chandler (1988) conducted in-person interviews with 55 predominately White participants ages 50-90 years old ( $M_{age} = 69.3$  years). Participants were presented with 11 photographs of older individuals taken from the media and asked to speak about the clothing, models, and situations depicted in the photographs. Participants reported that they found an image of a woman with arthritis to be most typical; however, many of them distanced themselves from this image saying that it was not representative of their experience. In fact, many participants distanced themselves from other older persons through their indication that they and their friends were not like other older individuals. Participants reported skepticism when models appeared to be in an unrealistic pose (e.g., sitting on the floor), or when their expression did not appear genuine. Participants reported a preference for images in which models' clothing was neat, and all aspects of the photo (i.e., pose, situation, clothing) were realistic for someone their age. They reported that clothing, makeup, and hair were a way to demonstrate effort and "not giving up," again suggesting that clothing may play a significant role in appearance manipulation for older individuals.

Kozar and Damhorst (2009) examined predominately White participants between the ages of 30-80 years old ( $M_{age} = 61$  years) recruited from philanthropic and social organizations. Participants completed measures of how closely they felt features of their bodies aligned with "ideal" features, the importance of each feature, and satisfaction with

different body features. Overall, participants reported that their bodies closely aligned with their “ideal” body features; however, the discrepant features were rated as most important to their appearance. Those who highly rated appearing “ideal” reported less body satisfaction.

Recently, the number of middle-aged celebrities who fit the thin ideal has increased. Because of this increase in middle-aged media models, Slevec and Tiggemann (2011b) investigated whether media use impacts consequent disordered eating behavior and body dissatisfaction in middle-aged women. Their sample consisted of 101 predominately White women ages 35-55 years old ( $M_{age} = 44.26$  years). They found that television exposure related to disordered eating and body dissatisfaction. This sample of middle-aged women reported that they would most like to look like other middle-aged actresses (e.g., Jennifer Aniston), models, a younger version of themselves, no one, and singers more than themselves. Participants cited appearance-related reasons for wanting to look like others.

### **Old Talk**

Becker, Diedrichs, Janowski, and Werchan (2013) examined “old talk” in a sample of 18-87 year olds ( $M_{age} = 36.80$  years). “Old talk” refers to a phenomenon whereby individuals engage in conversation that reinforces the belief that aging is a process to be avoided. Examples include statements pointing out new wrinkles, discussing ways to avoid appearing older, and providing reassurance that a friend does not appear older. This form of communication is highly related to aging anxiety and reinforces avoiding appearing old at all costs. Becker et al. (2013) found that 66% of



participants endorsed engaging in “old talk” and that the frequency with which they engaged in it increased with age. The frequency with which individuals engage in this type of conversation is also correlated with the frequency with which they engage in the similar, but distinct, phenomenon “fat talk” which reinforces being thin.

### **Existing Eating Disorder Treatments for Middle-Aged Women**

In their review of eating disorders in middle age, Mangweth-Matzek and Hoek (2017) noted that only roughly a quarter (27.4%) of women who had ever had, or currently had an eating disorder, sought treatment for it. Of these women, 8% presented to a general practitioner. In their review of treatments for eating disturbance in women *without* diagnosed clinical eating disorders, Lewis-Smith et al. (2016) identified three studies that examined psychological treatment outcomes for eating disorders. They noted two studies using CBT, and one using ACT. These treatments focused on reducing body image disturbance and disordered eating. The authors indicate that body image is an important explicit focus of treatment as it was a component of all treatments that showed improvement. Of note, none of the studies included enough detail to determine what treatment component brings about the most change. Additionally, the longest study follow-up point to date is a 6-month follow up, suggesting there is much to learn in this area of research.

### **Gaps in the Literature**

The tripartite influence model (Thompson et al., 1999) combines several factors in predicting body dissatisfaction. This model, developed with a sample of younger women, suggests that media use and interpersonal influence from peers and family lead to the

development of body dissatisfaction and potentially disordered eating through the process of social comparison and thin ideal internalization (see Figure 1). In their review of predictors of body dissatisfaction and disordered eating in middle-aged women, Slevec and Tiggemann (2011a) note that it is difficult to draw conclusions regarding perceived sociocultural pressure for middle-aged women due to the dearth of studies in this area. As discussed above, Slevec and Tiggemann (2011b) came closest to validating this model for a middle-aged sample when they examined elements of the tripartite model and found media exposure to be related to body dissatisfaction and disordered eating through media processing, a construct which included thin-ideal internalization, social comparison, appearance investment, and aging anxiety. Of note, they did not assess whether women make social comparisons to media figures.

The current study examined whether parts of this model fit for a middle-aged female sample through further developing our understanding of the following areas: Peer Influence, Parental Influence, Media Influence, Internalization, and Social Comparison (see Figure 2). This study has ramifications for social comparison theory as it pertains to a middle-aged female sample. Currently, we do not know whether middle-aged women make social comparisons to media sources, and if so, whether they compare themselves to all media or a subset of media figures. Qualitative studies (e.g., Hurd, 2000), or specific questions in studies (i.e., Slevec & Tiggemann, 2011b), have suggested that women may compare themselves to similarly-aged models or models who were popular when participants were younger. Those studies that have used quantitative approaches have used questionnaires to assess participants' likelihood of comparing themselves to

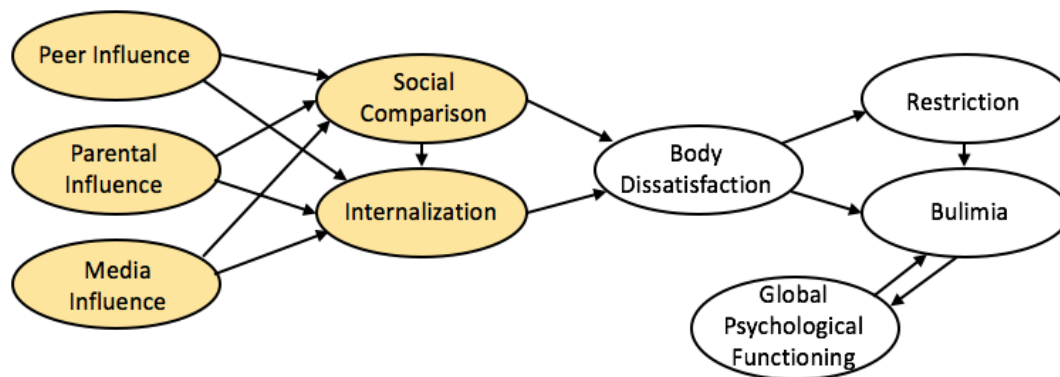


Figure 2. Variables of the Tripartite Influence Model Investigated through this Study (Reproduction of Figure 11.7A p. 320; Thompson et al., 1999)

media figures generally (e.g., Green & Pritchard, 2003; Kozar & Damhorst, 2009; Slevec & Tiggemann, 2011b). One has asked about media consumption (i.e., frequency of viewing television and magazines; Slevec & Tiggemann, 2011b). No studies to date have examined this question using actual media images of both younger and middle-aged women (Slevec & Tiggemann, 2011a). Because of this, it has been unclear whether middle-aged women make social comparison when exposed to media images, despite the fact that this has been well-established in younger samples (Groesz et al., 2002).

Festinger (1954) would hypothesize that the lack of similarly-aged comparison targets in the media might be protective for women because they would be less likely to make social appearance comparisons to this highly deviant sample. Several authors (Bessenoff & Del Priore, 2007; Grogan, 2008; Peat, Peyerl, & Muehlenkamp, 2008) have suggested that middle-aged women may be protected by the lack of similar-aged comparisons in the media; however, this theory has not been directly tested. Bessenoff

and Del Priore (2007) have also posited a hypothesis for the opposite direction. While they acknowledge that the lack of similarly-aged media targets may be protective for women because they may compare themselves to same-age peers (a more realistic sample), they also note what Festinger (1954) might also suggest—that if middle-aged women find these media images to be a highly desirable or motivating sample, they may make upward comparisons to a more unrealistic sample. If so, this would mean that middle-aged women make social comparisons to an even more disparate sample, and therefore might experience similar or greater negative effects than a younger sample.

The answer to this question is significant because media exposure has been shown to be a risk factor for body dissatisfaction in younger samples (Groesz et al., 2002). Further, Tiggemann and Slevec (2012) note that the number of middle-aged actresses in the media is growing, and cite their study where middle-aged participants reported most wanting to appear like other middle-aged actresses. If this study's hypotheses were supported, this would suggest that middle-aged women are also media targets. Treatment-wise, it would suggest that dissonance interventions would want to include addressing the impact of media, and to also use media examples that are salient for this age group.

Additionally, this study adds to our understanding of social reinforcement theory. Tiggemann and Slevec (2012) suggest that few studies have examined peer and family influence on body image in middle-aged women. The studies that exist do not provide a comprehensive understanding of the nature of peer and family pressures that middle-aged women experience (Slevec & Tiggemann, 2011a). These studies have asked about past

comments from family, as well as current partner opinion (Clarke & Griffin, 2007; Green & Pritchard, 2003) and perceived dieting among peers (Gravener et al., 2008). With so few elements of social pressure examined, there is much to explore. This study examined the impact of mothers, fathers, partners, children, friends, and acquaintances together to determine the nature of the feedback participants have received regarding their body, as well as from whom participants have perceived the greatest pressure regarding their body.

The answer to this question is significant because this is a key part of the tripartite influence model that has not been examined in this population. Because of the different roles that middle-aged women often hold in comparison to teenagers and young adults, middle-aged women may perceive different sources of pressure to manipulate their body shape. Having a greater understanding of this area informs whether interpersonal pressure should be addressed in treatment and prevention in this population; and if so, which relationships pose the largest threat for this age group.

This age group is particularly vulnerable when it comes to risk of body dissatisfaction and eating disorders. Women in this age group appear to experience greater body dissatisfaction than older women (Stunkard et al., 1983). In one study with a sample of women ages 14-95 years, there were higher reported EDE-Q scores in women aged 45-55 years than all other women—except for those under 24 years (Hilbert et al., 2012). This coincides with a time of weight gain for women (Kilpela et al., 2015). The incidence of women seeking treatment for eating disorders in midlife is rising (Slevec & Tiggemann, 2011a) and eating disorders in middle-age are associated with greater

medical complications than in young women (Baker & Runfola, 2016). Finally, middle-aged women are the primary consumers of cosmetic surgery in the United States—electing to engage in surgery to appear younger (Tiggemann & Sleviec, 2012). While this study particularly focused on informing body image theory, it has implications for health attitudes and behaviors as well.

### **Summary**

Theories of the development and maintenance of maladaptive eating behavior in young women have primarily included the sociocultural theory encompassing social comparison and social reinforcement theories. There is preliminary evidence to suggest that these theories apply to aging women as well; however, environmental factors promoting dissatisfaction in middle-aged women may be different than in younger women.

Middle-aged women may have a different relationship with media and may perceive different sources of pressure to fit the thin ideal, as compared to younger women. This project promoted a clearer understanding of body-related social comparisons and pressure that takes place among middle-aged women. As part of a larger program of research, these findings may help to contribute to the development of efficacious interventions for body dissatisfaction and disordered eating behavior in middle-aged women. This is particularly important due to an increase in those seeking treatment for eating disorders in this age group.

### **Study Aims**

The objectives of this study were to determine the impact of media and significant

interpersonal relationships on middle-aged women's body image, including body dissatisfaction. This study compared, younger women (ages 18-34 years) to middle-aged women (ages 35-60 years) to elucidate theoretical factors more thoroughly than in previous studies. Three hypotheses (1a, 1b, 3) were approached as research questions because they had not been adequately investigated in existing literature to form a hypothesis with a direction. Specifically, the following aims were tested:

**1) Specific Aim 1. Evaluate to whom middle-aged women are making body-related social comparisons.**

- a. Hypothesis 1a: Examine whether middle-aged women (ages 35-60 years) report different frequency of exposure to various media sources than younger adult women (ages 18-34).
- b. Hypothesis 1b: Examine whether middle-aged women (ages 35-60 years) report different frequency of body comparisons to various media sources than younger adult women (ages 18-34 years).
- c. Hypothesis 2: Middle-aged women (ages 35-60 years) would report comparing their bodies to older celebrities than younger adult women (ages 18-34 years).
- d. Hypothesis 3: Examine whether middle-aged women (ages 35-60 years) would report comparing different areas of their bodies to media models than younger adult women (ages 18-34 years).
- e. Hypothesis 4: Middle-aged women would report making naturalistic comparisons with peers and female family members to the same degree as

younger women.

**2) Specific Aim 2. Identify the sources of inter- and intrapersonal pressure that middle-aged women report regarding bodily appearance.**

- a. Hypothesis 1: Middle-aged adult women would report perceiving the most pressure to alter their weight or shape from previous versions of themselves as compared to current partners, peers, and family members.

**3) Specific Aim 3. Identify the impact of inter- and intrapersonal pressure that middle-aged women report regarding bodily appearance.**

- a. Hypothesis 1: Middle-aged women would report that perceived pressure to alter their body from peers is more strongly related to disordered eating than pressure from family.
- b. Hypothesis 2: Middle-aged women would report that societal and interpersonal influence to alter their body is positively correlated to disordered eating.



## CHAPTER 3

### METHODOLOGY

#### **Participants and Recruitment**

Upon approval from the Institutional Review Board (IRB) at the University of Missouri – Kansas City (UMKC), 138 English-speaking women ages 18-60 years were sought to participate in this online study. UMKC students, staff, and faculty were recruited from UMKC's campus through Psych Pool and fliers posted around campus. Participants were also recruited through email, professional listservs, and recruitment websites (e.g., Facebook). Snowball sampling, a technique in which research participants recruit other participants, was used. Prior to study initiation, participants completed a brief introductory screening measure to ensure eligibility. Namely, participants were asked to disclose their age, gender, and whether they were pregnant or had been within three months post-partum. Participants were also sorted into quotas by age group (e.g., 26 participants ages 18-23 years) to ensure an even distribution of respondent's ages. Once the age group quota was full, additional participants could not complete the study.

#### **Method of Data Collection**

Once they had completed the brief screening process, participants provided consent electronically, and completed the study through Qualtrics. The questionnaire was estimated to take approximately 60 minutes to complete. UMKC undergraduate students had the option to complete the study for research credit. Non-UMKC students and those not interested in research credit were sent a \$10 gift card via email upon completion of the study.

## Measures

### Characterization of the Sample

**Demographic information.** Participants completed a demographic questionnaire that included questions regarding sex, date of birth, height, current weight, race, ethnicity, highest education level attained, marital status, employment status, menopausal status, and annual income. In order to help characterize the sample, participants were also asked to identify if they had experienced a trauma, and if they had a serious health issue. Participants were asked if they were currently taking hormone replacement therapy. Finally, participants were also asked to respond to the following questionnaires to characterize the sample:

**Age anxiety.** Participants completed the Aging Anxiety Scale (Lasher & Faulkender, 1993). This 20-item measure includes four subscales: (1) Fear of Old People, (2) Psychological Concerns, (3) Physical Appearance, and (4) Fear of Loss. An example item on the Physical Appearance subscale is, “I have never lied about my age in order to appear younger.” Responses were indicated utilizing a 5-point Likert scale (1 = *definitely disagree*, 5 = *definitely agree*). A sum score for each factor was calculated. Higher scores indicate greater aging anxiety. The scale was developed in a sample ranging in age from “below 25” to “over 74.” Lasher and Faulkender (1993) obtained  $\alpha$  values between .69 and .78 in their sample. In a sample of men and women ages 18-88 years old ( $M_{age} = 39.73$  years), Brunton and Scott (2015) found questionable to acceptable internal consistency ( $\alpha = .69 - .78$ ). In this sample,  $\alpha$  values were between .34 (Physical Appearance) and .77 (Psychological Concerns).

**Appearance investment and importance of appearance.** Participants completed the Appearance Schemas Inventory-Revised (ASI-R; Cash, Melnyk, & Hrabosky, 2004). This 20-item self-report measure assesses investment in appearance. It includes two subscales: Self-Evaluative Salience, a construct that captures the degree to which appearance plays a role in self-evaluation, and Motivational Salience, a construct which captures the degree to which individuals pay attention to and actively manage their appearance. An example item is, “What I look like is an important part of who I am.” A total sum score for the questionnaire was calculated. Higher scores indicate greater appearance investment. The scale was developed in a sample of undergraduate students. Slevec and Tiggemann (2010) obtained excellent internal consistency ( $\alpha = .90$ ) in a sample of middle-aged women. In this study, the  $\alpha$  value was .89.

### **Specific Aim 1 Assessments**

*Participants completed the following assessment for Hypotheses 1a and 1b:*

**Media use.** The Multi-Media Usage Scale (Heo & Cho, 2009) is a self-report scale that assesses media use across several domains. It asks respondents to indicate the amount of time they spend (in total) using media each week. It then asks respondents to rate the frequency with which they use 24 different media sources (e.g., internet blogs, magazines) using a Likert-type rating scale (1 = *Rarely*, 7 = *Almost every day*). Heo and Cho (2009) developed this study with an undergraduate sample of 75% females (age not reported). They reported a Cronbach’s  $\alpha$  of .92 for media use (and gratification, which will not be assessed in the current study). This measure had not been used in a middle-aged female sample to date, but was one of the most comprehensive media use

assessments available. The Cronbach's  $\alpha$  for this sample was .77. To address Hypothesis 1b, this questionnaire was modified with the addition of questions that ask, "Do you compare your body to individuals or images in this media source?" An example response option included Cable TV, which could include making body-related comparisons to those shown on TV. An additional response option was Radio, which could include making body-related comparisons based on the content of the show (e.g., discussion of dieting or weight-control methods). Participants rated frequency of body-related comparison on a 7-point Likert scale (1 = *Rarely*, 7 = *Almost every day*) and also had an "N/A" option which was equivalent to a response of "0". A total sum score was created for each media source (e.g., TV = Cable TV, Network TV, and Satellite TV). The Cronbach's  $\alpha$  for the slightly modified scale was .91.

*Participants completed the following task to address Hypothesis 2:*

Similar to previous studies of media models (e.g., Sypeck, Gray, & Ahrens, 2004), images of prominent media models were used as a proxy for media exposure. Participants were shown images of current female celebrities ages 18 – 60 years. Women who were displayed included women who had been included as "fabulous faces" (aka World's Most Beautiful) according to People magazine. Three models were represented for each decade (e.g., 18-30, 31-40, 41-50, etc.). Participants viewed each image in a random order and indicated whether they would typically compare their body to the media model using a dichotomous "yes" or "no" response option.

*Participants completed the following task to address Hypothesis 3:*

Participants were shown one of four pairs of images. Pairs consisted of one

current woman celebrity or model between the ages of 45-60 years and one current woman celebrity or model between the ages 18-34 years. Representative women were selected from People magazine's "fabulous faces," but were different from the women above. Upon viewing each pair, participants were asked, in a forced-choice format, to whom they were more likely to compare themselves. Then, they were presented with a body area/feature comparison checklist (items from Body Comparison Scale, Thompson, Coovert, & Stormer., 1999) and asked to select features they were likely to compare.

**Appearance-based social comparison.** The Body Comparison Scale (BCS; Thompson et al., 1999) is a 25-item questionnaire where participants indicated how frequently they compare certain body parts of themselves to others'. In this study, after looking at each model, participants responded with the frequency with which they were likely to compare that area of the body to the presented model on a 5-point Likert-type scale (1 = *Never*, 5 = *Always*). An example item on this scale is, "shape of face." Items were grouped into the following categories: face/head, upper body, lower body, muscle, and shape. A mean score for the category was calculated. Higher scores indicated greater likelihood of comparing the body area to the model. This scale was developed in a sample of students ranging from those in high school to college undergraduates. Steenhuis, Bos, and Mayer (2006) obtained excellent internal consistency ( $\alpha = .96$ ) in a sample of middle-aged women and men ( $M_{age} = 46.4$  years;  $SD = 14.4$  years). In the current sample, responses following the first pair of images were examined and Cronbach's  $\alpha$  was .97.

*Participants completed the following assessment for Hypothesis 4:*

**Appearance-based social comparison.** The Body Comparison Orientation subscale of the Body, Eating, and Exercise Comparison Orientation Measure (BEECOM; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012) is a six-item questionnaire assessing how frequently (1 = *Never*, 5 = *Always*) an individual compares her body to female peers in a variety of contexts. An example item on this scale is, “I pay attention to whether or not I am as thin as, or thinner than, my peers.” This questionnaire was amended to assess whether these same comparisons are also made to female family members, for a total of 12 questions. An example item on the modified scale is, “I pay attention to whether or not I am as thin as, or thinner than, female family members.” A mean score for the (a) peers, and (b) family members questions was calculated. Higher scores indicate greater likelihood of comparison to the indicated group. The scale was developed in undergraduate students. In a sample of women ranging from 19 to 76 years old ( $M = 35.26$  years,  $SD = 12.42$  years), Homan and Tylka (2015) obtained excellent internal consistency ( $\alpha = .95$ ). In this sample, excellent internal consistency was demonstrated for the peers ( $\alpha = .96$ ) and family ( $\alpha = .96$ ) subscales.

### **Specific Aim 2 Assessments**

*The following questionnaires pertained to Specific Aim 2, Hypothesis 1:*

**Interpersonal pressure.** This measure, developed for this study, includes questions that assess participants’ perceived pressure to alter their body based on feedback, either explicit or suggested, from close others, acquaintances, and from themselves to appear similar to an “ideal” version of the self. This scale allowed for a direct comparison of perceived pressure experienced from differing inter- and

intrapersonal sources. An example item is, “How frequently has your *mother, or female guardian*, made overt negative comments about your weight or shape?” Participants were also asked to rate their figure using a figure rating scale, and to indicate their current shape, their desired body shape, and the body shape they believe others (e.g., mother, father, children, etc.) would prefer they assume.

### **Specific Aim 3 Assessments**

*Participants completed the following questionnaires relevant to Specific Aim 3, Hypotheses 1 and 2:*

**Eating disorder symptoms.** Participants completed the Eating Disorder Examination Questionnaire (EDE-Q; Black & Wilson, 1996), a 28-item self-report questionnaire. This questionnaire assesses disordered eating over the prior 3 months and is comprised of four subscales: Restraint, Weight Concern, Shape Concern, and Eating Concern, as well as a global score. The global score was utilized in this study.

Participants were asked to respond to questions on a seven-point scale (0 = *Not at all*, 6 = *Every day or Most of the time*) that assesses frequency of disordered eating behavior over the past four weeks. An example item on this scale is, “Over the past 28 days, how many times have you eaten what other people would regard as an unusually large amount of food (given the circumstances)?” Higher scores indicate greater disordered eating behavior. This scale was developed in a sample of women between the ages of 18 – 56 years ( $M_{age} = 32.6$  years). Hilbert, de Zwaan, and Braehler (2012) obtained excellent internal consistency ( $\alpha = .94$  for women) in a sample of women and men ( $M_{age} = 50.5$  years,  $SD = 18.6$  years). In this sample,  $\alpha = .90$ .

**Thin ideal internalization.** Participants completed the Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4; Schaefer et al., 2015). This measure includes 22 self-report items that assess societal influences on body image and eating behaviors. It includes five factors (1) Internalization: Thin/Low Body Fat, (2) Internalization: Muscular/Athletic, (3) Pressures: Family, (4) Pressures: Media, and, (5) Pressures: Peers. Participants were asked to respond to questions on a five-point scale (1 = *Definitely Disagree*, 5 = *Definitely Agree*). An example item on this scale is, “I want my body to look very thin.” Higher scores indicate greater internalization of the thin ideal. This scale was developed in a sample of undergraduate women. Becker et al. (2013) obtained good to adequate internal consistency for two of the subscales ( $\alpha = .84$  and .93) in a sample of women between the ages of 18 – 87 years ( $M_{age} = 36.8$  years,  $SD = 13.5$  years). Within this sample, internal consistency ranged from .79 to .94.

### **Statistical Analyses**

#### **Specific Aim 1**

- a. Hypothesis 1a: Examine whether middle-aged women (ages 35-60 years) report different frequency of exposure to various media sources than younger adult women (ages 18-34).
  - i. Independent samples *t*-tests were run to examine differences between the two age groups (ages 35-60 years v. ages 18-34 years) on the sum score of each of the dependent variables: TV, video, print, game, radio, internet (types of media source).
- b. Hypothesis 1b: Examine whether middle-aged women (ages 35-60 years)



report different frequency of body comparisons to various media sources than younger adult women (ages 18-34 years).

i. Independent samples *t*-tests were run to examine differences between the two age groups (ages 35-60 years v. ages 18-34 years) on the sum score of each of the dependent variables: TV, video, print, game, radio, internet (types of media source to which participants make body comparisons).

c. Hypothesis 2: Middle-aged women (ages 35-60 years) would report comparing their bodies to older celebrities than younger adult women (ages 18-34 years).

i. Independent samples *t*-tests were run to examine differences between the two age groups (ages 35-60 years v. ages 18-34 years) on the dependent variable, the mean age of models to whom they report comparing themselves.

d. Hypothesis 3: Examine whether middle-aged women (ages 35-60 years) would report comparing different areas of their bodies to media models than younger adult women (ages 18-34 years).

i. Independent samples *t*-tests were run to examine differences between the two age groups (ages 35-60 years v. ages 18-34 years) on the sum score of each of the dependent variables: face/head, upper body, lower body, muscle, and shape (body areas of comparison).

e. Hypothesis 4: Middle-aged women would report making naturalistic

comparisons with peers and female family members to the same degree as younger women.

- i. Two one-sided equivalence tests for independent means were used. Two analyses were run: (1) One compared the sum score for the Peer comparison subscale between the younger (ages 18-34 years) versus middle-aged (ages 35-60 years) participants, and (2) the other compared the Female Family Member subscale sum score between the younger (ages 18-34 years) versus middle-aged (ages 35-60 years) participants.

### **Specific Aim 2**

- a. Hypothesis 1: Middle-aged adult women would report perceiving the most pressure to alter their weight or shape from previous versions of themselves as compared to current partners, peers, and family members.
  - i. Because this measure was developed for this study, a factor analysis was performed to examine dimensionality and psychometric properties.
  - ii. A discrepancy score was calculated between participants' current body shape minus (1) the "desired" body shape, and (2) the body shape that they perceive other individuals (e.g., family, friends, acquaintances) think they should have. A sum score for each relationship was then calculated combining the discrepancy score and the Likert responses to questions Xa and Xb (e.g., discrepancy score + 2a + 2b) of the Interpersonal Pressure Questionnaire. Prior to creating this sum, each

score was standardized by subtracting the mean and dividing by the standard deviation. Each relationship (i.e., previous self, mother, father, romantic partner, children, close friends, and acquaintances) was characterized using this sum score. A one-way repeated-measures ANOVA was run using these sum scores as the dependent variables (pressure from self, mother, father, romantic partner, children, close friends, and acquaintances).

### **Specific Aim 3**

a. Hypothesis 1: Middle-aged women would report that perceived pressure to alter their body from peers is more strongly related to disordered eating than pressure from family.

i. Pearson correlations were run. Specifically, I was interested in examining the bivariate relations between the: (1) EDE-Q global score and the Family Subscale of the SATAQ-4, (2) and between the SATAQ-4 Peer Subscale and the EDE-Q global score.

b. Hypothesis 2: Middle-aged women would report that societal and interpersonal influence to alter their body is positively correlated to disordered eating.

i. One Pearson correlation was run between the SATAQ-4 global score and EDE-Q global score.

## Power Analysis

### Specific Aim 1

a. Hypothesis 1a: Examine whether middle-aged women (ages 35-60 years) report different frequency of exposure to various media sources than younger adult women (ages 18-34).

i. Using G-Power to calculate the power needed for test family:  $t$  tests, Means: Difference between two independent means with an alpha level of .05, a power level of .80, and a  $d = .50$ , suggested 64 participants per group are needed to find this effect (total = 128). No previous studies have conducted this manipulation, and in order to detect a small effect ( $d = .2$ ), I needed 394 participants (total = 788), which was not feasible for this project.

b. Hypothesis 1b: Examine whether middle-aged women (ages 35-60 years) report different frequency of body comparisons to various media sources than younger adult women (ages 18-34 years).

i. Using G-Power to calculate the power needed for test family:  $t$  tests, Means: Difference between two independent means with an alpha level of .05, a power level of .80, and a  $d = .50$ , suggested 64 participants per group were needed to find this effect (total = 128).

c. Hypothesis 2: Middle-aged women (ages 35-60 years) would report comparing their bodies to older celebrities than younger adult women (ages 18-34 years).

- i. Using G-Power to calculate the power needed for test family:  $t$  tests, Means: Difference between two independent means with an alpha level of .05, a power level of .80, and a medium effect size of  $d = .50$ , suggested 64 participants per group were needed to find this effect (total = 128).
- d. Hypothesis 3: Examine whether middle-aged women (ages 35-60 years) would report comparing different areas of their bodies to media models than younger adult women (ages 18-34 years).
  - i. Using G-Power to calculate the power needed for test family:  $t$  tests, Means: Difference between two independent means with an alpha level of .05, a power level of .80, and a  $d = .50$ , suggested 64 participants per group were needed to find this effect (total = 128).
- e. Hypothesis 4: Middle-aged women would report making naturalistic comparisons with peers and female family members to the same degree as younger women.
  - i. According to the TOST Equivalence Test power spreadsheet (Lakens, 2017), in order to detect a medium effect of  $d = .5$ , with an alpha level of .05, a power level of .80, I needed 69 participants per group (138 participants in total). Lakens (2017) suggested that it is appropriate to choose an effect size based on benchmarks related to effect size since there are no established guidelines for equivalence test power. Additionally, to detect a small effect required 492 participants per group,

which was not feasible for this project.

### **Specific Aim 2**

a. Hypothesis 1: Middle-aged adult women would report perceiving the most pressure to alter their weight or shape from previous versions of themselves as compared to current partners, peers, and family members.

i. Using G-Power to calculate the power needed for test family: F test, ANOVA: Repeated Measures, within factors with an alpha level of .05, a power level of .80, and a partial eta squared of .06 (medium effect), number of groups = 1, number of measurements = 7, correlation among repeated measures = .1 (small), nonsphericity correction = .75, suggested I needed 35 participants. Because of a lack of previous studies conducting this analysis, these parameters were chosen because they were somewhat conservative estimates of the predicted relationships among variables.

### **Specific Aim 3**

a. Hypothesis 1: Middle-aged women would report that perceived pressure to alter their body from peers is more strongly related to disordered eating than pressure from family.

i. Using G-Power to calculate the power needed with an alpha level of .05, a power level of .80, and a medium effect size of  $r = .30$ , suggested 84 participants were needed to find this effect. Effect size was selected based on a similar analysis by Slevic and Tiggemann (2011b) where they detected this effect.

b. Hypothesis 2: Middle-aged women would report that societal and interpersonal influence to alter their body is positively correlated to disordered eating.

i. Using G-Power to calculate the power needed with an alpha level of .05, a power level of .80, and a medium effect size of  $r = .30$ , suggested 84 participants were needed to find this effect. Effect size was selected based on a similar analysis by Slevic and Tiggemann (2011b) where they detected this effect.

### **Corrections for Multiple Comparisons**

Bonferroni-Holm corrections were used to correct for families of analyses in each aim. Specifically, for Aim 1, Hypothesis 1 I corrected for 12 analyses; for Aim 1, Hypothesis 3 I corrected for 5 analyses; for Aim 1, Hypothesis 4 I corrected for 4 analyses; and, for Aim 3, I corrected for 3 analyses. This correction was chosen because Holm (1979, as cited in Jaccard, 1998) suggests that it is more powerful than the traditional Bonferroni correction due to the fact that it corrects across theoretically-related families of contrasts.

## CHAPTER 4

### RESULTS

Three hundred ninety-four participants completed the brief introductory screening measure. Prior to analysis, variables for all participants, including those who had only completed the screener, were examined. One hundred one participants were excluded from completing the survey because the quota for their age group was full. Next, duplicate responses ( $n = 26$ ) were excluded. Responses were also excluded if they included nonsensical symbols which would be difficult to intentionally add ( $\hat{A}$ ), and/or if they were identified as likely fraudulent by Qualtrics survey software metadata (RelevantID;  $n = 83$ ). Of the remaining potential participants, 26 participants did not complete any questionnaires, and were consequently excluded from analyses. The remaining 158 participants' responses were examined through various SPSS programs for missing values, data entry accuracy, and fit between their distributions and the assumptions of multivariate analysis.

#### **Data Cleaning**

Data cleaning was approached in the following manner. Each questionnaire was examined for accuracy of entry. Specifically, maximum and minimum values were examined to ensure that they fell within the scale range. Next, mean, standard deviation, skewness, and kurtosis were examined for normality. The latter two were considered to be outside of normality if values were above the absolute value of 3. Missing data were examined next. Results of each of these cleaning steps are presented below with each questionnaire. No multivariate outliers were found using Mahalanobis distance with  $p <$



.001 and so none were deleted.

For the Aging Anxiety Scale (Lasher & Faulkender, 1993), descriptive statistics showed that all response values fell within the scale parameters. Skewness, kurtosis, means, and standard deviations were normal. All variables had 23 missing values. On the Appearance Schemas Inventory-Revised (ASI-R; Cash et al., 2004), all response values fell within the specified scale range. Means, standard deviations, skewness, and kurtosis were generally normal. All variables had 20 missing values.

The Multi-Media Usage Scale (Heo & Cho, 2009) had values that fell within the specified range, with the exception of open-ended questions regarding the number of minutes of media use per week. On these items, two participants responded with the number of hours *and* the same number of hours in minutes (e.g., 2100 minutes and 35 hours). For these items, the number of minutes were deleted. Mean, standard deviation, skewness, and kurtosis values were abnormal. The number of missing values varied from 17-31 ( $M=19.54$ ,  $SD=2.58$ ).

Items for which participants had to identify whether they would typically compare their body to a presented celebrity, there were missing values for 12-13 participants across all items. All values fell within the specified range. Mean, standard deviation, skewness, and kurtosis values were normal. The Body Comparison Scale (BCS; Thompson et al., 1999) had values that fell within the specified range. The number of missing values on different variables ranged from 15-34. Skewness was normal, and kurtosis was abnormal. No changes were made to the dataset to alter the abnormal kurtosis. The values of the Body Comparison Orientation subscale of the Body, Eating,

and Exercise Comparison Orientation Measure (BEECOM; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012) fell within the specified range. The number of missing values ranged from 23-24 across variables. Skewness and kurtosis were normal.

The values on the Interpersonal Pressure Questionnaire fell within the specified range. The number of missing values on different variables ranged from 23-43. However, N/A responses on a figure rating scale were recoded as missing variables and this increased the number of missing responses on one variable (i.e., body that participant's children would like the participant to assume) to 61. Skewness and kurtosis were abnormal for some variables. No changes were made to the dataset to alter the abnormal skewness and kurtosis values.

The responses on the Eating Disorder Examination Questionnaire (EDE-Q; Black & Wilson, 1996) fell within the range specified by the scale. Missing values ranged from 19-22. Skewness and kurtosis were abnormal for some variables (e.g., using vomiting to control weight or shape). No changes were made to the dataset to alter the abnormal skewness and kurtosis values.

### **Characterization of the Sample**

Examination of values demonstrated that the following accuracy issues existed in the dataset: four participants entered a height of equal to or above 100 feet. These data points were deleted and characterized as missing data. One participant indicated a height of 50 feet, which was regarded as inches and changed to "4," one reported 60 feet which was changed to "5," two people reported a height of 0 ft, 0 in. These values were deleted. For participant weight, two entries of "0" were deleted and regarded as missing. On the

question regarding marital status, one participant responded with a “0” and this was deleted and regarded as missing.

Participants’ demographic characteristics are presented in Table 1. Differences between the age groups were examined using independent samples *t*-tests or chi-square tests, as appropriate. The sample was predominately White and included 87 younger (ages 18-34 years) and 71 middle-aged (ages 35-60 years) adult participants. Among middle-aged participants, 50.7% completed a graduate degree which reflected a higher level of education than among the younger adult sample, who primarily had an undergraduate and associate’s level of education (37.9%). Middle-aged participants reportedly were more likely to be employed, to earn a higher income, and to be married or in a domestic partnership, and to have experienced divorce.

Examination of the eating and shape concerns measures (i.e., EDE-Q; Black & Wilson, 1996, and the SATAQ-4; Schaefer et al., 2015) suggested a difference between the age groups in family pressures. Younger adult participants reported significantly more pressure to alter their shape or weight from family than middle-aged adult women,  $t(141) = 2.62, p = .01, r = .22$ . This was the only difference that remained significant when the Bonferroni-Holm correction was applied. Thin ideal internalization was also significantly greater in younger adult women, but this difference did not remain when the correction was applied. Among the other SATAQ-4 (Schaefer et al., 2015) subscales, middle-aged women in this sample reported lower mean scores than younger adult women. On the EDE-Q (Black & Wilson, 1996), a global cutoff score of 2.5 has been recommended for

Table 1

*Descriptive Statistics*

Characteristic	Younger (ages 18-34)		Middle-Aged (ages 35-60)		Total Sample (ages 18-60)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	26.08	4.76	47.79	7.59	35.84	12.47
BMI	27.48	8.31	29.18	7.06	28.24	7.8
Eating and Shape Concerns						
EDE-Q						
Restraint	2.80	1.57	3.16	1.67	2.95	1.62
Eating Concern	2.40	1.42	2.23	1.34	2.33	1.38
Shape Concern	4.01	1.68	4.18	1.53	4.08	1.61
Weight Concern	3.65	1.63	3.76	1.50	3.69	1.57
Global Score	3.23	1.46	3.33	1.27	3.27	1.38
SATAQ-4						
Thin Internalization*	3.31	0.89	2.95	0.90	3.15	0.91
Muscular/Athletic Internalization	3.08	1.07	2.83	1.07	2.97	1.08
Family Pressures*	2.69	1.23	2.20	1.01	2.47	1.16
Media Pressures	4.01	1.03	3.83	1.00	3.93	1.02
Peer Pressures	2.10	1.05	2.04	1.05	2.07	1.05
	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>
Race						
Native						
American/American Indian/Alaska Native/ Indigenous	1.10	1	1.40	1	1.30	2
Asian*	9.20	8	1.40	1	5.70	9
Black	8.00	7	5.60	4	7.00	11
Latinx/Hispanic (Non- White)	2.30	2	1.40	1	1.90	3
Middle Eastern/North African (Non-White)	1.10	1	0.00	0	0.60	1
Pacific Islander/Native Hawaiian	2.30	2	2.80	2	2.50	4
White	73.60	64	84.50	60	78.50	124

(continued)

	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>
Multiracial (please specify)	2.30	2	2.80	2	2.50	4
Ethnicity						
Hispanic or Latino	6.90	6	2.80	2	5.10	8
Not Hispanic or Latino	93.10	81	95.80	68	94.30	149
Unknown	0.00	0	1.40	1	0.60	1
Educational Attainment						
High school graduate*	6.90	6	0.00	0	3.80	6
Some college/Associates degree*	37.90	33	19.80	14	12.00	19
Bachelor's degree	26.40	23	29.60	21	27.80	44
Graduate degree**	28.70	25	50.70	36	10.10	16
Marital Status						
Single/Cohabiting**	71.30	62	12.70	9	38.60	61
Married/Domestic Partnership**	26.40	23	64.80	46	43.70	69
Divorced**	2.30	2	19.70	14	10.10	16
Widowed	0.00	0	1.40	1	0.60	1
Employment Status						
Unemployed*	13.80	12	2.80	2	8.90	14
Employed*	83.90	73	94.40	67	88.60	140
Retired	0.00	0	1.40	1	0.60	1
Disabled	2.30	2	1.40	1	1.90	3
Annual Income <sup>a</sup>						
Lowest Income**						
Below \$14,999	16.10	14	1.40	1	9.50	15
\$15,000-\$20,999	4.60	4	2.80	2	3.80	6
\$21,000-\$30,999	11.50	10	1.40	1	7.00	11
Lower-Middle Income						
\$31,000-\$50,999	21.80	19	19.80	14	10.10	16
Middle Income						
\$51,000-\$60,999	16.10	14	19.70	14	17.70	28
\$61,000-\$70,999	8.00	7	7.00	5	7.60	12
\$71,000-\$80,999	4.60	4	7.00	5	5.70	9
\$81,000-\$100,999	5.70	5	8.40	6	3.80	6

(continued)

	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>
\$100,000-\$150,999	3.40	3	15.50	11	8.90	14
\$151,000+	5.70	5	15.50	11	10.10	16

<sup>a</sup>Annual income responses collapsed into categories that approximate income and class levels for a household of three for analyses (Snider, 2019).

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

identifying participants with an eating disorder (Rø, Reas, & Stedal, 2015). Both age groups were above this cutoff, suggesting a relatively high level of eating pathology in the overall sample. Interestingly, examination of the mean subscale scores within this sample showed that middle-aged participants had slightly higher scores on the restraint, shape concern, and weight concern subscales as compared to the younger adult participants. This resulted in a higher EDE-Q (Black & Wilson, 1996) global score, as compared to the younger sample, as well. Of note, the discrepancy on restraint was the largest difference between the groups, with middle-aged participants reporting a higher level of dietary restraint-related thoughts; however, this difference was not significant.

Regarding aging anxiety, participants reported the highest score on the Fear of Loss subscale ( $M=15.57$ ,  $SD=3.79$ ), followed by Physical Appearance ( $M=13.44$ ,  $SD=3.22$ ), Psychological Concerns ( $M=10.47$ ,  $SD=3.50$ ), and Fear of Old People ( $M=9.89$ ,  $SD=3.17$ ). Of the subscales related to appearance investment, they reported higher self-evaluation related to appearance ( $M=40.91$ ,  $SD=8.41$ ) as compared to attention to and management of appearance ( $M=28.53$ ,  $SD=5.61$ ). Younger adult participants ( $M = 42.32$ ,  $SD = 7.92$ ) reported higher self-evaluation related to appearance

as compared to middle-aged participants ( $M = 39.22$ ,  $SD = 8.72$ ),  $t(136) = 2.18$ ,  $p < .05$ ,  $r = .18$ . Overall, participants reported that 44.3% ( $N=70$ ) had experienced a trauma, 20.3% ( $N=32$ ) experienced a chronic health condition, and 17.1% ( $N=27$ ) self-identified as post-menopausal.

### **Specific Aim 1**

- a. Hypothesis 1a: Examine whether middle-aged women (ages 35-60 years) report different frequency of exposure to various media sources than younger adult women (ages 18-34).
  - i. On average, younger adult participants reported significantly higher exposure to internet media ( $M = 33.78$ ,  $SD = 8.82$ ) than middle-aged adult women ( $M = 29.13$ ,  $SD = 9.00$ ),  $t(139) = 3.08$ ,  $p = .002$ ,  $r = .25$ , representing a medium effect. Using the Bonferroni-Holm correction for multiple comparisons, no other media source exposure varied significantly by age group (see Table 2). Minimum and maximum values for each media sum score are demonstrated in Table 3. This analysis was also completed using mean scores of media exposure, rather than sum scores because media source composite scores were comprised of different numbers of items. Minimum and maximum mean values for each media source are represented in Table 4. Similarly, younger adult participants reported significantly higher exposure to internet media ( $M = 4.83$ ,  $SD = 1.26$ ) than middle-aged adult women ( $M = 4.19$ ,  $SD = 1.27$ ),  $t(139) = 2.97$ ,  $p = .004$ ,  $r = .24$ , representing a medium effect. Using the

Table 2

*Results of Independent t-tests of Frequency of Media Exposure (Sum Score)*

Media Source	Younger Adult		Middle-Aged Adult		95% CI for Mean Difference	<i>t</i>	<i>p</i>	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Television	7.13	4.94	9.24	4.68	-3.72, -0.48	-2.57	.01	.21
Video	3.81	2.58	3.44	2.41	-0.46, 1.21	0.88	.37	.07
Print	8.25	5.34	8.24	5.66	-1.83, 1.85	0.01	.99	.001
Game	7.73	5.40	5.97	4.25	0.16, 3.37	2.17	.03	.18
Radio	9.47	4.55	10.16	3.99	-2.14, 0.75	-0.95	.34	.08
Internet	33.78	8.82	29.13	9.00	1.67, 7.64	3.08	.002	.25

*Note.*  $n = 141$ ,  $df = 139$ .

Table 3

*Range of Values for Media Exposure Frequency*

Media Source	Sum Scores				Mean Scores			
	Younger Adult		Middle-Aged Adult		Younger Adult		Middle-Aged Adult	
	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>
Television	3.00	21.00	3.00	21.00	1.00	7.00	1.00	7.00
Video	2.00	14.00	1.00	11.00	1.00	7.00	1.00	5.50
Print	4.00	28.00	1.00	28.00	1.00	7.00	1.00	7.00
Game	3.00	21.00	3.00	21.00	1.00	7.00	1.00	7.00
Radio	3.00	21.00	1.00	21.00	1.00	7.00	1.00	7.00
Internet	7.00	49.00	7.00	49.00	1.00	7.00	1.00	7.00



Table 4

*Range of Values for Media Comparison Frequency*

Media Source	Sum Scores				Mean Scores			
	Younger Adult		Middle-Aged Adult		Younger Adult		Middle-Aged Adult	
	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>
Television	3.00	21.00	2.00	21.00	1.00	7.00	1.00	7.00
Video	1.00	14.00	1.00	9.00	1.00	7.00	1.00	4.50
Print	3.00	28.00	1.00	17.00	1.00	7.00	1.00	4.25
Game	2.00	21.00	3.00	16.00	1.00	7.00	1.00	5.33
Radio	2.00	21.00	1.00	8.00	1.00	7.00	1.00	2.67
Internet	7.00	49.00	2.00	43.00	1.00	7.00	1.00	6.14

Bonferroni-Holm correction for multiple comparisons, no other media source exposure varied significantly by age group (see Table 5).

b. Hypothesis 1b: Examine whether middle-aged women (ages 35-60 years) report different frequency of body comparisons to various media sources than younger adult women (ages 18-34 years).

i. Younger adult participants reported making more body-related comparisons to both radio (younger  $M = 4.50$ ,  $SD = 3.69$ ; middle-aged  $M = 3.21$ ,  $SD = 1.07$ ) and internet-based (younger  $M = 19.88$ ,  $SD = 11.45$ ; middle-aged  $M = 14.87$ ,  $SD = 8.62$ ) media than middle-aged women.

These differences between comparison to radio,  $t(139) = 2.93$ ,  $p = .004$ ,  $r = .29$ , and internet,  $t(139) = 2.95$ ,  $p = .004$ ,  $r = .24$ , represented medium effects. Using the Bonferroni-Holm correction for multiple comparisons,

Table 5

*Results of Independent t-tests of Frequency of Media Exposure (Mean Score)*

Media Source	Younger Adult		Middle-Aged Adult		95% CI for Mean Difference	<i>t</i>	<i>p</i>	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Television	2.40	1.66	3.17	1.63	-1.33, -0.22	-2.78	.006	.23
Video	1.91	1.29	1.73	1.20	-0.24, 0.60	0.85	.40	.07
Print	2.06	1.34	2.10	1.41	-0.50, 0.42	-0.17	.87	.01
Game	2.58	1.80	1.99	1.42	0.05, 1.12	2.17	.03	.18
Radio	3.16	1.51	3.40	1.31	-0.71, 0.24	-0.97	.34	.08
Internet	4.83	1.26	4.19	1.27	0.21, 1.06	2.97	.004	.24

*Note.*  $n = 134-141$ ,  $df = 132-139$ .

no other media source comparisons varied significantly between the two groups (see Table 6).

This analysis was also completed using mean scores of media comparison, rather than sum scores because media source composite scores were comprised of different numbers of items. Younger adult participants reported making more body-related comparisons to both radio (younger  $M = 1.51$ ,  $SD = 1.22$ ; middle-aged  $M = 1.09$ ,  $SD = 0.34$ ) and internet-based (younger  $M = 2.99$ ,  $SD = 1.70$ ; middle-aged  $M = 2.15$ ,  $SD = 1.21$ ) media than middle-aged adult women. These differences between comparison to radio,  $t(139) = 2.94$ ,  $p = .004$ ,  $r = .29$ , and internet,  $t(139) =$

Table 6

*Results of Independent t-tests of Frequency of Media Comparison (Sum Score)*

Media Source	Younger Adult		Middle-Aged Adult		95% CI for Mean Difference	<i>t</i>	<i>p</i>	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Television	6.58	4.87	6.52	4.32	-1.50, 1.62	0.08	.94	.01
Video	3.49	2.70	2.55	1.35	0.24, 1.63	2.68	.008	.24
Print	6.74	5.16	5.32	2.58	0.09, 2.75	2.12	.04	.19
Game	4.04	3.49	3.61	2.69	-0.64, 1.51	0.80	.43	.07
Radio	4.50	3.69	3.21	1.07	0.42, 2.16	2.93	.004	.29
Internet	19.88	11.45	14.87	8.62	1.66, 8.37	2.95	.004	.24

*Note.*  $n = 95-140$ ,  $df = 93-138$ .

3.39,  $p = .001$ ,  $r = .28$ , represented medium effects. Using the Bonferroni-Holm correction for multiple comparisons, no other media source comparisons varied significantly between the two groups (see Table 7); however, there was a medium effect associated with the body-related comparisons to video where younger adult women reported making more frequent body-related comparisons than middle-aged women.

- c. Hypothesis 2: Middle-aged women (ages 35-60 years) would report comparing their bodies to older celebrities than younger adult women (ages 18-34 years).
- i. There was a nonsignificant difference between middle-aged and

Table 7

*Results of Independent t-tests of Frequency of Media Comparison (Mean Score)*

Media Source	Younger Adult		Middle-Aged Adult		95% CI for Mean Difference	<i>t</i>	<i>p</i>	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Television	2.19	1.62	2.19	1.43	-0.52, 0.52	0.01	1.00	<.001
Video	1.79	1.42	1.30	0.66	0.14, 0.85	2.75	.007	.25
Print	1.72	1.36	1.35	0.63	0.03, 0.72	2.17	.03	.20
Game	1.35	1.16	1.20	0.90	-0.21, 0.51	0.82	.41	.07
Radio	1.51	1.22	1.09	0.34	0.14, 0.71	2.94	.004	.29
Internet	2.99	1.70	2.15	1.21	0.35, 1.32	3.39	.001	.28

*Note.*  $n = 94-140$ ,  $df = 92-138$ .

younger adult participants. Middle-aged adult participants ( $M = 40.36$ ,  $SD = 5.76$ ) reported making body-related comparisons to models who were slightly older than those to whom younger adult participants ( $M = 38.72$ ,  $SD = 4.49$ ) compared themselves,  $t(127) = -1.82$ ,  $p = .07$ ,  $r = .16$ , representing a small effect.

d. Hypothesis 3: Examine whether middle-aged women (ages 35-60 years) would report comparing different areas of their bodies to media models than younger adult women (ages 18-34 years).

i. Results indicated that middle-aged and younger adult women did not significantly differ in the body-related comparisons they made when

the Bonferroni-Holm correction was used (see Table 8). That is, they reported comparing similar areas of their bodies to media models. There was a small to medium effect associated with the difference in face comparisons where younger adult women reported making more face-related comparisons than middle-aged women; however, this was not significant.

Table 8

*Results of Independent t-tests of Body Comparison (Sum Score)*

Media Source	Younger Adult		Middle-Aged Adult		95% CI for Mean Difference	<i>t</i>	<i>p</i>	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Face	72.09	33.20	58.14	31.50	3.16, 24.74	2.56	.01	.21
Upper Body	70.18	30.60	67.81	36.37	-8.71, 13.44	0.42	.67	.04
Lower Body	43.61	21.12	40.98	23.11	-4.70, 9.95	0.71	.48	.06
Muscle	21.21	10.41	20.78	11.62	-3.21, 4.08	0.23	.81	.02
Shape	35.38	15.93	33.25	17.47	-3.40, 7.66	0.76	.45	.06

*Note. n = 143, df = 141.*

This analysis was also completed using mean scores of body area comparison, rather than sum scores because each composite score was

comprised of a different number of items. Consistent with the results reported for Hypothesis 3 above, results indicated that the age groups did not significantly differ in their body-related comparisons when the Bonferroni-Holm correction was used (see Table 9). There was a small to medium effect associated with differences in face comparisons (i.e., younger adult women reported making more face-related comparisons than middle-aged women); however, this was not significant.

Table 9

*Results of Independent t-tests of Body Comparison (Mean Score)*

Media Source	Younger Adult		Middle-Aged Adult		95% CI for Mean Difference	<i>t</i>	<i>p</i>	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Face	2.11	0.93	1.80	0.80	0.02, 0.60	2.13	.03	.18
Upper Body	2.65	1.10	2.67	1.18	-0.40, 0.36	-0.11	.91	.01
Lower Body	2.88	1.30	2.84	1.35	-0.40, 0.48	0.18	.85	.02
Muscle	2.80	1.31	2.82	1.34	-0.46, 0.42	-0.09	.92	.008
Shape	3.11	1.31	3.01	1.33	-0.33, 0.54	0.48	.63	.04

*Note. n = 143, df = 141.*

e. Hypothesis 4: Middle-aged women would report making naturalistic comparisons with peers and female family members to the same degree as younger women.

i. To address hypothesis 4, the two one-sided equivalence tests procedure for Welch's  $t$ -test for independent samples and equivalence bounds of  $\Delta_L = -0.50$  and  $\Delta_U = 0.50$  was conducted using a spreadsheet by Lakens (2017) to compare the Peer comparison subscale sum score of the BEECOM between the young adult (ages 18-34 years) versus middle-aged (ages 35-60 years) participants. The benchmark for a medium effect of Cohen's  $d$  was chosen as it was the smallest effect that this study was powered to observe. Results indicated that the effect observed in this study was statistically equivalent, or within the equivalent bounds of  $d = -0.50$  and  $d = 0.50$ ,  $t(131.54) = 2.69$ ,  $p = .004$ , because the larger of the two values was  $p < .05$ .

Next, a two one-sided equivalence tests procedure for Welch's  $t$ -test for independent samples and equivalence bounds of  $\Delta_L = -0.50$  and  $\Delta_U = 0.50$  was run comparing the sum score for the Female Family Member subscale sum score between the younger (ages 18-34 years) versus middle-aged (ages 35-60 years) participants. Results again indicated that the effect was within the equivalent bounds of  $d = -0.50$  and  $d = 0.50$ ,  $t(130.42) = -2.61$ ,  $p = 0.005$ . Taken together, these results suggest that the differences between the age groups on these two variables are not as large

or larger than the medium effect of Cohen's  $d = 0.50$ , and are consistent with this hypothesis. These results remained significant when accounting for the Bonferroni-Holm correction for multiple comparisons.

## **Specific Aim 2**

a. Hypothesis 1: Middle-aged adult women would report perceiving the most pressure to alter their weight or shape from previous versions of themselves as compared to current partners, peers, and family members.

i. Principal components analysis (PCA) was used to analyze the underlying components of the Interpersonal Pressure Questionnaire. The oblique rotation, Direct Oblimin, was used. Prior to analysis, the 22 variables were examined for accuracy of data entry and missing values. The variables were examined for 137 participants. There were missing data ranging from 0-78 missing responses among the items. The figure rating scale included an N/A option which was coded as missing and resulted in a smaller sample size. Further, the questionnaire included items that did not apply to certain participants (e.g., questions about children). These data were not replaced. The Kaiser-Meyer-Olkin measure indicated mediocre sampling adequacy for the analysis,  $KMO = .559$ . Bartlett's test of sphericity,  $\chi^2(231) = 786.996, p < .001$  suggested that correlations between items were large enough to conduct a PCA. Examination of the scree plot suggested eight factors. Seven factors had Eigenvalues that met Kaiser's criterion (i.e., greater than one) and in combination accounted for



80.45% of the variance. Both models were tested. Extracting eight factors resulted in three questions that were cross-loaded, whereas extraction of seven factors resulted in only one question loading on more than one factor; therefore, seven factors were retained in the final analysis. The tables below show the pattern (Table 10) and structure (Table 11) matrices after rotation. The items that cluster on the same components suggest that component 1 represents peer pressure, component 2 represents body shape pressure, component 3 represents maternal pressure, component 4 represents paternal pressure, component 5 represents comparison to self, component 6 represents pressure from children, and component 7 represents partner pressure. All IPQ subscales had high reliabilities, Chronbach's  $\alpha = .78 - .90$ .

ii. A repeated measures ANOVA was conducted. Mauchley's test indicated that the assumption of sphericity was violated,  $\chi^2(20) = 36.96, p = .012$ , consequently degrees of freedom were corrected using Greenhouse-Geiser sphericity estimates ( $\epsilon = 0.79$ ). Results indicated that participants perceived differing body image feedback which varied by the type of relationship,  $F(4.76, 214.42) = 44.24, p < .001, \omega^2 = .36$ . Post hoc tests using a Bonferroni adjustment indicated that the mean values for pressure from partner and children were significantly higher than those for self, mother, father, friends, and acquaintances ( $ps < .001$ ).

Similar to those above, this repeated measures ANOVA analysis

Table 10

*Pattern Matrix*

Item	Component						
	1	2	3	4	5	6	7
7a) How frequently have your <i>close friends</i> made overt negative comments about your weight or shape? [Close Friends]	<b>.90</b>	-.07	.08	-.01	.09	.11	-.03
7b) How frequently has their behavior towards you imply that you should alter your weight or shape? [Close Friends]	<b>.87</b>	-.02	.02	-.09	-.03	-.05	.07
8a) How frequently have <i>acquaintances</i> made overt negative comments about your weight or shape? [Acquaintances]	<b>.76</b>	.02	.01	.20	-.03	.09	-.19
8b) How frequently does their behavior towards you imply that you should alter your weight or shape? [Acquaintances]	<b>.74</b>	.00	-.06	.11	-.14	-.13	-.11
7c) My <i>close friends</i> think that I should look like: ____ (Please identify the number of the figure.) [Close Friends]	-.12	<b>.90</b>	.04	.01	-.01	.18	-.14
8c) My <i>acquaintances</i> think that I should look like: ____ (Please identify the number of the figure.) [Acquaintances]	-.05	<b>.84</b>	.08	-.25	.02	-.02	.15

(continued)

Item	Component						
	1	2	3	4	5	6	7
5c) My <i>partner</i> thinks that I should look like: _____ (Please identify the number of the figure.) [Partner]	.12	<b>.81</b>	-.01	.05	-.01	-.18	.50
6c) My <i>children</i> think that I should look like: _____ (Please identify the number of the figure.) [Children]	-.17	<b>.79</b>	.13	.23	-.08	.33	-.15
4c) My <i>father, or male guardian</i> , thinks that I should look like: _____ (Please identify the number of the figure.) [Father/Male Guardian]	.09	<b>.74</b>	-.03	-.51	-.04	-.12	-.10
2c) If I were to achieve my “best” figure, I would look like: _____ (Please identify the number of the figure.) [Self]	-.07	<b>.59</b>	-.06	.10	.24	-.11	-.10
1) My <i>current</i> body shape is: _____ (Please identify the number of the figure.) [Current Shape]	-.04	<b>.54</b>	-.10	.23	-.21	-.16	-.11
3a) How frequently has your <i>mother, or female guardian</i> , made overt negative comments about your weight or shape? [Mother/Female Guardian]	.13	.14	<b>.88</b>	.04	-.01	-.09	.00

(continued)

Item	Component						
	1	2	3	4	5	6	7
3b) How frequently has her behavior towards you implied that you should alter your weight or shape? [Mother/Female Guardian]	.00	.18	<b>.85</b>	.16	-.07	-.13	-.07
3c) My <i>mother, or female guardian</i> , thinks that I should look like: ____ (Please identify the number of the figure.) [Mother/Female Guardian]	.07	.47	<b>-.71</b>	.14	.02	-.12	-.05
4b) How frequently has his behavior towards you implied that you should alter your weight or shape? [Father/Male Guardian]	.06	.04	.05	<b>.90</b>	-.07	-.04	.10
4a) How frequently has your father, or male guardian, made overt negative comments about your weight or shape? [Father/Male Guardian]	.14	-.06	.07	<b>.84</b>	.04	-.15	-.01
2b) How frequently have you felt that you should alter your weight or shape to achieve your "best" figure? [Self]	-.10	-.05	.00	.01	<b>-.92</b>	-.07	-.04
2a) How frequently have you made overt negative comments about your weight or shape in comparison to your "best" figure? [Self]	.12	.00	.05	-.02	<b>-.89</b>	.05	.02

(continued)

Item	Component						
	1	2	3	4	5	6	7
6a) How frequently have your <i>children</i> made overt negative comments about your weight or shape? [Children]	-0.03	.03	.07	.07	-.01	<b>-.92</b>	-.07
6b) How frequently has their behavior towards you implied that you should alter your weight or shape? [Children]	-.01	-.12	.06	.05	-.04	<b>-.91</b>	-.07
5b) How frequently has their behavior towards you implied that you should alter your weight or shape? [Partner]	.15	.09	-.07	-.03	-.13	-.10	<b>-.83</b>
5a) How frequently has your partner made overt negative comments about your weight or shape? [Partner]	.19	-.02	.10	-.11	-.01	-.16	<b>-.82</b>

Table 11

*Structure Matrix*

Item	Component						
	1	2	3	4	5	6	7
7a) How frequently have your <i>close friends</i> made overt negative comments about your weight or shape? [Close Friends]	<b>.88</b>	-.20	.19	.08	-.08	-.14	-.23
7b) How frequently has their behavior towards you imply that you should alter your weight or shape? [Close Friends]	<b>.87</b>	-.13	.14	.03	-.18	-.29	-.17
8b) How frequently does their behavior towards you imply that you should alter your weight or shape? [Acquaintances]	<b>.84</b>	-.05	.09	.24	-.33	-.40	-.36
8a) How frequently have <i>acquaintances</i> made overt negative comments about your weight or shape? [Acquaintances]	<b>.81</b>	-.06	.14	.30	-.23	-.20	-.39
7c) My <i>close friends</i> think that I should look like: ____ (Please identify the number of the figure.) [Close Friends]	-.24	<b>.89</b>	-.02	.04	-.04	.07	-.15
8c) My <i>acquaintances</i> think that I should look like: ____ (Please identify the number of the figure.) [Acquaintances]	-.21	<b>.82</b>	.00	-.21	.05	-.07	.12

(continued)

Item	Component						
	1	2	3	4	5	6	7
5c) My <i>partner</i> thinks that I should look like: _____ (Please identify the number of the figure.) [Partner]	-.05	<b>.79</b>	-.04	.10	.02	-.28	.38
6c) My <i>children</i> think that I should look like: _____ (Please identify the number of the figure.) [Children]	-.26	<b>.78</b>	.09	.23	-.12	.20	-.16
4c) My <i>father, or male guardian</i> , thinks that I should look like: _____ (Please identify the number of the figure.) [Father/Male Guardian]	.00	<b>.72</b>	-.09	-.43	-.05	-.19	-.16
2c) If I were to achieve my “best” figure, I would look like: _____ (Please identify the number of the figure.) [Self]	-.13	<b>.62</b>	-.13	.11	.20	-.16	-.09
1) My <i>current</i> body shape is: _____ (Please identify the number of the figure.) [Current Shape]	.02	<b>.60</b>	-.07	.31	-.28	-.30	-.22
3a) How frequently has your <i>mother, or female guardian</i> , made overt negative comments about your weight or shape? [Mother/Female Guardian]	.27	.09	<b>.90</b>	.16	-.22	-.18	-.08

(continued)

Item	Component						
	1	2	3	4	5	6	7
3b) How frequently has her behavior towards you implied that you should alter your weight or shape? [Mother/Female Guardian]	.18	.17	<b>.87</b>	.27	-.28	-.22	-.15
3c) My <i>mother, or female guardian</i> , thinks that I should look like: _____ (Please identify the number of the figure.) [Mother/Female Guardian]	-.03	<b>.53</b>	<b>-.72</b>	.13	.07	-.21	-.10
4b) How frequently has his behavior towards you implied that you should alter your weight or shape? [Father/Male Guardian]	.17	.08	.15	<b>.92</b>	-.19	-.19	-.01
4a) How frequently has your father, or male guardian, made overt negative comments about your weight or shape? [Father/Male Guardian]	.29	-.01	.16	<b>.88</b>	-.13	-.30	-.12
2b) How frequently have you felt that you should alter your weight or shape to achieve your “best” figure? [Self]	.11	.01	.16	.12	<b>-.92</b>	-.17	-.23
2a) How frequently have you made overt negative comments about your weight or shape in comparison to your “best” figure? [Self]	.28	.01	.22	.10	<b>-.91</b>	-.11	-.21

(continued)



Item	Component						
	1	2	3	4	5	6	7
6a) How frequently have your <i>children</i> made overt negative comments about your weight or shape? [Children]	.27	.16	.10	.21	-.18	<b>-.94</b>	-.19
6b) How frequently has their behavior towards you implied that you should alter your weight or shape? [Children]	.32	.02	.10	.19	-.19	<b>-.92</b>	-.19
5b) How frequently has their behavior towards you implied that you should alter your weight or shape? [Partner]	.39	.15	.00	.08	-.34	-.27	<b>-.92</b>
5a) How frequently has your partner made overt negative comments about your weight or shape? [Partner]	.46	.02	.15	.01	-.25	-.30	<b>-.88</b>

was also completed using mean scores rather than sum scores. Mauchley's test indicated that the assumption of sphericity was violated,  $\chi^2(20) = 37.30, p = .01$ , consequently degrees of freedom were corrected using Greenhouse-Geiser sphericity estimates ( $\epsilon = 0.80$ ). Again, results indicated that participants perceived differing body image feedback that varied by relationship type,  $F(4.78, 215.09) = 47.02, p < .001, \omega^2 = .37$ .

Post hoc tests using a Bonferroni adjustment indicated that the mean values for pressure from partner and children were significantly higher than those for self, mother, father, friends, and acquaintances ( $ps < .001$ ).

### **Specific Aim 3**

a. Hypothesis 1: Middle-aged women would report that perceived pressure to alter their body from peers is more strongly related to disordered eating than pressure from family.

i. A Pearson correlation was run between the EDE-Q global score and the Family Subscale of the SATAQ-4. Results indicated that these were significantly related,  $r(59) = .27, p = .04$ . A Pearson correlation was also run between the SATAQ-4 Peer Subscale and the EDE-Q global score. Results also indicated a significant relationship between these variables,  $r(59) = .30, p = .02$ . This is consistent with the hypothesized relationship (see Table 12). These relationships remained significant with the Bonferroni-Holm correction.

b. Hypothesis 2: Middle-aged women would report that societal and interpersonal influence to alter their body is positively correlated to disordered eating.

i. The Pearson correlation run between the SATAQ-4 global score and EDE-Q global score indicated a significant, positive relationship between internalized societal and interpersonal pressure to change one's body and eating disorder symptoms among middle-aged adult women,  $r$

Table 12

*Summary of Intercorrelations Between Scores on the EDE-Q Global Score and SATAQ-4 Family and Peer Pressures Subscale Scores*

Measure	1	2	3	<i>M</i>	<i>SD</i>
EDE-Q Global	—	.27*	.30*	3.33	1.27
SATAQ-4 Family Pressures	59	—	.63**	2.2	1.01
SATAQ-4 Peer Pressures	59	63	—	2.04	1.05

*Note.* Bottom numbers indicate sample size.

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

(59) = .58,  $p < .001$  (see Table 13). This relationship, which was consistent with this hypothesis, remained significant with the Bonferroni-Holm correction.

Table 13

*Summary of Intercorrelations Between Scores on the EDE-Q Global Score and SATAQ-4 Global Score*

Measure	1	2	<i>M</i>	<i>SD</i>
EDE-Q Global	—	.58**	3.33	1.27
SATAQ-4 Global	59	—	13.84	2.94

*Note.* Bottom numbers indicate sample size.

\*\* $p < .001$

## CHAPTER 5

### DISCUSSION

This study examined how middle-aged women experience elements of the tripartite influence model (Thompson et al., 1999), particularly media pressure, interpersonal pressure, internalization, and social comparison. Because these factors have been well-examined in a younger female population, this group was included as a comparison group for a subset of hypotheses in this study.

First, exploring the results of this study suggested that there were differences in media exposure and media-based body comparisons between the age groups. When examining mean scores, both age groups reported the greatest exposure to the internet followed by the radio; however, middle-aged participants reported significantly less internet media exposure than younger adult women. In addition, they reported making significantly fewer body-related comparisons to radio and internet-based media as compared to younger woman. Because internet media is a common forum for exposure to thin- and fit-ideal media, which has been linked to poorer body self-appraisals in younger adult samples (Harper, Sperry, & Thompson, 2008; Robinson, Prichard, Nikolaidis, Drummond, Drummond, & Tiggemann, 2017), middle-aged women's lower overall exposure to this media source may serve as a protective factor. Alternatively, their report of making fewer body-related comparisons to internet sources may indicate that internet-based media offers fewer relevant opportunities for comparison. That being said, though middle-aged women reported making the most body-related comparisons to figures on television, internet-related comparisons were endorsed to a similar degree suggesting that

this age group is not immune to the impact of this media source. Further, combined with Slevec and Tiggemann's (2011b) finding that passive television exposure was related to body dissatisfaction and disordered eating among middle-aged participants – this sample's reported propensity to engage in the more active process of making body-related comparisons to televised media suggests that they are potentially increasing their risk of body dissatisfaction and disordered eating through this process.

Social comparison theory suggests that individuals are likely to compare themselves to similar others to ascertain their relative performance, particularly on subjective characteristics (Festinger, 1954). Consequently, this study hypothesized that middle-aged participants would compare their bodies to models who were different in age (i.e., older) than those to whom younger participants would report comparing themselves. However, results indicated that there was no significant difference between the ages of the models to whom younger or middle-aged participants compared themselves. Critical examination of this study's methods suggested that this finding may have been related to the study design. The women who were presented to participants were between the ages of 18-60 years, with a mean age of 40.83 years ( $SD = 11.53$  years) to allow for inclusion of models who were participants' ages, even though previous research has suggested that models over 35 years old are rarely represented in media (Bessenoff & Del Priore, 2007). Consequently, younger adult participants reported comparing their bodies to women with a mean age of 38.72 years ( $SD = 4.49$  years), which is older than the 18-24-year-old models whom they are typically shown (Bessenoff & Del Priore, 2007). This higher mean comparison age may have been related to the

spread of participant ages within the younger adult age group. That is, because participants were evenly spread from 18 to 34 years old, the mean age of the women to whom the younger adult participants compared themselves ( $M = 38.72$  years) was not significantly older than women who were on the upper end of that age category.

In addition, in the current study, researchers identified the exact age of the models in presented images, while in the Bessenoff and Del Priore (2007) study, undergraduate raters indicated model age based on their own perception of the model's age. It is possible that the models being represented in the Bessenoff and Del Priore (2007) study were similar in age to the ones presented here, but were identified as younger due to cosmetic surgery or other factors. Regardless, middle-aged participants in the current study reported comparing themselves to models with a mean age of 40.36 years. Past research has suggested that comparing oneself to women who are older than those commonly represented in the media may benefit middle-aged women (Grogan, 2008; Peat, Peyerl, & Muehlenkamp, 2008) through fewer body-related social comparisons. However, if both younger and middle-aged women are comparing their bodies to similarly-aged females, this suggests that aging may not alter one's propensity to make maladaptive social comparisons with female figures in the media. Further, Tiggeman and Slevec (2012) have suggested that middle-aged women are being represented in the media more frequently; thus, this may negate any possible protection that age affords. Thus, this would be a prudent area to assess in the treatment of disordered eating and body image concerns.

Kozar and Damhorst (2009) reported that middle-aged and older female

participants “rarely, if ever” compared themselves to fashion models on attributes including body shape and weight, height, and facial features. Those findings differ from the ones seen in this study. Participants did not report significant differences in the aspects of their bodies they were likely to compare to media models, suggesting a similar relationship as younger adult women. Here, both age groups reported being most likely to compare their body shape to those in the media, rather than a specific area of the body or muscle tone. A few noteworthy differences between the two studies may account for these differences. First, the sample in the Kozar and Damhorst (2009) study included older adult women (i.e., up to 80 years old). They noted that older women reported making fewer comparisons to fashion models. In addition, they used a questionnaire to ask women if they were theoretically likely to make comparisons to fashion models, whereas in this study women were presented with images of prominent female media figures and asked on which characteristics they might be likely to compare themselves. In this study, the use of the actual image stimuli may have made these questions more salient for participants.

In their individual interviews with middle-aged participants ages 37-47 years old, Ogle and Damhorst (2005) noted that some women highlighted areas of the body with which they were unhappy. These included the stomach and thighs – areas of the body where weight is redistributed with age (Chrisler & Ghiz, 1993), but indicated overall acceptance of their body shape. Given the high level of shape concern reported on the EDE-Q (Black & Wilson, 1996) by middle-aged participants in this sample, this suggests a potential difference in thin-ideal internalization of the study samples. Perhaps, it is for

this reason, middle-aged women reported similar body-related comparisons as younger adult women in this study.

Among analyses that examined interpersonal comparison or perceived pressure to alter shape and weight, the following findings emerged. Middle-aged and younger adult women reported no substantial difference in the degree to which they compare their bodies to peers and female family members. When exclusively examining responses from middle-aged participants, women indicated a slightly higher propensity to compare their bodies to female peers ( $M = 21.46$ ,  $SD = 5.68$ ) as opposed to female family members ( $M = 18.28$ ,  $SD = 7.07$ ). Women also reported perceiving varying degrees of interpersonal pressure to alter their weight or shape which varied by type of relationship. They reported experiencing the most frequent pressure from their partners and children as compared to parents, friends, acquaintances, and previous versions of themselves. Overall, among middle-aged participants there was a positive relationship between reported disordered eating symptoms and internalized pressure to alter one's weight and shape.

These findings imply that peer relationship pressure has a marginally stronger, though not significantly different, association with the behavioral outcome of disordered eating than that from family members. This finding may indicate that those with disordered eating are more likely to surround themselves with peers who engage in similar maladaptive behaviors or engage in "fat talk." It may also represent increased attention to body-related feedback from peers rather than family members – perhaps, in part, due to similarities in age. Sharp et al. (2014) indeed found that, among adult women, conversations regarding body shape or appearance with friends are positively



correlated with thin ideal internalization, body dissatisfaction, and social comparison.

In past research using in-depth interviews, middle-aged and older adult women have offered that they receive messages regarding how to present their bodies from their mothers (Hurd Clarke & Griffin, 2007), partners, and female peers (Liechty & Yarnal, 2010; Paquette & Raine, 2004), suggesting that these relationships might hold similar weight for women in terms of pressure to alter shape and weight. Further, Liechty and Yarnal (2010) found that the nature of the relationship (i.e., positive v. negative) influenced the women's internalized beliefs regarding the adequacy of their weight or shape. In other words, those in negative relationships perceived stronger pressure to alter their body. Therefore, this study's finding that middle-aged women reported the most frequent perceived pressure to alter shape and weight from their partners and children was unexpected. This finding suggested that there may be a nuanced relationship for middle aged women between the pressure or reinforcement from close others as it relates to disordered eating behavior versus pressure to alter weight and shape. This study had embraced Krekula's (2016) notion that aging women might identify former versions of their bodies as salient comparisons. Krekula (2016) emphasized that aging women are in a unique position to compare their body to its previous versions over time and that time should be considered in women's self-appraisal of their bodies. However, her study differed from this one in that her sample was comprised of older adult women. Additionally, she invited participants to examine past pictures of themselves as they completed their interviews. The incorporation of images as comparisons may have made that relationship more salient than it was for participants in this study. Interestingly,

participants in that study also reported engaging in downward comparisons with peers, which facilitated body acceptance. This was also not found in the current study, where body comparison with peers was associated with greater disordered eating symptomology.

In this study, the interpersonal pressure questionnaires examined the more passive process of interpretation of pressure from others (i.e., SATAQ-4; Schaefer et al., 2015 and IPQ), whereas another measure assessed the more active process of social comparison (BEECOM; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012). The SATAQ-4 (Schaefer et al., 2015), asked participants how much they agreed with statements about perceived pressure from other relationships, while the IPQ ascertained the *frequency* of pressure. This could account for partners and children being associated with the highest scores. Their proximity to participants may lead to more frequent, ongoing pressure to change weight and shape, particularly where negative relationship dynamics exist. When examining these questionnaires and their relationship to disordered eating symptoms, this study found that the active social comparisons were most strongly correlated with the (also active) behavioral symptoms of disordered eating. Though this study *did not* examine variables' relationships to each other, I believe that the pressures (both historical and current) that middle-aged women report may foster the internalization of these messages, and engagement in social comparison with other females, which may then lead to disordered eating symptoms (Figure 3). This process may be iterative, in which more comparison leads to more internalization, and so on.

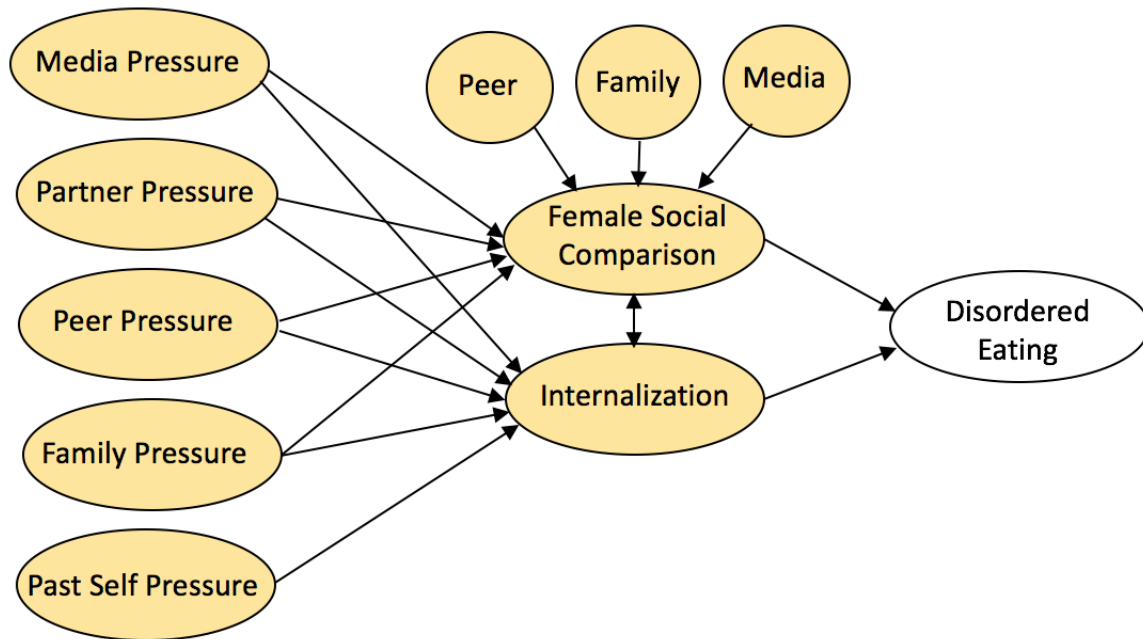


Figure 3. Proposed Relationships of Variables Investigated in This Study (Informed by Figure 11.7A p. 320; Thompson et al., 1999)

### Strengths

Strengths of this study include that it incorporated more subsets of relationships within the family than past research, as well as separating out peers and acquaintances to allow for more thorough comparison and examination of interpersonal pressure between groups. In addition, this study incorporated the use of media images to examine social comparison to media. While this technique has been commonly used in the younger adult literature, it has not been incorporated when investigating middle-aged women. This facilitates the generalization of our findings to external situations. Finally, this is one of the first studies to investigate which aspects of the body are being compared, when body-

related comparisons are made. This information may help to inform treatment targets for those struggling with body dissatisfaction or disordered eating.

### **Limitations**

Limitations of this study included the use of snowball sampling and the utilization of online administration. These factors likely contributed to a primarily White sample with a higher socioeconomic status than the general population. Further, a quota was incorporated for sampling so that there was a spread in participant age that spanned 18-60 years (e.g., 15 participants recruited within the 41-45 age range, 15 within the 46-50 age range, etc.). While this ensured that no subgroup within the younger and middle-aged adult participant groups was unrepresented, it may have impacted the detection of meaningful differences between the groups. Further, while this study included images of celebrities, it did not incorporate previous images of participants themselves as one previous study has done (Krekula, 2016). This may have reduced the salience of participants' comparisons to their previous selves, and therefore, may have resulted in participants reporting less likelihood of making this comparison. Finally, the Interpersonal Pressure Questionnaire was developed for and first utilized in this study. Therefore, the psychometric properties of this questionnaire should be further investigated to strengthen the conclusions drawn from this measure.

### **Future Research**

First, future research would benefit from investigating whether these findings apply to a more diverse racial and ethnic population. While the information presented here may be helpful in informing treatment for White women, it should not be

automatically generalized to other demographic groups. Future research would benefit from expanding this research using culturally-tailored assessments that capture the experiences of women of color. Second, there were some findings in this study that would merit further research. For example, future research may want to elucidate whether the pressure perceived from one's partner and children is more closely related to thoughts about the adequacy of one's weight or shape. That is, it would be worth investigating if this greater pressure is internalized, and thus, impacting middle-aged women's beliefs about their own bodies in a significant, negative manner. In addition, it would be worth examining whether this is a pressure that middle-aged women are more likely to experience than younger adult women, as this might inform targets of treatment. Future research may also want to examine whether women make upward or downward comparisons when presented with media models. While this study inquired about the likelihood of making a comparison generally, it did not investigate the direction of these comparisons, or whether aspects of the model or celebrity (e.g., body size, race, etc.) or factors such as participants' self-image impacted that direction.

Further, research has suggested that middle-aged women with eating disturbance fit within one of three categories. Individuals have either always had an eating disorder, have had one in the past and have relapsed, or have a new onset of eating pathology in midlife (Samuels, Maine, & Tantillo, 2019). Future research may want to investigate whether the results of this study apply similarly for all groups or vary based on one's history with disordered eating. Finally, apart from the negative mental and physical health outcomes associated with poor body image and disordered eating, Wolf (1991) has

proposed that the “beauty myth” is a mechanism to maintain control over, and limit the progress of, women. She posited that those who internalize this ubiquitous Western ideology invest immense energy and financial resources pursuing the appearance of youth and very specific beauty standards. While the current study provided information regarding how White beauty ideals are reinforced for women in daily life, it would be beneficial to examine the larger impact that attending to and investing in these ideals has on women and their resources (e.g., financial, attention, overall energy, etc.). That is, it would be informative to understand the collective impact of internalizing these ideals.

### **Clinical Implications**

Eating disorders and subthreshold eating disorder symptoms are present in 4.6% and 4.8% middle-aged women, respectively (Mangweth-Matzek et al., 2014). Inpatient hospitalization for the treatment of disordered eating in middle-aged women has also increased throughout the past 20 years (Ackard et al., 2013). This study’s findings highlight some foci that may be relevant as treatment targets with this population. The results of this study suggest that middle-aged women make similar media comparisons to young adult women, but may be exposed to slightly different media sources.

Interpersonally, middle-aged women reported perceiving more frequent pressure from their children and partners to alter their weight and shape than other close relationships, though peer pressure and comparison was more closely related to disordered eating.

These results suggest the following avenues for intervention. First, because it appears that similar relationships exist for young- and middle-aged women, constructs developed among younger samples may be worth introducing in work with middle-aged

women. In addition, therapists or counselors should assess whether middle-aged women are making media-related body comparisons. Particularly, it would be worth noting whether body shape comparisons are being made. In addition, this study suggested that it would be worth exploring the types of close interpersonal relationships that women have, and the ways in which these might impact (a) thoughts about one's body, and (b) disordered eating behavior. This study indicated that different relationships may influence these factors in unique ways.

Broadly, 40% of middle-aged and older adult women report body image dissatisfaction (Grippe & Hill, 2008). Those with body dissatisfaction are more likely to report poorer health-related behaviors (i.e., poorer sleep, consumption of less nutritious food, lack of enjoyment of exercise), and lower quality of life including higher negative affect and functional difficulty (Becker, Verzijl, Kilpela, Wilfred, & Stewart, 2019). While women have voiced a belief that concern with appearance is vain (Roy & Payette, 2012), the relationships between body image and health behavior suggest that these are important factors to address to facilitate the whole health and well-being of women.

These results also offer broad sociocultural implications. Middle-aged women's endorsement of engaging in social comparisons with female peers, family members, and media figures suggests that this group continues to approach female bodies (both their own and others') as commodities to be objectified and compared. Not only does this take energy resources away from the pursuit of other goals and values, it continues to perpetuate an idea of beauty that has traditionally limited women's collective attainment of wealth and resources (Wolf, 1991). This pursuit of beauty has confined women to a

system where they are primarily reinforced through attainment of a wealthy partner and social praise. This system has also particularly limited the aging woman, because her increased knowledge and experience translates into power that threatens men in this patriarchal society. The results of this study suggested that women experience the pressure of these ideals in their daily lives through the subtle or overt feedback from partners, peers, and family.

Collectively, these results suggest that middle-aged women may be reinforced for managing their shape and weight in similar ways as younger women. Along with a larger body of research, this will help to inform interventions for middle-aged women with disordered eating or body image concerns. In addition, it will assist in promoting an awareness of some of the system-related factors that may be impacting middle-aged women's relationship with their bodies. This information can be used to help empower women through building conscious awareness of how these factors may be operating in their daily experiences, so they are able to make informed decisions about how to address these situations effectively. In the future, these factors should be investigated in a culturally sensitive manner with other demographic groups as these findings may or may not apply for those of different racial or ethnic backgrounds.

Results suggest that though middle-aged women may not internalize the thin ideal to the same degree as younger adult women, they still report significant concerns with shape and weight that they may try to manage through dietary restraint. They reported less internet and radio exposure and fewer body-related comparisons to these media, and reported making more comparisons to figures on television. Though these results may



represent a cohort effect, they contribute to the picture of ways in which media is influencing the transmission of the thin ideal for this group. In addition, women noted a propensity to compare their bodies to other women in a variety of contexts, and reported experiencing pressure to alter their shape and weight from close others. Though middle-aged women have historically been neglected in the literature, these findings suggested that middle-aged White women experience aspects of the tripartite influence model in a manner that is largely consistent with younger adult women.

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## APPENDIX A

### CONSENT FORM

#### **Consent for Participation in a Research Study** *Body Image in Middle-Aged Women*

*Jennifer Lundgren, PhD*  
*Frances Bozsik, MS*

#### **Request to Participate**

You are being asked to take part in a research study. This study is being conducted at the University of Missouri-Kansas City (UMKC).

The researcher in charge of this study is Jennifer Lundgren, PhD. While the study will be run by her, other qualified persons who work with her may act for her.

The study team is asking you to take part in this research study because you are a woman between the ages of 18-60 who speaks English. Research studies only include people who choose to take part. This document is called a consent form. Please read this consent form carefully and take your time making your decision. Ask the researcher to explain anything that you do not understand. Think about it and talk it over with your family and friends before you decide if you want to take part in this research study. This consent form explains what to expect: the risks, discomforts, and benefits, if any, if you consent to be in the study.

#### **Background**

Research has established several sociocultural factors that contribute to body image experiences in young adult women. However, this information has not been examined as thoroughly among middle-aged women. This study will seek to examine whether these factors operate similarly in middle-aged women. This is important both because body dissatisfaction remains stable for most women throughout the lifespan. With greater understanding of the middle-aged woman's body image experience, interventions can be developed to improve dissatisfaction in this sample.

You are being asked to participate in this study to learn more about body image experiences of women between the ages of 18-60. You will be one of about 170 individuals enrolled in this study.

#### **Purpose**

The purpose of the study is to gain information about body image experiences of women between the ages of 18-60 years old. There is a particular lack of information about the experience of middle-aged women. This study will broaden our understanding of middle-aged women's body-related experiences.

### **Procedures**

If you choose to be in this study you will be asked to complete an online survey that would take about 60 minutes of your time to complete. Your participation is entirely voluntary; you may skip any questions that you don't want to answer or choose to stop participating at any time.

### **Risks and Inconveniences**

This research is considered to be minimal risk. That means that the risks of taking part in this research study are not expected to be more than the risks in your daily life. You may feel uncomfortable answering some of the survey questions. An additional risk of this study is the possible loss of privacy or breach of confidentiality. We will take measures to reduce this risk, such as assigning a study number to your data that is collected for the study. There may be other risks that have not yet been identified.

### **Benefits**

There are no direct benefits to you for participating in this study. Your participation in this study may lead to improved understanding of the body image experience of middle-aged women. This information may subsequently inform treatments for disordered eating among middle-aged women.

### **Fees and Expenses**

There are no monetary costs associated with participation.

### **Compensation**

You will be compensated \$10.00 in the form of an electronically transmitted Visa giftcard or 2 research credits in PsychPool.

### **Alternatives to Study Participation**

The alternative is not to take part in the study.

### **Confidentiality**

While we will do our best to keep the information you share with us confidential, it cannot be absolutely guaranteed. Individuals from the University of Missouri-Kansas City Institutional Review Board (a committee that reviews and approves research studies), Research Protections Program, and Federal regulatory agencies may look at records related to this study to make sure we are doing proper, safe research and protecting human subjects. The results of this research may be published or presented to others. You will not be named in any reports of the results.

Any personally identifiable information collected during the survey will be kept strictly confidential. If you indicate that you would like compensation via giftcard, your email address may be used to deliver the giftcard electronically; however, all other collected

data will be stored on locked computers using university firewalls, and only researchers affiliated with this study will have access to collected data.

**In Case of Injury**

The University of Missouri-Kansas City appreciates people who help it gain knowledge by being in research studies. It is not the University’s policy to pay for or provide medical treatment for persons who are in studies. If you think you have been harmed because you were in this study, please call the researcher, Dr. Jennifer Lundgren at (816) 235-5384.

**Contacts for Questions about the Study**

You should contact the Office of UMKC’s Institutional Review Board at 816-235-5927 if you have any questions, concerns or complaints about your rights as a research subject. You may call the co-researcher, Frances Bozsik, MS, at 816-235-6601 if you have any questions about this study. You may also call her if any problems come up.

**Voluntary Participation**

Taking part in this research study is voluntary. If you choose to be in the study, you are free to stop participating at any time and for any reason. If you choose not to be in the study or decide to stop participating, your decision will not affect any care or benefits you are entitled to. The researchers may stop the study or take you out of the study at any time if they decide that it is in your best interest to do so. You will be told of any important findings developed during the course of this research.

You have read this Consent Form. You have been told why this research is being done and what will happen if you take part in the study, including the risks and benefits. You have had the chance to ask questions, and you may ask questions at any time in the future by calling Frances Bozsik at 816-235-6601. By electronically signing this consent form, you volunteer and consent to take part in this research study. You may download a copy of this consent form.

If you want to participate in this study, please sign below and then click the Next button to start the survey.

Signature (Volunteer Subject):

Date:

Typed Name (Volunteer Subject):

## APPENDIX B

### DEMOGRAPHICS QUESTIONNAIRE

**Age** (years)

**Gender:** Man, Woman, Prefer not to identify

**Sex:** Male, Female, Intersex, Not listed

**Date of Birth**

**Height** (feet and inches)

**Weight** (lbs.)

**Marital Status:**

Single

Married/Domestic Partnership

Cohabiting

Separated

Divorced

Widowed

Other (please specify)

**Employment Status:**

Unemployed

Employed

Retired

Disabled

**What is the highest level of education you have completed?**

Less than 9th grade

Some high school

High school graduate

Some college

Associates degree

Bachelor's degree

Master's degree

PhD or other professional degree

**What is your yearly income?**

**What is your family's income, if you are a dependent?**

Below \$14,999

\$15,000-\$20,999

\$21,000-\$30,999

\$31,000-\$40,999

\$41,000-\$50,999

\$51,000-\$60,999  
\$61,000-\$70,999  
\$71,000-\$80,999  
\$81,000-\$90,999  
\$91,000-\$100,999  
\$100,000-\$150,999  
\$151,000+

**Race**

Native American/American Indian/Alaska Native/Indigenous  
Asian  
Black  
Latinx/Hispanic (Non-White)  
Middle Eastern/North African (Non-White)  
Pacific Islander/Native Hawaiian  
White  
Multiracial (please specify)  
Not listed (please specify)

**Have you experienced a serious health condition?** Yes No

**If so, what condition have you experienced?**

(Please specify)

**Ethnicity**

Do you consider yourself to be Hispanic or Latino? (See definition below). Select one.

*Hispanic or Latino.* A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race. The term “Spanish origin,” can be used in addition to “Hispanic or Latino.”

Hispanic or Latino  
Not Hispanic or Latino  
Unknown

**Menstrual Cycle**

**1. Do you experience a regular menstrual cycle?** Yes, No

**Menopause Questions** (available online from Johns Hopkins Medicine Psychiatry, n.d.)

*These questions relate to menopause and the time period prior to menopause (known as peri-menopause). We define menopause as beginning after you have had no menstrual cycles for ONE YEAR. Peri-menopause is recognized as the several years prior to menopause and generally lasts from 2-6 years. Most women recognize peri-menopause as the time at which they begin to have irregular periods*

1. What was the approximate date of your last menstrual period?
2. What age did your menstrual cycles first become irregular?
3. What age do you think you entered peri-menopause?
4. Are you post-menopausal? (Answer yes, if your last menstrual period was over one year ago?) Yes, No
  - 4a. If post-menopausal, what age did you consider yourself post-menopausal?  
\* choose N/A if not applicable
5. Did you or do you currently take hormone replacement therapy (HRT)?
  - a. Yes, I am currently on HRT
  - b. Yes, I have taken HRT but do not currently
  - c. No, I do not and have never taken HRT

APPENDIX C

STUDY MEASURES

Table A1. *Summary of Study Assessments*

<b>Area of Use in Project</b>	<b>Citation</b>	<b>Measure Name</b>	<b>Description of Measure</b>
<b>Sample Characterization</b>			
	Lasher and Faulkender (1993)	Aging Anxiety Scale (AAS)	20-item measure that includes subscales for Fear of Old People, Psychological Concerns, Physical Appearance, and Fear of Loss
	Cash, Melnyk, and Hrabosky (2004)	Appearance Schemas Inventory-Revised (ASI-R)	20-item self-report measure which includes two subscales: Self-Evaluative Salience, and Motivational Salience.
<b>Aim 1</b>			
<b>Hypothesis 1</b>	Adapted from Heo and Cho (2009)	Multi-Media Usage Scale	Assesses frequency and type of media use across 22 different media sources. This questionnaire will be modified to also capture the likelihood that participants make body-related comparisons to each media source.
<b>Hypothesis 3</b>	Thompson, Heinberg, Altabe, and Tantleff-Dunn (1999)	Body Comparison Scale (BCS)	25-item measure which lists various body parts and asks participants to indicate how frequently they compare each area of the body to others.
<b>Hypothesis 4</b>	Fitzsimmons-Craft, Bardone-Cone, and Harney (2012)	Body Comparison Orientation subscale of the Body, Eating, and Exercise Comparison Orientation Measure (BEECOM)	A 6-item questionnaire which assess the frequency with which a woman compares her body to female peers in a variety of contexts. This questionnaire will be modified to assess whether body-related comparisons are also made to female family members.
<b>Aim 2</b>			

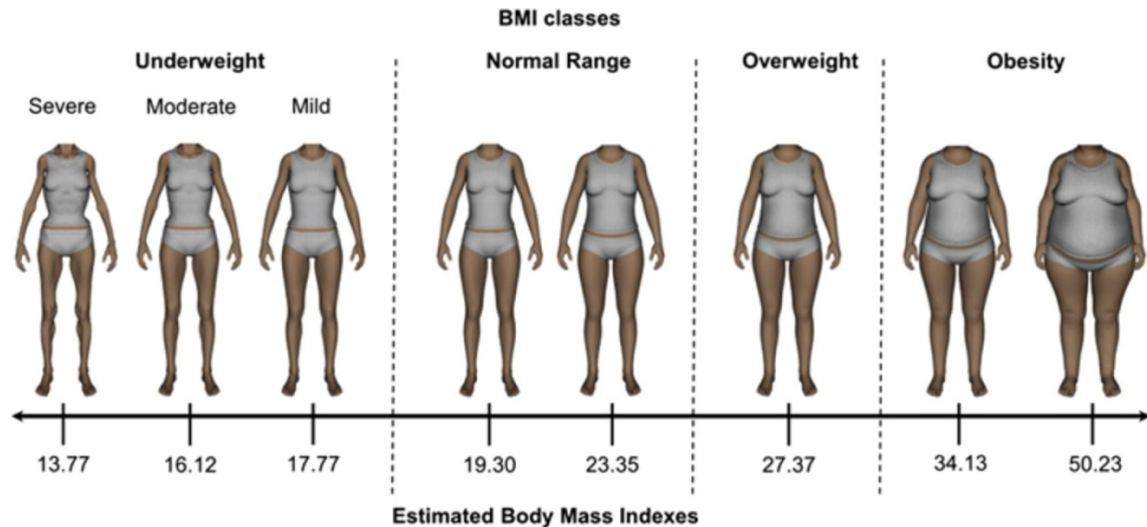
<b>Hypothesis 5</b>	N/A	Interpersonal Pressure Questionnaire	This measure, developed for this study, assesses whether participants have perceived overt or implied pressure to change their body from family, close others, acquaintances, or when thinking about previous versions of their body.
<b>Aim 3</b>			
<b>Hypotheses 6 &amp; 7</b>	Black and Wilson (1996)	Eating Disorder Examination Questionnaire (EDE-Q)	28-item measure that includes measurements of Restraint, Weight Concern, Shape Concern, and Eating Concern
<b>Hypotheses 6 &amp; 7</b>	Schaefer et al. (2015)	Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4)	22-item self-report instrument examining Internalization: Thin/Low Body Fat, and Muscular/Athletic, Pressures related to family, media, and peers



## Interpersonal Pressure Questionnaire

Responses to a and b made on a 1-5 point Likert scale:

- 1 = Never
- 2 = Seldom
- 3 = Sometimes
- 4 = Often
- 5 = Always



(*Moussally, Grynberg, Goffinet, Simon, & Van der Linden, 2017*)

1. My *current* body shape is: \_\_\_\_ (Please identify the figure, from those shown above, that most resembles your figure at this time. Record the number of the figure.)
  
2. Consider a time when you looked your “best.”
  - a) How frequently have you made overt negative comments about your weight or shape in comparison to your “best” figure?
  - b) How frequently have you felt that you should alter your weight or shape to achieve your “best” figure?
  - c) If I were to achieve my “best” figure, I would look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)
  
3. Have you had a relationship with your mother, or a female guardian? Y N
  - a) How frequently has your *mother, or female guardian*, made overt negative comments about your weight or shape?
  - b) How frequently has her behavior towards you implied that you should alter your weight or shape?
  - c) My *mother, or female guardian*, thinks that I should look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)

4. Have you had a relationship with your father, or a male guardian? Y N
  - a) How frequently has your *father, or male guardian*, made overt negative comments about your weight or shape?
  - b) How frequently has his behavior towards you implied that you should alter your weight or shape?
  - c) My *father, or male guardian*, thinks that I should look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)
  
5. Are you currently, or have you previously, been involved in a significant romantic relationship? Y N
  - a) How frequently has your partner made overt negative comments about your weight or shape?
  - b) How frequently has their behavior towards you implied that you should alter your weight or shape?
  - c) My *partner* thinks that I should look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)
  
6. Do you have children? Y N
  - a) How frequently have your *children* made overt negative comments about your weight or shape?
  - b) How frequently has their behavior towards you implied that you should alter your weight or shape?
  - c) My *children* think that I should look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)
  
7.
  - a) How frequently have your *close friends* made overt negative comments about your weight or shape?
  - b) How frequently has their behavior towards you imply that you should alter your weight or shape?
  - c) My *close friends* think that I should look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)
  
6.
  - a) How frequently have *acquaintances* made overt negative comments about your weight or shape?
  - b) How frequently does their behavior towards you imply that you should alter your weight or shape?
  - c) My *acquaintances* think that I should look like: \_\_\_\_ (Please identify the figure, from those shown above. Record the number of the figure.)

## APPENDIX D

### STUDY IMAGE EXAMPLES

#### **Image Selection Criteria:**

1. Woman's body is within 45° of facing front;
2. Photo portrays only 1 woman;
3. Where possible, at least  $\frac{3}{4}$  of the body, including the arms, upper torso, stomach, or legs must be visible;
4. Where possible, figures should be well defined and not concealed by loose clothing;
5. No text is covering the woman's body;
6. Woman is not pregnant; and,
7. Where possible, the pose of the celebrity should be similar.

Table D1. *Racial/Ethnic Background of Celebrities Included in Study*

<b>Celebrity</b>	<b>Race &amp; Hispanic/Latinx Ethnicity*</b>
Zendaya	multiracial
Camila Cabello	white, Hispanic/Latinx
Selena Gomez	white, Hispanic/Latinx
Emma Watson	white
Emma Stone	white
Adele	white
Rihanna	multiracial
Gal Gadot	white
Susan Watson	black
Amy Schumer	white
Reese Witherspoon	white
Jennifer Garner	white
Taraji P. Henson	black
Jennifer Lopez	white, Hispanic/Latinx
Julianna Margulies	white
Julia Roberts	white
Nicole Kidman	white
Viola Davis	black
Sandra Bullock	white
Sharon Stone	white
*list compiled with Google search; accuracy not verified	

## VITA

Frances Bozsik was educated in local private schools and graduated from St. Vincent – St. Mary High School. She completed her undergraduate education at Kent State University in Kent, Ohio and earned a Bachelor of Arts in Interior Design.

She returned to Kent State in a post-undergraduate role where she assisted with research in three different psychology laboratories as an undergraduate research assistant for a year. Ms. Bozsik then began a master's program in clinical psychology at Missouri State University in Springfield, Missouri. She earned a Master of Science degree in May 2014.

She began to pursue her Ph.D. in Clinical Psychology at the University of Missouri-Kansas City in August 2014. During her doctorate, she has been a student member of the International Neuropsychological Society, National Academy of Neuropsychology, Psi Chi National Honor Society in Psychology, Academy for Eating Disorders, and Association for Behavioral and Cognitive Therapies. She has published 4 articles and 2 book chapters.

Ms. Bozsik completed her psychology internship at the Phoenix VA Health Care System. Upon completion of her doctorate degree requirements, Ms. Bozsik plans to pursue postdoctoral training through a fellowship in clinical neuropsychology.