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**DIFFERENCES AND SIMILARITIES IN MALE BODY IMAGE IN YOUNG,
MIDDLE-AGED, AND OLDER MEN**

A Master's Thesis

Presented to

The Graduate College of
Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree
Master of Science, Psychology

By

Amy K. Jordan

August 2019

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Psychology

Missouri State University, August 2019

Master of Science

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ABSTRACT

The purpose of the present study was to explore differences and similarities in multiple aspects of male body image across age groups, including body dissatisfaction, coping strategies, functional appreciation, and mood. It was first hypothesized that younger men would report greater dissatisfaction with muscularity and body fat than middle-aged and older men. The second hypothesis stated that body dissatisfaction would predict depressive symptoms. The third hypothesis predicted that age and functionality appreciation for the body would be positively correlated. Finally, researchers evaluated the relationship between body image coping strategies and age from an exploratory perspective. Participants included 344 men ages 18-88 recruited through Amazon's Mechanical Turk and various social media websites. Participants completed a series of questionnaires assessing body dissatisfaction, depressive symptoms, and body image coping strategies. Correlations, analyses of variance, and a hierarchical regression were conducted to test the four hypotheses. The first hypothesis was partially supported, as younger men reported greater dissatisfaction with muscularity. The second hypothesis was supported when a measure of body dissatisfaction predicted depressive symptoms, but not when a figure-rating scale was used instead. The third hypothesis received no support. Lastly, researchers found significant differences in body image coping strategies between age groups, such that younger men used more coping strategies than older men.

KEYWORDS: body image, men, body dissatisfaction, muscularity, age groups, coping strategies

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In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

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INTRODUCTION

Negative, or poor body image, is associated with a wide variety of psychological characteristics and syndromes, including low self-esteem (Lowery et al., 2005; O’Dea, 2012; van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010), weight changes (van den Berg et al., 2010), depression (Olivardia, Pope, Borowiecki, & Cohane, 2004), eating disorder symptoms (Olivardia et al., 2004), and anxiety (Lowery et al., 2005) in women and men. The majority of research to date has focused on the impact of negative body image through samples of predominantly young, White women. Within recent decades, some researchers have broadened their focus to include male body image, albeit using primarily undergraduate samples. The present study seeks to decrease the current gaps in body image literature by evaluating multiple aspects of male body image across age groups, including the presence of negative body image, the use of coping strategies, functional appreciation of the body, and the impact of body image on mood.

Body Image and Aging

Body image, broadly defined as a person’s appraisal of their physical appearance, is a multidimensional construct that lends itself to research with clinical and non-clinical populations (Cash, 2004; Cash & Grasso, 2005; Tylka, & Wood-Barcalow, 2015). Described by Cash (2004, p. 1) as “a multifaceted psychological experience of embodiment”, body image includes perceptual, cognitive, affective, and behavioral components. These multifaceted experiences are often heavily influenced by cultural standards for what men and women “should” look like. The

Western world's narrow concept of attractiveness is a prominent etiological factor in the widespread negative body image and occurrence of eating disorders. Current standards of female beauty advocate for a nearly unattainably low body weight, while still placing importance on features like a full bust and wider hips. Thompson and Stice (2001) suggest that internalization of this thin ideal is a significant risk factor for body dissatisfaction and the development of eating disorder symptoms among women.

In addition to the importance of thinness, recent research has confirmed that muscularity is now another vital component of the ideal, female body. Bozsik et al. (2018) found that beauty pageant winners have grown simultaneously thinner and fitter over the past fifteen years, indicating that the idyllic woman must now maintain muscle definition in addition to her extremely low body weight. While the drive for fitness or muscularity may initially appear to promote health, Uhlmann et al. (2018) reported that internalization of a muscular ideal does not diminish the negative outcomes associated with the internalization of a thin ideal. Similarly, internalization of the thin ideal does not lessen the negative outcomes associated with internalization of a muscular ideal (e.g., compulsive exercise).

Just as cultural standards for women have demanded lower body weight and increased muscle tone, cultural standards for men have become progressively muscular over time. Evolving body ideals are illustrated by images in popular media. Between 1973 and 1997, Playgirl centerfold models became significantly more muscular and "dense" while boys' action toys have also become increasingly muscular, often exceeding the proportions of any living male body builder (Leit, Pope, & Gray, 1999; Pope, Olivardia, Gruber, & Borowiecki, 1999). As is the case with women, these changes in the media have been hypothesized to play a role in increased body dissatisfaction in men (Bardone-Cone, Cass, & Ford, 2008).

Although researchers have yet to identify a causal relationship between media exposure and male body image, research on the connections between eating, exercise, and body image dissatisfaction in men has increased. One aspect of male body image that has received considerable attention and empirical support is the concept of drive for muscularity. Unlike the relatively new standard of fitness for women, men have consistently desired a primarily muscular physique (Murray, Griffiths, & Mond, 2016). Specifically, men seek a mesomorphic body shape (often referred to as a “V” shape), consisting of broad shoulders, a flat stomach, and slender hips (McCabe & Ricciardelli, 2004; McCreary & Sasse, 2000).

Men with a strong drive for muscularity may exhibit behaviors analogous to eating disorder symptoms in women. For example, men often restrict caloric intake, alter nutrient consumption, and use anabolic steroids to achieve their ideal image of muscularity and leanness (Murray, Griffiths, & Mond, 2016). Furthermore, like women, men display body image dissatisfaction in response to the real or perceived discrepancy between their body and the male body ideal (Bardone-Cone, Cass, & Ford, 2008). The limited, existing literature on behaviors and cognitions associated with male body image has typically relied on samples of collegiate men. Few researchers have yet to examine the trajectory of body dissatisfaction across the male lifespan.

Body Dissatisfaction and Age

The presence of body dissatisfaction in women has been documented repeatedly by scholars for decades (Cash, 2004). In fact, for women, negative body image has become so pervasive that it is often referred to as a “normative discontent” (Rodin, Silberstein, & Striegel-Moore, 1984). While men still report fewer body image concerns than women (Darcy et al.,

2012; Micali et al., 2015; van den Berg et al., 2010), the rates of negative body image and eating disorder symptoms in men have noticeably increased over the past couple of decades (Garner, 1997; Mitchison, Hay, Slewa-Younan, & Mond, 2014; Olivardia, Pope, Borowiecki, & Cohane, 2004). In fact, between 1998 and 2008, the prevalence of extreme dieting and purging increased more quickly in men than in women (Mitchison et al., 2014). With respect to eating disorder symptoms, these behaviors tend to result in equal impairment and distress between men and women (Mitchison, Mond, Slewa-Younan, & Hay, 2013). Despite these findings, studies utilizing samples of young women continue to dominate the current literature.

In more recent years, questions about the generalizability of this research have been raised, with researchers calling for a more holistic and inclusive view of body image that includes more diverse samples and an exploration beyond its negative impacts (Mitchison, et al., 2014; Tylka & Wood-Barcalow, 2015). Consequently, researchers examining experiences of women's body image across the lifespan have become increasingly common and suggest that, while body dissatisfaction remains stable across age groups, the importance of body appearance is significantly lower for older women (Tiggeman, 2004). With these findings, researchers indicated that women experience similar levels of body dissatisfaction at all ages, but the extent to which it impacts their daily experience is less significant in older age groups than younger age groups. Tiggemann and McCourt (2013) found that older women have higher levels of body appreciation than middle-aged and younger women.

Men, in contrast, may experience significant changes in body dissatisfaction during their lifetime. A review by McCabe and Ricciardelli (2004) identified differences in body dissatisfaction among pre-adolescent boys, adolescent boys, and adult men compared to women of similar ages. Research included in their review consistently found that pre-adolescent and

adolescent boys reported significantly lower rates of body dissatisfaction than pre-adolescent and adolescent girls. When asked how they would prefer their bodies to change, only a small percentage of boys reported desiring a larger or more muscular body. The authors suggested these differences may be due to the use of measures that fail to assess the desire for muscularity that begins to develop during adolescence. Newer research, however, indicates that body dissatisfaction related to both thinness and muscularity may begin significantly earlier than McCabe and Ricciardelli's review stated. When McLean, Wertheim, and Paxton (2018) surveyed six-year-old boys about their bodies, nearly one-third of their sample wanted to be more muscular and about one-fifth wanted to be thinner. A review by Tatangelo (2016) indicated that even children in preschool express body dissatisfaction, with some studies reporting up to 70% of participants feeling dissatisfied with their bodies.

As adults, men continue to report higher rates of body satisfaction than adult women (McCabe & Ricciardelli, 2004). However, male body dissatisfaction has been reported to exist throughout the lifespan, although the expression of the dissatisfaction and important factors associated with it may vary with age. For example, adult males appear to be more concerned with increased muscularity whereas male children or adolescents may be more focused on developmentally-relevant issues such as gender and sexual development. For instance, McCabe and Ricciardelli's review briefly explored the relationship between body dissatisfaction and variables such as sexual orientation and conformity to gender norms, which impact both the rates of body image dissatisfaction and the desired changes (Frederick & Essayli, 2006; McCabe & Ricciardelli, 2004). Jankowski, Diedrichs, and Halliwell (2013) found that homosexual men reported higher dissatisfaction with both body fat and muscularity than heterosexual men. Changes in body image satisfaction can also be related to depressive symptoms, such that

individuals with higher levels of body dissatisfaction also tend to experience higher levels of depression (Jackson et. al, 2014; Marsella, Shizuru, Brennan, & Kameoka, 1981). In extreme cases, such as body dysmorphic disorder, body dissatisfaction is also associated with an elevated risk of suicide (Shaw, Arditte Hall, Rosenfield, & Timpano, 2016). Positive body image, in contrast, is associated with fewer symptoms of depression in both men and women (Gillen, 2015).

McCabe and Ricciardelli's review highlights some age group differences in male body image while also noting the absence of literature on male body image in middle and older age (2004). Since then, several qualitative and a few quantitative studies have identified mixed findings regarding body image in older and middle-aged men. In samples of people ages 18-90, multiple authors found that while women continued to report higher rates of body dissatisfaction than men (Algars et al., 2009; de Souto Barreto, Ferrandez, & Guihard-Costa, 2011; Homan & Boyatzis, 2009), men experienced age-related changes in their appearance as less distressing, and sometimes even positively (Halliwell & Dittmar, 2003; Homan & Boyatzis, 2009). Furthermore, other researchers have documented a decrease in body satisfaction for men over 60 (Mellor, Fuller-Tyszkiewicz, McCabe, & Ricciardelli, 2010), and a greater level of dissatisfaction in comparison to women (Kaminski & Hayslip, 2006). In addition, younger and older men report different areas of dissatisfaction with their bodies. While body fat dissatisfaction occurs in all ages, younger men are significantly more concerned with muscularity (Murray & Lewis, 2014). These mixed results may be explained in part to the lack of consensus about what body image means to the individual and how their own definition of body image may change over time.

In addition to their reported difficulties with appearance and visible signs of aging, middle-aged and older samples also note dissatisfaction with their body's ability to function. In

samples of older adults, participants' body image satisfaction was mediated by their health and physical abilities (Baker & Gringart; 2009; Halliwell & Dittmar, 2003). In a study by de Souto Barreto et al., body functioning predicted body satisfaction in men, but not in women (2011). Older men may also be less likely to perceive themselves well-coordinated and athletic (Algars et al., 2009).

Although studies on body image across the lifespan are limited, these findings together suggest that body image may be experienced differently by middle-aged and older adults. However, in all age groups, less is known about how men cope with threats to their body image.

Coping with Body Image Threats

Given the stringent cultural standards for beauty and mounting pressure to meet those standards, both men and women will inevitably face threats to their body image (e.g., receiving negative comments about one's appearance), potentially resulting in negative emotions that require coping strategies. Cash, Santos, and Williams (2005) identified three ways in which people tend to cope with threats or challenges to their body image: appearance-fixing behaviors, avoidance behaviors, and positive rational acceptance. Appearance-fixing coping behaviors are used to mask or change one's appearance, in an effort to lessen the psychological impact of negative body image. Appearance-fixing behaviors include seeking validation from others or spending extra time correcting perceived defects in appearance. Avoidance coping behaviors are used to ignore or escape threats to one's body image or manage the distress caused by negative body image by engaging in strategies such as avoiding one's reflection or even overeating. While counterintuitive, poor body image and the negative emotions that arise from it, is often associated with disinhibited and/or emotional eating (Ahrberg, Trojca, Nasrawi, & Vocks, 2011;

Cargill, Clark, Pera, Niaura, & Abrams, 1999). Both appearance-fixing and avoidance behaviors are associated with negative psychological outcomes, including lower self-esteem, lower social support, increased eating concerns, increased depression, and poorer body image quality of life (Cash et al., 2005; Choma, Shove, Busseri, Sadava, & Hosker, 2009).

Positive rational acceptance is considered a healthier coping strategy that counters threats to one's body image through the practice of acceptance, self-care, and rational self-talk (Cash et al., 2005). A person using this coping strategy might focus on their positive qualities or remind themselves that the threat to their body image is only temporary. In contrast to appearance-fixing and avoidance strategies, these behaviors are associated with positive psychological outcomes, including increased self-esteem, social support, and less eating disturbance (Cash et al., 2005; Choma et al., 2009). Knowing whether or not women differentially use these coping strategies across the lifespan could provide a theoretical basis for understanding the changes in body image women experience throughout their lives. Furthermore, examining if, and how, men utilize these coping strategies and their associated outcomes would be an important addition to this literature.

Little is known about how men employ coping strategies when faced with body dissatisfaction. Cash et al. (2005) found that men utilize body image coping strategies significantly less often than women, with the greatest differences observed in appearance-fixing behaviors. However, the average participant for their sample was younger than twenty-one years old. Qualitative research by Calasanti, King, Pietila, and Ojala (2018) explored anti-aging activities in men ages 42-61. Their results revealed that men do care about appearance and may utilize anti-aging products to manage their looks although not to the same extent that women report engaging in these behaviors. Anti-aging products were often related to functioning and performance rather than appearance. These findings indicate that a more diverse age sample may

endorse coping strategies (specifically appearance-fixing coping) differently or for different reasons than Cash's original undergraduate sample.

Subsequent quantitative research on appearance coping behaviors has continued to rely on relatively young and entirely female samples, offering only limited information regarding how middle-aged and older men cope with body image threats.

Hypotheses

In light of the dearth of quantitative research on male body image dissatisfaction and coping strategies in middle and later life, the present study seeks to further explore the relationship between age, body dissatisfaction, and related symptoms and behaviors.

It is hypothesized that:

- 1.) Younger men will be more likely to express dissatisfaction with muscularity, whereas older men will be more likely to express dissatisfaction with body weight and shape.
- 2.) Male body dissatisfaction will be a significant predictor of depressive symptoms.
- 3.) In men, as age increases, so will appreciation for body functionality.
- 4.) Due to the limited literature concerning men and coping strategies, the relationship between age and all three body image coping strategies (appearance fixing, avoidance, and positive rational acceptance) will be evaluated from an exploratory perspective.

METHOD

Participants

Prior to data collection, we obtained approval from the university Institutional Review Board (Study# IRB-FY2019-336) on March 10, 2019 (see Appendix). A total of 417 men participated in the study. Participants ($n = 175$) were recruited through Amazon Mechanical Turk (a paid participant database run through Amazon.com) and snowball sampling on social media sites such as Facebook and Twitter ($n = 242$). However, 60 participants who completed 75% or less of the study were deleted from the dataset. An additional 5 participants were deleted for reporting their gender identity as female. Finally, 8 participants were excluded for failing to meet standards that ensured quality data collection, such as missing both manipulation checks (Buchanan & Scofield, 2018).

The remaining 344 participants ranged in age from 18 to 88 years ($M = 37.63$, $SD = 12.96$). The majority of the participants were White (79.1%) and heterosexual (86.9%) men. As indicated by their BMI, participants were overweight on average ($M = 27.87$, $SD = 9.82$). See Table 1 for additional demographic information.

Procedure

The online survey packet was distributed to potential participants through a Qualtrics link. Following informed consent, participants provided basic demographic information, including age, race, sexual orientation, marital status, height, and weight. They were also asked whether they were currently satisfied with their body weight and shape. Participants then

completed a counter-balanced packet of the study measures. Completion of the entire assessment took approximately 25 minutes. Participants recruited through Amazon Mechanical Turk (AMT) were compensated \$2.00 for their participation.

A potential concern when using AMT for data collection is that of low-quality data resulting from participants with low motivation. In line with suggestions made by authors Buchanan and Scofield (2018), page timers and click counters were embedded on each page of the AMT packet. A timer for the duration of the overall survey was also embedded into the packet. Two manipulation checks (e.g. “Please select the option that says, ‘Strongly Agree’.”) were implemented: the first was embedded immediately after the demographic questionnaire, and the second was randomized among the other study measures. These methods were included to lower the risk of meaningless data due to poor validity.

Materials

Body Image Dissatisfaction. The Male Body Attitudes Scale (MBAS) is a 24-item self-report Likert scale on which men rate their feelings about their appearance (Tylka, Bergeron, & Schwartz, 2005). The MBAS measures three dimensions of male body image: body fat (e.g. “I am concerned my stomach is too flabby”), muscularity (e.g. “I think my chest should be broader”), and height (e.g. “I am satisfied with my height”). Tylka et al. (2005) found the MBAS demonstrated adequate internal consistency for both the total scale ($\alpha = .91$) and its body fat ($\alpha = .89$), muscularity ($\alpha = .94$), and height subscales ($\alpha = .82$) in a sample of undergraduate men. Test-retest reliabilities of the total MBAS ($r = .91$), the muscularity subscale ($r = .88$), the low body fat subscale ($r = .94$), and the height subscale ($r = .81$) were also adequate. In the present study, Cronbach’s alpha also indicated internal consistency for the total scale ($\alpha = .93$), and its

body fat ($\alpha = .94$), muscularity ($\alpha = .89$), and height subscales ($\alpha = .81$). Both the entire MBAS and its subscales can be averaged to obtain an overall score and subscale scores. Only the body fat and muscularity subscales were used in this study with higher scores indicating more negative body attitudes.

Male Body Ideals. The Male Body Scale (MBS) and Male Body Fit Scale (MBFS) are figure rating scales recently developed by Ralph-Nearman and Filik (2018). Both scales consist of nine figures, starting with the thinnest figure on the left side. In the MBS, the figures become increasingly obese, aiming to detect body dissatisfaction relating to the thin-ideal. In the MBFS, the figures become increasingly muscular, aiming to detect body dissatisfaction relating to the lean-ideal and drive for muscularity. Participants are asked to select their current body figure and ideal body figure on both the MBS and MBFS, then select which scale was the best representation of their current appearance. Results indicate that both the MBS and MBFS exhibit higher reliability and construct validity (e.g. $r = .53$ when comparing the MBFS and McCreary and Sasse's Drive for Muscularity Scale) than previously used figure rating scales. Ralph-Nearman and Filik (2018) found test-retest reliabilities were $r = .77$, $r = .54$, and $r = .62$ for current body size, ideal body size, and body dissatisfaction scores on the MBS, respectively. In the same study, test-retest reliabilities on the MFBS were $r = .76$, $r = .69$, and $r = .49$ for the current body size, ideal body size, and body dissatisfaction scores, respectively. Given the relatively weak reliability with respect to body dissatisfaction on both the MBS and MBFS, the MBAS will serve as the primary measure body dissatisfaction for the current study, while the MBS and MBFS will serve as the primary measure of body ideals.

Functional Appreciation. The Functionality Appreciation Scale (FAS) is a 7-item self-report Likert scale developed by Alleva, Tylka, and Kroon Van Diest (2017) to measure the

degree to which people value their body's functionality (e.g. "I appreciate my body for what it is capable of doing"). Unlike other measures of body image and related variables, the FAS was validated using a large online sample of men and women who were comparable in age, race, and sexual orientation to the sample used in the current study. In Alleva et al.'s sample (2017), the FAS displayed strong internal validity ($\alpha = .90$) and test-retest reliability (ICC = .74) for men. FAS scores are averaged, and higher scores represent greater levels of functional appreciation. In the present study, Cronbach's alpha was .91.

Depression. The Center for Epidemiological Studies Depression Scale – Revised (CESD-R) is a 20-item self-report Likert scale that measures symptoms of depression in the general population. Van Dam and Earleywine (2011) determined that the CESD-R demonstrated high internal consistency in both large community ($\alpha = .92$) and student samples ($\alpha = .93$). When using an algorithmic classification scheme for the community sample, the researchers found a base-rate of depression that was nearly identical to one of the largest epidemiological studies of depression. In the present study, Cronbach's alpha was .95. The CESD-R score is obtained by calculating a score of all 20 items.

Appearance Coping Behaviors. The Body Image Coping Strategies Inventory (BICSI) is a 29-item self-report Likert scale that measures a person's ability to cope with threats or challenges to their appearance (Cash, Santos, & Williams, 2005). The BICSI is comprised of three subscales: appearance-fixing (e.g. "I do something to try to look more attractive"), avoidance ("I try to tune out my thoughts and feelings"), and positive rational acceptance (e.g. "I remind myself of my good qualities"). Research by Cash et al. (2005) demonstrated each subscale's strong internal validity ($\alpha = .91$, $\alpha = .74$, $\alpha = .85$, respectively) and convergent validity with other measures of body image, affect, psychosocial functioning, and body mass

index. Additionally, Cash and Grasso (2005) found evidence of acceptable test-retest reliability ($r = .86$, $r = .78$, $r = .66$, respectively) after a two-week delay. Cronbach's alphas for the present study were .88 for appearance-fixing, .82 for avoidance, .86 for positive rational acceptance, and .90 for the total scale. To score the BICSI, both the total items and subscales are averaged.

Higher scores indicate a greater use of the respective coping behavior.

Appearance Coping Strategies Checklist. As previously stated, the existing literature on appearance coping strategies in men is scarce. Cash et al. (2005) found that men utilized appearance coping strategies significantly less than women, potentially indicating that the existing coping strategies are a poor fit for men. In an attempt to gather exploratory information about the breadth of men's behaviors, participants were provided a checklist of specific coping behaviors (e.g. "I take extra vitamins or supplements", "I alter my body hair", etc.) immediately following the BICSI and asked to indicate any that applied to them. Items were generated from the findings of existing literature on body image and aging, such as Calasanti et al. (2018), de Souto Barreto et al. (2011), and Halliwell and Dittmar (2003). Participants were also given the opportunity to write in a coping behavior they employed that was not listed.

RESULTS

Preliminary Analyses

The initial data analysis included data screening and cleaning. Sixty participants who completed 75% or less of the study were deleted from the dataset. Additional missing data were handled utilizing ipsative mean imputation methods (Schafer & Graham, 2002), sometimes known as available item analysis (Parent, 2013). Ipsative mean imputation creates a scale total by averaging participants' completed responses on a given scale. This method was applied for the measures of male body dissatisfaction, functional appreciation, and appearance coping behaviors, as those measures dictated that scores were calculated through averages. Despite criticisms of lowering overall scale reliability, the Cronbach's alpha scores for the scales utilized in the present study ranged from .81 to .95, commonly considered to be above the $\alpha > .70$ threshold for internal validity.

Hypothesis Testing

A Pearson's correlation was conducted to test whether body dissatisfaction—specifically dissatisfaction with muscularity and body fat—was significantly related to age. A small negative correlation was observed between age and overall body image dissatisfaction assessed by the MBAS, $r(337) = -.13, p < .01$. Another small negative correlation was observed between age and dissatisfaction with muscularity, $r(337) = -.24, p < .01$. There was no significant relationship between age and body fat dissatisfaction, $r(337) = -.02, p > .05$. All correlations are presented in Table 2.

Participants were divided into three groups based on age: young men (18-39; $n = 228$), middle-aged men (40-59; $n = 84$), and older men (60 and over; $n = 32$). A one-way ANOVA was conducted to determine if there were differences between age groups for each MBAS subscale and overall MBAS scores. There was homogeneity of variances for both subscales and the overall MBAS scores as assessed by Levene's test. Overall body dissatisfaction did not vary significantly between age groups, $F(2, 337) = 2.49, \eta^2 = .02, p > .05$. Muscularity dissatisfaction varied significantly between age groups, $F(2, 337) = 8.13, \eta^2 = .05, p < .001$. Body fat dissatisfaction did not vary significantly between age groups, $F(2, 337) = .42, \eta^2 = .002, p = .656$. However, participants reported greatest dissatisfaction with body fat ($M = 4.40, SD = 1.53$), followed by overall body dissatisfaction ($M = 4.08, SD = 1.21$), and muscularity ($M = 3.73, SD = 1.23$). Tukey's post-hoc tests revealed that younger men reported significantly more muscularity dissatisfaction than older men. Interestingly, men of all ages reported high levels of dissatisfaction with body fat, relative to their dissatisfaction with muscularity. These results provide partial support for the first hypothesis, indicating that younger men report more dissatisfaction with muscularity, but not supporting the prediction that older men would report more dissatisfaction with body fat. It appears that men report similar levels of dissatisfaction with body fat regardless of their age.

To test the second hypothesis that body dissatisfaction would be a significant predictor of depressive symptoms, a hierarchical multiple regression was conducted to determine if the addition of body dissatisfaction (as depicted by average overall MBAS scores) improved the prediction of depressive symptoms over and above age and BMI. Age and BMI were entered simultaneously in the first step, and body dissatisfaction was entered during the second step. Age and BMI alone significantly predicted depressive symptoms ($R^2 = .08, F(2, 334) = 15.39, p <$

.001). The addition of body dissatisfaction to the model accounted for additional significant variance in depressive symptoms, $R^2 = .26$, $F(3, 333) = 38.84$, $p < .001$; R^2 change = .175 adjusted $R^2 = .25$. These results support the second hypothesis.

The second hypothesis was also tested using MBFS and MBS scores as measures of body dissatisfaction. Unlike the overall MBAS scores, MBFS and MBS scores provide the opportunity to explore whether participants' perceived discrepancy from their ideal levels of muscularity and ideal levels of body fat predict depressive symptoms. Two separate hierarchical multiple regressions were conducted. Age and BMI were entered simultaneously in the first step, and either MBFS scores or MBS scores were entered during the second step. The full model of muscularity discrepancy (MBFS), age, and BMI to predict depressive symptoms was not statistically significant, $R^2 = .08$, $F(3, 333) = .460$, $p = .498$; adjusted $R^2 = .07$; R^2 change = .001. In addition, the full model of body fat discrepancy (MBS), age, and BMI to predict depressive symptoms was not statistically significant, $R^2 = .08$, $F(3, 334) = .006$, $p = .939$; adjusted $R^2 = .07$; R^2 change = .000. These results, utilizing figure rating data, did not support the second hypothesis.

To test the third hypothesis that age and functional appreciation are positively related, a Pearson's correlation was conducted to assess the relationship between age and FAS scores. The results indicated there was no statistically significant relationship between age and FAS scores, $r(339) = .043$, $p = .425$, with age explaining only 0.18% of the variance in functional appreciation. Age was also not significantly related to any of the individual items of the FAS. Although average FAS scores ($M = 4.89$, $SD = 0.86$ on 6-point scale) indicate high appreciation across age groups, these results do not support the third hypothesis that functional appreciation would increase as age increased. The data was visually inspected, revealing a negative skew in

FAS scores, which suggests the possible existence of a ceiling effect. This restriction of range may have limited the predicative power of this variable.

A Pearson's correlation was used to explore the relationship between age and body image coping strategies for the fourth and final hypothesis. A moderate negative correlation was observed between appearance fixing and age ($r = -.33, p < .01$), and small negative correlations were observed between positive rational acceptance and age ($r = -.25, p < .01$) and avoidance and age ($r = -.12, p < .05$). Correlations are presented in Table 3.

To examine any differential use of coping strategies, a one-way ANOVA was conducted to determine if there were differences between age groups for each body image coping strategy. There was homogeneity of variances for all three coping strategies as assessed by Levene's test. Appearance fixing coping varied significantly between age groups, $F(2, 335) = 13.20, \eta^2 = .07, p < .001$. Positive rational acceptance coping also varied significantly between age groups, $F(2, 335) = 8.28, \eta^2 = .05, p < .001$. Avoidance coping, although not to the extent of appearance-fixing and positive rational acceptance, also varied significantly between age groups, $F(2, 335) = 3.19, \eta^2 = .02, p < .05$. Participants reported greatest use of positive rational acceptance coping strategies ($M = 3.07, SD = .85$), followed by appearance fixing ($M = 3.03, SD = .95$) and avoidance coping strategies ($M = 2.61, SD = .93$). Tukey's post-hoc tests revealed that older men had significantly lower scores in all three coping strategies than both young and middle-aged men ($ps < .05$).

When completing the provided coping strategy checklist, participants endorsed a wide range of coping behaviors. Over half of all participants reported using exercise, changing eating behaviors, and attempting to lose weight when faced with body image threats. Frequencies for each coping behavior are listed in Table 4.

DISCUSSION

Reports of negative body image and eating disorder symptoms in men have increased in recent decades (Mitchison et al., 2014). Consequently, research on male body image has also increased, identifying common concerns with muscularity (McCabe & Ricciardelli, 2004; McCreary & Sasse, 2000; Murray et al., 2016) and function (Baker & Gringart; 2009; de Souto Barreto et al., 2011; Halliwell & Dittmar, 2003) that may result in a variety of negative outcomes. However, researchers have yet to thoroughly or quantitatively explore several aspects of male body image, such as the use of body image coping strategies, the impact of body dissatisfaction on mood, and differences in body image among age groups. The aim of the present study was to assess similarities and differences in aspects of male body image between young, middle-aged, and older men.

The first hypothesis stated that younger men would express greater dissatisfaction with muscularity while older men would express greater dissatisfaction with body weight and shape. This hypothesis was partially supported, as younger men reported significantly more dissatisfaction with muscularity than middle-aged or older men. Although a drive for muscularity has been consistently reported in male samples for almost two decades (McCabe & Ricciardelli, 2004; McCreary & Sasse, 2000; Murray et al., 2016), the utilization of primarily young samples made it unclear whether middle-aged and older men would report similar concerns with their muscularity. The second half of this hypothesis, however, was not supported, as middle-aged and older men did not report greater dissatisfaction with body fat. Instead, the relatively high scores of body fat dissatisfaction did not significantly vary with age. Body fat dissatisfaction was

reported by all age groups, rather than primarily middle-aged or older men. However, the reported body fat dissatisfaction may still be experienced differently among age groups. While older men may simply be dissatisfied with body fat's influence on their weight or physical health, younger men may be concerned with body fat as it relates to their overall leanness. In other words, younger men may be concerned that their body fat will mask their muscularity. It would be interesting for future studies to attempt to parse out the specific reasons responsible for a man's dissatisfaction with his weight.

Researchers routinely report a strong relationship between body image and mood (Jackson et al., 2014; Paans, Bot, Brouwer, Visser, & Penninx, 2018; Richard, Rohrmann, Lohse, & Eichholzer, 2016). More specifically, negative body image is often associated with an increase in depressive symptoms in female samples. Less is known about the impact of body dissatisfaction on mood in men. The second hypothesis proposed that body dissatisfaction would significantly predict depressive symptoms. This hypothesis was supported when depression was predicted by overall MBAS scores. Even after including both BMI and age, both of which are often associated with depression (Bryant, 2010; de Wit, Van Straten, Van Herten, Penninx, & Cuijpers, 2009; Faith, Matz, & Jorge, 2002; Faubel, 1989; Kessler et al., 2010; Luppá et al., 2012), MBAS scores accounted for an additional nearly 18 percent of the variance observed in depressive symptoms. However, neither MBFS or MBS scores significantly predicted depressive symptoms. It is possible that the MBFS and MBS' inability to predict depressive symptoms is due to the fact that both measures use only a single item to assess the construct in comparison to the MBAS' average of 24 items. Single-item measures, especially ones with a small range of scores (scores ranged from -5 through 7 in this sample) may have less predictive power than multi-item measures that utilize a mean score. On the other hand, it is also possible that

perceptual measures of body dissatisfaction, such as the MBFS and MBS are not related to mood in the same way attitudinal measures are. Although figure-rating scales are common in body image literature and widely considered to be accurate measures of both attitudinal and perceptual body image distortions (Bulik et al., 2001; Lo, Ho, Mak, & Lam, 2012; Ralph-Nearmn & Filik, 2018), the results of the current study indicate that perceptual body image dissatisfaction was not a significant predictor of depressive symptoms. Finally, we must consider the nature of our sample. It is possible that a perceived discrepancy between one's current and ideal body simply results in less distress for men than women. The MBFS and MBS were not compared to any measures of psychological distress during their development, and only the MBFS was positively correlated with eating disorder symptoms (Ralph-Nearmn & Filik, 2018).

Interestingly, the third hypothesis was not supported. Functional appreciation was expected to be positively related to age, and yet no statistically significant relationship was detected. However, the lack of relationship between these variables does not indicate a lack of functional appreciation. The average FAS scores ($M = 4.89$, $SD = 0.86$ on 6-point scale) suggest high levels of functional appreciation in the current sample. Interventions focusing on stimulating functional appreciation are commonly suggested when addressing women's negative body image (Alleva et al., 2017), so the natural occurrence of functional appreciation in this male sample raises questions of its origin and relationship to male body satisfaction. It is possible that real differences may exist in male and female functional appreciation as a result of sociocultural influences. From a young age, women develop schemas that emphasize the importance of their appearance in social and self-evaluations (Clark & Tiggeman, 2007). For women, appearance tends to be other-focused, where their bodies are seen as a source of pleasure and often objectified by others and the media. The drive for muscularity seen in men, however, may reflect

a desire for their bodies to be able to build, move, and protect others. These differences appear to continue into adulthood, at which time women still discuss their bodies as individual parts to be appraised. Men, on the other hand, view their bodies as whole functioning unit (Halliwell & Dittmar, 2003).

Given the paucity of research concerning men's use of body image coping strategies, the fourth and final hypothesis was approached from an exploratory perspective. No predictions regarding the strength and direction of the relationship between age and all three body image coping strategies were made. Older men utilized all body image coping strategies (including those viewed as healthy and unhealthy) less than middle-aged and younger men. In comparison to young and middle-aged men, older men reported endorsed fewer coping behaviors overall. These findings are somewhat consistent with research conducted by Walker, Jordan, and Hudson (2019) utilizing a sample of women where younger women utilized appearance-fixing and positive rational acceptance coping strategies significantly more than older women. Taken together, these results may highlight the need for measures that more accurately capture the coping strategies used by older adults. Additional research exploring the basis of these age differences, whether it be the result of aging or cohort differences, is needed.

Overall, the current study demonstrates that multiple aspects of male body image differ significantly by age. Others, such as body fat dissatisfaction and functional appreciation, are more consistent across age groups. These results offer a solid starting point from which future researchers can explore further impacts and areas of body dissatisfaction, longitudinal changes in male body image, and effective interventions for men with body image concerns.

Limitations and Suggestions for Future Research

The current study was not without its limitations. First, the cross-sectional nature of the data means we are only able to describe age differences, rather than age changes over time. Age group differences, such as those observed in body image coping strategies, may be due to cohort differences rather than aging. Longitudinal research methods are needed in order to make inferences on how the aging process impacts male body image.

A second limitation of this study was the small size of the middle-aged and older age samples. Although the imbalanced age groups did not violate any statistical assumptions, having larger middle-aged and older sample sizes would increase confidence that we captured the full range of responses that are representative of these groups. The authors are currently collecting additional data in an effort to survey more middle-aged and older men. Future researchers should utilize data collection methods that will allow them to more easily contact older men, such as mail-out surveys or collection at community resource centers.

The lack of information about participant income and education level is another limitation to this study—more specifically, a limitation to the results of the second hypothesis. Socioeconomic status and education level are known to be associated with depressive symptoms and are common variables of interest in studies utilizing community samples (Kosidou et al., 2011; Rai, Zitko, Jone, Lynch, & Araya, 2013; Wang, Schmitz, & Dewa, 2010; Zimmerman & Katon, 2005). Participants in the present study did not report their current income level or education status, preventing researchers from including those variables in the initial steps of the model predicting depressive symptoms. It is recommended that future researchers collect this information to include in their analyses.

One of the difficulties in assessing body image constructs is the ability to interpret the intent behind participants' answers. The BICSI, for example, offers a wide range of broad, gender neutral coping strategies but does not investigate the intention behind the coping strategy. For instance, two men who exercise to lose weight may do so for different reasons. An older man may attempt to lose weight to better his physical health, but a young man may attempt to lose weight to improve his appearance. While the use of the BICSI gathered information about coping strategies, it is unclear if men of varying ages engaged in the coping strategies for the same reasons. Furthermore, the BICSI was validated using an undergraduate sample, raising concerns over its validity with an older adult sample. In both this sample and unpublished data collected by Walker, Jordan, and Hudson (2019), older adults utilized coping strategies significantly less than younger and middle-aged groups. Future researchers may wish to validate the BICSI with a community sample or offer revisions that are inclusive of middle-aged and older adults.

Finally, the use of AMT may present a limitation. A concern when using AMT for data collection is that of low-quality data resulting from participants with low motivation. Although page timers, click counters, and embedded manipulation checks were implemented and used to exclude data and some participants, the risk of low-quality data cannot be entirely eliminated.

Conclusion

The current study aimed to examine various facets of male body image, as well as differences and similarities in those facets across age groups. Previous research utilized primarily undergraduate samples and rarely explored beyond body image dissatisfaction and the drive for muscularity. Our study, however, provides a more comprehensive view of male body image. Using a community sample, we detected significant differences between age groups

regarding body dissatisfaction and use of body image coping strategies. More specifically, older men report less dissatisfaction and less coping skills than middle-aged and older men. Body fat dissatisfaction appears to be an exception to these findings, as there were no significant differences between age groups. In addition to differences in body dissatisfaction, the current study demonstrated the significant impact of body dissatisfaction on mood. Overall, we can conclude that there is still much to explore regarding male body image, especially in older men. The results of the current study offer a starting point from which other researchers can expand, perhaps allowing them to create meaningful interventions to address body image dissatisfaction in men or develop measures that more accurately assess their needs.

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Table 1

Sample Demographics

Variable	Frequency <i>n</i> (%)
Gender Identity	
Male	340 (98.8%)
Transgender male	3 (.9%)
Sexual Orientation	
Heterosexual	299 (86.9%)
Gay	19 (5.5%)
Bisexual	22 (6.4%)
Other	3 (.9%)
Race	
American Indian or Alaska Native	2 (.6%)
Asian	38 (11%)
Black or African American	17 (4.9%)
White	272 (79.1%)
Hispanic or Latino	9 (2.6%)
Other	6 (1.7%)
Marital Status	
Single	161 (46.8%)
Married	155 (45.1%)
Divorced	25 (7.3%)
Separated	2 (.6%)

Table 1 continued

Variable	Frequency <i>n</i> (%)
Body Mass Index (BMI)	
Underweight	10 (2.9%)
Normal	122 (35.5%)
Overweight	104 (30.2%)
Obese	100 (29.1%)
Satisfied with body weight	
Yes	150 (43.6%)
No	192 (55.8%)
Satisfied with body shape	
Yes	137 (39.8%)
No	207 (60.2%)

Table 2

One-Way Analysis of Body Dissatisfaction Variance Between Age Groups

	Age Groups			<i>F</i>	η^2	Correlation with Age <i>r</i>
	Young Men <i>n</i> = 228	Middle Aged Men <i>n</i> = 84	Older Men <i>n</i> = 32			
Overall Dissatisfaction	4.15 (1.16)	4.05 (1.16)	3.65 (1.11)	2.49 (2, 337)	.02	-.13*
Muscularity	3.89 (1.20)	3.55 (1.21)	3.05 (1.19)	8.13*** (2, 337)	.05	-.24**
Body Fat	4.38 (1.52)	4.50 (1.58)	4.21 (1.49)	.42 (2, 377)	.002	-.02

Note. * = $p < .05$, ** $p < .01$, *** $p < .001$. Standard deviations appear in parentheses below means. Degrees of freedom between and within groups appear below the *F* statistics. Means with differing subscripts within rows are significantly different at the $p < .05$ based on the Tukey HSD.

Table 3

One-Way Analysis of Coping Strategies Variance Between Age Groups

	Age Groups			<i>F</i>	η^2	Correlation with Age <i>r</i>
	Young Men <i>n</i> = 228	Middle Aged Men <i>n</i> = 84	Older Men <i>n</i> = 32			
Appearance Fixing	3.17 _a (.93)	2.92 _a (.96)	2.30 _b (.79)	13.20*** (2, 335)	.07	-.33**
Avoidance	2.65 _a (.93)	2.63 _a (.94)	2.22 _b (.76)	3.20* (2, 335)	.02	-.12*
Positive Rational Acceptance	3.19 _a (.83)	2.94 _a (.87)	2.60 _b (.77)	8.28*** (2, 335)	.05	-.25**

Note. * = $p < .05$, ** $p < .01$, *** $p < .001$. Standard deviations appear in parentheses below means. Degrees of freedom between and within groups appear below the *F* statistics. Means with differing subscripts within rows are significantly different at the $p < .05$ based on the Tukey HSD.

Table 4

Coping Strategy Checklist

Coping Strategy	Frequency <i>n</i> (%)
I exercise.	239 (69.5%)
I change the way I eat.	197 (57.3%)
I try to lose weight.	185 (53.8%)
I wear loose clothing to hide my body.	115 (33.4%)
I take extra vitamins or supplements.	98 (28.5%)
I talk to a person I trust.	97 (28.2%)
I use skin-care products (lotions, eye cream, etc.).	71 (20.6%)
I alter my body hair.	52 (15.1%)
I use products or clothing to conceal my hair loss.	27 (7.8%)
I use hair restoration products.	24 (7.0%)
I avoid being intimate with my partner.	21 (6.1%)
I use make-up.	4 (1.2%)

APPENDIX

Date: 6-8-2019		
IRB #: IRB-FY2019-336		
Title: Changes in Male Body Image Through the Lifespan		
Creation Date: 11-19-2018		
End Date: 3-10-2020		
Status: Approved!		
Principal Investigator: Danae Hudson		
Review Board: MSU		
Sponsor:		
<hr/>		
Study History		
<hr/>		
Submission Type	Review Type	Decision
Initial	Expedited	Approved
<hr/>		
Key Study Contacts		
<hr/>		
Member	Role	Contact
Danae Hudson	Principal Investigator	danaehudson@missouristate.edu
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Member	Role	Contact
Amy Jordan	Primary Contact	jordan2019@live.missouristate.edu
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Member	Role	Contact
Brooke Whisenhunt	Co-Principal Investigator	bwhisenhunt@missouristate.edu
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Member	Role	Contact
Amy Jordan	Investigator	jordan2019@live.missouristate.edu
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Member	Role	Contact
Abby Dwyer	Investigator	acd353@live.missouristate.edu
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Member	Role	Contact
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Member	Role	Contact
Morgan Hollandworth	Investigator	mih38@live.missouristate.edu
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Initial Submission

1. General Information

1A. What is the full title of the research protocol?

Changes in Male Body Image Through the Lifespan

Abstract/Summary

Please provide a brief description of the project (no more than a few sentences).

1B. Body image can be broadly defined a person's appraisal of their physical appearance. The purpose of the present study is to explore the changes in male body image across the lifespan. Data will be collected on Qualtrics through multiple methods including Amazon Mechanical Turk (online), snowball sampling (online), and senior centers/assisted-living facilities in Springfield, MO (in person). It is hypothesized that younger men will report dissatisfaction with muscularity and middle-aged and older men will report dissatisfaction with body weight and shape. Furthermore, it is hypothesized that appreciation for body functionality will increase with age. It is expected that increased body dissatisfaction will predict higher levels of psychological symptoms, such as depression.

Who is the Principal Investigator?

1C. *This MUST be a faculty or staff member.*

Name: Danae Hudson
Organization: Psychology
Address: 901 S National Ave., Springfield, MO 65807-0027
Phone: 417-836-5470
Email: daniehudson@missouristate.edu

Who is the primary study contact?

- 1D. *This person may be the Principal Investigator or someone else (faculty, staff, or student). This person, in addition to the PI, will be included on all correspondence related to this project.*

Name: Amy Jordan
Organization: Psychology
Address: 901, S. National Avenue , Springfield, MO 65897-0027
Phone:
Email: jordan2019@ive.missouristate.edu

Select the Co-Principal Investigator(s).

- 1E. *This MUST be a faculty or staff member. **Persons listed as Co-PIs will be required to certify the protocol** (in addition to the PI). This person will also be included on all correspondence related to this project.*

Name: Brooke Whisenhunt
Organization: Psychology
Address: 901 S National Ave , Springfield, MO 65897-0027
Phone: 417-836-5877
Email: bwhisenhunt@missouristate.edu

Select the Investigator(s).

An investigator may be faculty, staff, student, or unaffiliated individuals.

Name: Amy Jordan
Organization: Psychology
Address: 901, S. National Avenue , Springfield, MO 65897-0027
Phone:
Email: jordan2019@ive.missouristate.edu

1F. Name: Abby Dwyer
Organization: Psychology
Address: 901 S National Avenue , Springfield, MO 65897-0027
Phone:
Email: aod353@live.missouristate.edu

Name: Nikki Busbey
Organization: Psychology
Address: 901, S. National Avenue , Springfield, MO 65897-0027
Phone:
Email: nikk219@live.missouristate.edu

Name: Morgan Holandworth
Organization: Psychology
Address: 901 S National Avenue , Springfield, MO 65897-0027
Phone:
Email: minh36@live.missouristate.edu

If you could not locate personnel using the "Find People" button, please request access at [Cayuse Logon Request](#)

For additional help, email irb@missouristate.edu.

2. Research Protocol

Describe the proposed project in a manner that allows the IRB to gain a sense of the project including:

- the research questions and objectives,
- key background literature (supportive and contradictory) with references, and
- the manner in which the proposed project will improve the understanding of the chosen topic.

For years, the construct of male body image was either ignored or misunderstood by scholars. While men still experience fewer body image concerns than women, the rates of negative body image and eating disorder symptoms in men have increased in recent years (Garner, 1997; Mitchison, Hay, Siewa-Younan, & Mond, 2014; Olivardia, Pope, Borowiecki, & Cohane, 2004). In fact, between 1998 and 2008, the prevalence of extreme dieting and purging increased more quickly in men than women (Mitchison et al., 2014). Eating disorder symptoms may result in equal impairment and distress between men and women (Mitchison, Mond, Siewa-Younan, & Hay, 2013). Amongst men, the distress caused by eating disorder symptoms and body image concerns may vary significantly by age. Younger men, for instance, report dissatisfaction with their muscularity (Hobza & Rochler, 2009; McCabe & Ricciardelli, 2004). Middle-aged and older men instead express dissatisfaction with their bodies' weight and ability to perform and function normally (de Souto Barreto, Ferrandez, & Guillard-Costa, 2011; Liedtke & Sveinsson, 2014). Although researchers have offered some explanation of men's body image concerns across age groups, their work has yet to explore the potential psychological impacts of body

2A.

Furthermore, research also has yet to examine how men employ coping strategies when faced with such body dissatisfaction. When faced with body image threats, Cash et al. (2005) proposed that people use appearance-fixing, avoidance, and positive rational acceptance coping behaviors. Young men utilize body image coping strategies significantly less often than young women, with the greatest differences observed in appearance-fixing behaviors. Subsequent research on appearance coping behaviors has continued to rely on relatively young and entirely female samples, offering no information regarding how middle-aged and older men cope with body image threats.

In light of the limited research on male body image dissatisfaction and coping strategies in middle and older life, the present study seeks to further explore the relationship between age and these concepts.

Based on previous research and body image theory, it is hypothesized that:

1. Younger men will be more likely to express dissatisfaction with muscularity, whereas older men will be more likely to express dissatisfaction body weight and shape.
2. As age increases, so will appreciation for the body's functionality.

3. Body dissatisfaction will predict depressive symptoms, such that increased body dissatisfaction will predict increased depressive symptoms.

At this point, no quantitative literature on body image coping strategies in middle-aged and older men exists. Qualitative data shows that a small portion of older men may use some appearance-fixing behaviors, but that they would not characterize their behavior as such and would not tell others (Calasanti, King, Pietila, & Ojala, 2018). Rather than propose hypotheses for which no empirical support exists, the current study will approach the relationship between age and body image coping strategies from an exploratory perspective.

2B. Check all research activities that apply:

Audio, video, digital, or image recordings

Biohazards (e.g., rDNA, infectious agents, select agents, toxins)

Biological sampling (other than blood)

Blood drawing

Class Protocol (or Program or Umbrella Protocol)

Data, not publicly available

Data, publicly available

Deception

Devices

Diet, exercise, or sleep modifications

Drugs or biologics

Focus groups

Internet or email data collection

Materials that may be considered sensitive, offensive, threatening, or degrading

Non-invasive medical procedures

Observation of participants

Oral history

Placebo

Record review

Specimen research

Surgical procedures

✓ Surveys, questionnaires, or interviews (one-on-one)

Surveys, questionnaires, or interviews (group)

Other

Describe the procedures and methods planned for carrying out the study. Make sure to include the following:

- site selection,
- the procedures used to gain permission to carry out research at the selected site(s),
- data collection procedures,
- and an overview of the manner in which data will be analyzed.

Provide all information necessary for the IRB to be clear about **all** of the contact human participants will have with the project.

- 2C. Data will be collected on Qualtrics via Amazon Mechanical Turk (AMT), snowball sampling, and various in-person recruiting sites throughout a Midwestern community. In-person recruiting sites will include community centers, independent living communities, and similar locations that will offer access to middle-aged and older participants. Investigators have permission to carry out research from AMT. Before starting collection at in-person sites, the investigators will receive permission from the site administrator (e.g. nursing home administrator).

All who agree to participate will read and sign a consent form that explains the purpose of the study, acknowledgment of any risks or discomforts the participants might experience, any benefits the participants might gain from the study, the right to stop participating at any time, the right to withdraw their data from the study, as well as contact information of the researchers.

Collected data will be analyzed using Pearson's correlation coefficients and hierarchical multiple regression.

Attach surveys, questionnaires, and other social-behavioral measurement tools, if applicable.

- 2D. [CESD-R.pdf](#)
[Demographics questionnaire 1.31.docx](#)
[MBS and MFBS.docx](#)
[Coping strategies checklist.docx](#)
[FunctionalityAppreciationScale-FinalItems.pdf](#)
[BICSI 29-item version with scoring.pdf](#)
[MBAS AKJ.pdf](#)

3. Participants

3A. Specify the participant population(s). Check all that apply.

Adults

Children (<18 years)

Adults with decisional impairment

Non-English speaking

Student research pools (e.g. psychology)

Pregnant women or fetuses

Prisoners

Unknown (e.g., secondary use of data/specimens, non-targeted surveys, program/class/umbrella protocols)

Specify the age(s) of the individuals who may participate in the research.

3B.

All participants will be adult males ages 18 or older.

Describe the characteristics of the proposed participants, and explain how the nature of the research requires/justifies their inclusion.

3C.

The present study will recruit adult male participants for the purpose of expanding the existing literature on male body image. The majority of research to date has focused on the impact of negative body image through samples of predominantly young, White women. Although helpful when treating women, this research offers no information regarding how men—especially middle-aged and older men—cope with body image threats. Because the current study aims to investigate the differences in young and older male's ideal body image, the correlation between males age and

amount of body image concerns and the correlation between males age and number of coping strategies they use, it requires a sample of men throughout the lifespan.

Provide the total number of participants (or number of participant records, specimens, etc.) for whom you are seeking Missouri State IRB approval.

3D.

The expected total number of participants will be between 200 and 300, depending on the distribution of the ages of participants who complete the study.

Estimate the time required from each participant, including individual interactions, total time commitment, and long-term follow-up, if any.

3F.

The entire process to provide informed consent and complete the measures is expected to take each participant approximately 30 minutes.

Describe how potential participants will be identified (e.g., advertising, individuals known to investigator, record review, etc.). Explain how investigator(s) will gain access to this population, as applicable.

3G.

Participants will include men ages 18 and above, recruited through multiple data collection sites in order to capture the widest range of ages possible. The majority of participants will be recruited through Amazon's Mechanical Turk (AMT) and snowball sampling. Amazon's Mechanical Turk website is an online marketplace where individuals choose to complete tasks in exchange for monetary compensation. Additional in-person participants will also be recruited by researchers throughout a Midwestern community. Potential recruiting sites include community centers, senior centers, and assisted living centers. In-person recruitment is contingent upon approval from a manager or supervisor at the site (e.g. the director of a community center).

Describe the recruitment process, including the setting in which recruitment will take place. Provide copies of proposed recruitment materials (e.g., ads, flyers, website postings, recruitment letters, and oral/written scripts).

3H. A portion of participants will be recruited via Mechanical Turk, Amazon.com's paid participant database, and snowball sampling. These methods of data collection will provide data from a significantly more diverse sample than those recruited from introductory psychology classes, allowing investigators to recruit the middle-aged and older men required to test the proposed hypotheses.

If necessary, the remaining participants will be recruited from in-person sites including community centers, senior center, and assisted living centers. Individuals will only be asked to participate after the investigators have secured permission from a manager or supervisor at the site (e.g. the director of a community center).

3H.1. Attach recruitment materials, if applicable.

3i. Will participants receive compensation or other incentives (e.g., free services, cash payments, gift certificates, parking, classroom credit, travel reimbursement, etc.) to participate in the research study?

Yes

Describe the incentive, including the amount and timing of all payments.

Upon completion of the study, the participants recruited through AMT will be awarded \$2 in their Mechanical Turk account through Amazon for their participation in the study. In order to receive the \$2 reward, participants must thoughtfully respond to 100% of the questionnaires.

Participants recruited through in-person sites will be offered non-monetary compensation that may include free informational sessions.

No

4. Informed Consent

From the list below, indicate how consent will be obtained for this study.

4A.

Check all that apply.

Written/signed consent by the subject

Written/signed consent (permission) for a minor by a Parent or Legal Guardian

Written/signed consent by a Legally Authorized Representative (for adults incapable of consenting).

Request for Waiver of Documentation of Consent (e.g. Verbal Consent, Anonymous Surveys, etc.)

Waiver of parental permission.

Consent will not be obtained from subjects (Waiver of Consent)

Describe the consent process including where and by whom the subjects will be approached, the plans to ensure the privacy of the subjects and the measures to ensure that subjects understand the nature of the study, its procedures, risks and benefits and that they freely grant their consent.

4B.

Participants will be invited to participate on a voluntary basis through Amazon Mechanical Turk and distribution of the study through snowball sampling. All participants will be asked to read a consent form (see attached) that explains the purpose, procedures, risks and benefits, and their rights as participants before they can provide consent.

4B.1. Attach all copies of informed consent documents (written or verbal) that will be used for this study.

[Thesis Consent Form AKJ 1.31.docx](#) Sample documents: [Informed Consent Examples](#)

4B.2. Attach all copies of assent documents that will be used for this study, if applicable.

Sample documents: [Assent Examples](#)

5. Risks and Benefits

Describe all reasonably expected risks, harms, and/or discomforts that may apply to the research. Discuss severity and likelihood of occurrence.

- 5A. *Consider the range of risks - physical, psychological, social, legal, and economic.*
There are minimal risks involved in participating in this study. Participants will be asked questions about their mood, emotions, behaviors, and attitudes about their bodies. They will also be asked to view illustrated figures of male bodies and select which figure resembles their body and which represents their ideal body. Because participants will be asked questions about their coping behaviors, body image, and body satisfaction, it is possible, but unlikely, that they might experience some minor distress from reflecting on their feelings about their body.

Describe the steps that will be taken to minimize risks and the likelihood of harm.

- 5B. While investigators do not foresee any major risks in this study, all participants will be required to give informed consent and will also be allowed to withdraw from the study at any time should they feel uncomfortable with any of the questions or for any other reason without consequences.
Participants recruited through AMT will be given the researchers' contact information to use if they have questions or experience any distress. Participants recruited through community sites will have the opportunity to speak with researchers at the time of data collection. One researcher is a graduate student with therapeutic training and experience who can speak with participants who report distress. All research assistants will be supervised by two faculty members who are both licensed clinical psychologists.

List the potential benefits that participants may expect as a result of this research study. State if there are no direct benefits to individual participants.

- 5C. Participants may gain knowledge and insight about their body image satisfaction and coping skills. In addition, participants recruited through AMT will receive \$2 in their Mechanical Turk account for full participation in the study. Participants recruited through in-person sites will be offered non-monetary compensation that may include free informational sessions.

Describe any potential indirect benefits to future subjects, science, and society.

- 5D. It is hoped that the findings of this study will provide insight into the nature of male body image and how it changes throughout the lifespan. Understanding male body image and the coping skills men use in response to body image concerns could lead to specific, effective treatment options for men by helping them develop healthier coping skills.

Discuss how risks to participants are reasonable when compared to the anticipated benefits to participants (if any) and the importance of the knowledge that may reasonably be expected to result.

- 5E. The risks of experiencing distress while completing this study are minimal and the findings may provide valuable insight into the experiences and needs of a population that other researchers have yet to study. It is hoped that these findings will stimulate future research on the assessment and treatment of men body with body image concerns. It is also hoped that these findings will inform practitioners on the potential needs of their male clients.

6. Data Collection

Missouri State University is committed to keeping data and information secure. Please review the Missouri State [Information Security policies](#). Discuss your project with the MSU Information Security Office or your College's IT support staff if you have questions about how to handle your data appropriately.

Statement of Principal Investigator Responsibility for Data

6A. The principal investigator of this study is responsible for the storage, oversight, and disposal of all data associated with this study. Data will not be disseminated without the explicit approval of the principal investigator, and identifying information associated with the data will not be shared.

- By checking this box, all personnel associated with this study understand and agree to the Statement of Principal Investigator Responsibility for Data.

6B. How will the data for this study be collect/stored?

Check all that apply.

- Electronic storage format
- On paper

Describe where the data will be stored (e.g., paper forms, flash drives or removable media, desktop or laptop computer, server, research storage area network, external source) and describe the plan to ensure the security and confidentiality of the records

(e.g., locked office, locked file cabinet, password-protected computer or files, encrypted data files, database limited to coded data, master list stored in separate location).

- 6C. *At minimum, physical data should always be secured by lock and key when stored. Electronic data should be stored on University secure servers whenever possible (Office 365 or other secure campus server). If data has to be stored off campus, the file should be encrypted and the device password protected. Additionally, any data to be shared outside the University network will require a SUDERS request be filed and approved. See <https://mis.missouristate.edu/Central/suders/creat...>*

The electronic data will be stored on Danae Hudson's research lab password-protected desktop computer. Paper data will be stored in this same locked research lab on the Missouri State campus. Only faculty and select research assistants (who have all completed the CITI human subjects training) have access to the data. The data will also be stored in a Missouri State University Sharepoint folder. Only the principal investigators and co-investigators will have access to this folder.

Describe how data will be disposed of and when disposal will occur.

- 6D. *At minimum, Federal regulations require research records to be retained for at least 3 years after the completion of the research (45 CFR 46). Research that involves identifiable health information is subject to HIPAA regulations, which require records to be retained for at least 6 years after a participant has signed an authorization. Finally, funded research projects may require longer retention periods, you may need to follow the sponsoring agency guidelines.*

Electronic data will not be deleted from the primary desktop computer. Paper data will be retained for 7 years post publication, after which time it will be shredded.

7. Funding

Is this study externally funded?

7A.

For example, this research is funded by a source outside Missouri State; a federal agency, non-profit organization, etc.

Yes

No

Potentially (this study is being submitted for funding, but has not yet been awarded)

Is this study internally funded?

7B.

For example, this research is funded by a source inside Missouri State; departmental funds, the Graduate College, etc.

Yes

Please list the internal funding source.

Missouri State University Graduate College

No

Potentially (this study is being submitted for funding, but has not yet been awarded)

8. HIPAA

Does your study contain protected health information (PHI)?

8A.

PHI is any information in a medical record or designated record set that can be used to identify an individual and that was created, used, or disclosed in the course of providing a health care service, such as a diagnosis or treatment.

Yes

No

9. Supporting Documentation

Human Subjects Training Certificates

- 9A. *Attach human subjects training certificates for all listed personnel. To access your training documents, please go to [CITI Training](#).*
- [Morgan Hollandworth CITI Training Certificate.pdf](#)
 - [Emma Leonard citi Completion Report.pdf](#)
 - [CITI completion - Dwyer, Abby.pdf](#)
 - [Additional CITI Completion Report Amy Jordan.pdf](#)
 - [Citi Training Nikki Busbey.png](#)
 - [CITI Training Completion Certificate-Danae Hudson-2017.pdf](#)
 - [citiCompletionReport894935 whisenhunt basic course.pdf](#)

HIPAA Training Certificates

- 9B. *Attach HIPAA training certificates for all listed personnel, if applicable. To get more information about HIPAA training and/or to access your training documents, please go to [HIPAA Information for Researchers](#).*

Informed Consent Documents

- 9C. *Attach all copies of informed consent documents (written or verbal) that will be used for this study.*
- [Thesis Consent Form AKJ 1.31.docx](#) Sample documents: [Informed Consent Examples](#)

Assent Documents

- 9D.

Attach all copies of assent documents (written or verbal) that will be used for this study.

Sample documents: [Assent Examples](#)

Recruitment Tools

9E.

Attach copies of proposed recruitment tools.

Surveys/Questionnaires/Other Social-Behavioral Measurement Tools

9F.

Attach surveys, questionnaires, and other social-behavioral measurement tools.

[CESD-R.pdf](#)

[Demographics questionnaire 1.31.docx](#)

[MBS and MFBS.docx](#)

[Coping strategies checklist.docx](#)

[FunctionalityAppreciationScale-FinalItems.pdf](#)

[BICSI 29-item version with scoring.pdf](#)

[MBAS AKJ.pdf](#)

Other Documents

9G.

Attach any other documents that have not been specified in previous questions, but are needed for IRB review.

10. Additional information

10A. Would you like to add additional information?

Yes

No