AN EXAMINATION OF COPING STRATEGIES AND MINDFULNESS AS PREDICTORS

OF APPEARANCE SATISFACTION AND BODY IMAGE

By

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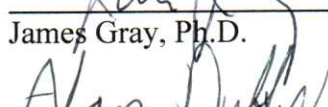
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To Emily Sikora, Mary MacKenzie, and Birt MacKenzie, who taught me what it meant to truly be beautiful.

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ABSTRACT

Body image involves beliefs, perceptions, and cognitions regarding the physical self. Research on the subject has found that body image concerns are associated with a variety of negative outcomes, and that positive body image is linked with greater overall well-being. The present study examined more specifically how positive and negative styles of coping relate to body image. Mindfulness, or non-judgmental acceptance and awareness, was also investigated as a potential correlate of body image. A total of 200 adults responded to an online questionnaire assessing body image, mindfulness, and coping. Results of correlation analyses indicated that body image, coping, and mindfulness are significantly related. Additional regression analyses found that coping styles significantly predicted positive and negative body image, and that mindfulness significantly predicted coping styles but not body image. These findings reveal potential mechanisms by which body image may be protected or improved, and have potential implications in treatment and research.

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CHAPTER 1

INTRODUCTION

Body image is a complex and multifaceted construct that involves perceptions, beliefs, thoughts, feelings, and behaviors regarding the physical self. While it is a personal relationship with the body, it has the potential to profoundly influence many other aspects of an individual's life. A recent large-scale analysis of body image in the general public found that approximately 46 percent of individuals surveyed had some degree of body image dissatisfaction or difficulty (Williams, Cash, and Santos, 2004). Approximately half of the sample indicating dissatisfaction with their looks were able to manage those concerns and were not significantly impaired. The other half of individuals (approximately one-third of the entire sample) experienced body image distress that was accompanied by a wide range of emotional and behavioral difficulties. These issues included low self-esteem, interpersonal anxiety, poor sexual relationships and depression (Williams et al, 2004).

Another known correlate of body image disturbance is disordered eating. A trend in the field involves viewing eating pathology as a continuum, with eating disorders on one end of the spectrum and obesity and overeating on the other (Sira & White, 2010). While these issues manifest in different ways clinically it is clear that both are accompanied by some level of body image distortion or concern (Sira & White, 2010; Lavin & Cash, 2001). Even sub-threshold cases of eating pathology (i.e. individuals who do not meet official criteria for an eating disorder) respond similarly to diagnosed cases on measures of shape and weight concern, body dissatisfaction, and general psychological distress (Kristeller, Baer, and Wolever, 2006).

It is clear that a poor body image has potential adverse consequences. However, it is also important to consider that it is possible to have a positive body image and study the life experiences and personality traits that protect against the development of body image pathology.

The analysis previously discussed (Williams et al., 2004) determined that 54 percent of the individuals surveyed had a positive, favorable, self-accepting body image. Further examination of individuals with a positive body image revealed that positive sense of self is not only an absence of negative features, but also consists of favorable opinions of the body, body acceptance, respect for the body, and engagement in behaviors that maintain the body's health. In addition, individuals exhibiting positive body image typically have lower internalization of media influences, fewer detrimental eating attitudes/behaviors, greater self esteem, more appearance satisfaction, perceive larger amounts of social support, and engage in physical activity more frequently (Wood-Barcalow, 2010).

A recent theory rooted in cognitive behaviorism has been developed to better understand the large discrepancies between individuals with positive body image and those with negative body image. According to T. F Cash, body images develop gradually from both historical and proximal influences (2008). Historical influences involve factors such as cultural socialization, interpersonal experiences, physical characteristics, physical change, and personality traits. These aspects of a person's history contribute to his or her body image attitudes, evaluation, and investment in appearance. Also important are proximal influences, which are day- to-day life experiences that may change or shape body image. These are further defined as activating events or situations that lead to the development of beliefs, assumptions, judgments, interpretations, and other potentially maladaptive or beneficial thought patterns, which influence emotions and subsequent actions (Cash 2008). All of these aspects together form the powerful relationship a person has with his or her body.

Historical and proximal influences can sometimes challenge or threaten an individual, thus prompting the development and use of coping strategies to help minimize burdens

associated with body image (Cash, Santos, & Williams, 2005). Coping strategies specific to body image have been identified based on a factor analysis of the construct. These include experiential avoidance, appearance fixing, and positive rational acceptance (Cash et al, 2004). Experiential avoidance refers to attempts to manage body image by shutting out negative body emotion, engaging in distraction, or refusing to take part in activities where body satisfaction might by compromised. Appearance fixing refers to behavioral attempts to cope with body image threats. These could include changing clothing, buying makeup (a compensatory measure), or seeking reassurance from others to fix body image. Lastly, positive rational acceptance refers to the healthy approach to body image management. This involves awareness and acceptance of thoughts, behaviors and emotions regarding the body, rather than denying, avoiding, or trying to change that experience (Cash et al, 2004).

Body image coping strategies have been associated with other outcomes. First, avoidance and appearance fixing were positively correlated with body dissatisfaction and body dysphoria, as well as lower levels of body image quality of life (Cash et al., 2004). In addition, positive rational acceptance was negatively correlated with body image dysphoria. This indicates that engagement in avoidance and appearance fixing may lead to negative outcomes, while engagement in positive rational acceptance may yield better outcomes.

The coping strategies model was explored in a small qualitative study of college-aged women who experienced "bad body image days." Jackson, Reel, and Thackeray conducted semi-structured interviews with 30 college freshman and inquired about how they managed body dissatisfaction (2011). From that information, the authors determined that participants engaged in several strategies that fell into Cash's coping model. Some women reported that changing their appearance or shopping removed body image pressures for them, which was classified as

appearance fixing. Others reported engaging in distraction or social isolation to cope with body

dissatisfaction, which was classified as avoidance. The final set of women in the study reported

that exercise and healthy eating, social interaction, spirituality, and religion helped them to feel

better about their bodies. All of these strategies were classified as positive rational acceptance.

Out of the 30 women interviewed, only one woman in the study indicated that she coped with her

body image through self-acceptance. The authors of the study concluded that while some

strategies were positive, more research needs to be done in the area of self-acceptance and

positive coping (Jackson et al., 2011).

     Mindfulness is a growing construct in psychology that is based in the promotion of self-

acceptance. It refers to the act of being "present" in a state of non-judgmental acceptance and

awareness. A factor analysis of mindfulness found five specific aspects to be centrally

important. These include the ability to describe the present moment, observe ones' surroundings,

practice non-judgment of observations, act with awareness, and respond to emotional and

behavioral cues with non-reactivity (Baer, Hopkins, Krietemeyer, Smith & Toney, 2006).

Theoretically, mindfulness may help individuals with body image disturbance by reducing

emotional reactivity, providing enhanced understanding of the present and promoting non-

judgment of the self and others (Baer et al, 2006). In a recent article the following was stated in

regards to mindfulness and body image: "The end product of mindfulness is observation of body

image without judgment and emotional reaction, resulting in decreased likelihood of impulsive,

destructive behaviors and increased insight about the complexity of the body image experience"

(Stewart, 2004).   Mindfulness is currently incorporated into several treatments for eating

disorders and body image, but little research has been done to connect mindfulness and body

image in an empirical manner (Stewart, 2004).

One study examining mindfulness and body image was recently conducted in a large sample of Dutch women (Dijkstra & Barelds, 2011). The researchers specifically sought to examine the relationship between dispositional mindfulness, body comparison, and body satisfaction, postulating that higher levels of mindfulness would be associated with less body comparison and greater body satisfaction. 1287 women who subscribed to a popular Dutch magazine were surveyed and it was found that body comparison was related negatively to dispositional mindfulness and body satisfaction. In addition, body satisfaction and mindfulness were positively correlated. Lastly, the researchers found that mindfulness partially mediated the link between body comparison and body satisfaction.

While the findings of this study were encouraging in that they suggest a relationship between body image and mindfulness, the measures used by the researchers were limited. To study mindfulness, Dijkstra and Barelds used the Cognitive and Affective Mindfulness Scale Revised (CAMS-R, Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007). The CAMS-R is a limited measure of mindfulness as it does not tap into all five facets found to be important in the definition of the construct. In addition, Dijkstra and Barelds used the Body Areas Satisfaction Scale (Cash, 2000) to examine body image. While the measure is an excellent scale of body areas satisfaction, it does not explore other important aspects of body image like appearance evaluation, appearance orientation, or overweight preoccupation. Lastly, while the sample surveyed was indeed large, it exclusively sampled Dutch women who subscribed to a particular magazine, which may limit the study's generalizability.

The present study seeks to expand the sample and scope of previous research on body image by using better, more comprehensive measures of body image and mindfulness, and recruiting from a larger community sample that includes men. In doing so, we postulate that

body image will be positively correlated with mindfulness, especially the aspects of non-judgment, non-reactivity, and acting with awareness. In addition, the present study seeks to support current research on body image and body image coping strategies by confirming previously found relationships. Specifically, we hypothesize that individuals using experiential avoidance and appearance fixing will have lower scores on body image measures, while individuals using positive rational acceptance will have higher scores on body image measures. The final goal of the present study is to explore an aspect of body image research that has not yet been researched, and examine the relationship between body image coping strategies and mindfulness. We hypothesize that aspects of mindfulness will have a positive relationship with positive rational acceptance and a negative relationship with avoidance and appearance fixing.

CHAPTER 2

METHODS

<u>Participants</u>

The participants in the present study included 200 individuals, ranging in age from 18 to

59 with a mean of 26.83 years old (SD = 10.08). 78.5% of the participants were female and

21.5% were male. 74% of participants identified as Caucasian, 9% as African American, 7% as

Asian American, 6% as Latina/o, and 4% indicated an alternative or mixed racial profile. In

terms of highest education reached, 31% of participants had obtained a college degree, 27% had

completed some college, 22.5% had a high school diploma, and 19.5% had obtained advanced

graduate education. As indicated in the inclusion criteria, all participants were literate in the

English language.

<u>Measures</u>

Participants completed a series of three online questionnaires and a brief demographic

form. The demographic form consisted of four questions inquiring about participant's age,

gender, ethnicity and education, but did not include any identifiable information.

To assess body image, the Multidimensional Body-Self Relations Questionnaire –

Appearance Scales (MBSRQ-AS, Cash, 2000; Brown, Cash, & Mikulka, 1990) were

administered. The MBSRQ-AS consists of 39 items mapped onto five subscales that tap into

several different aspects of self-directed attitudes and cognitions. These subscales include

Appearance Orientation, Appearance Evaluation, Overweight Preoccupation, Self-Classified

Weight, and the Body Areas Satisfaction Scale. The majority of the measure uses a five-point

Likert scale in which the participant rates the extent to which they agree with statements, such as

"I am physically unattractive" with answers ranging from 1 – definitely disagree, to 5 –

definitely agree. Other parts of the measure ask the participant to respond specifically to certain questions about themselves, such as "I have tried to lose weight by fasting or going on crash diets" with answers ranging from "never" to "very often, and other questions asking participants to rate satisfaction with specific body parts, such as "face" with answers ranging from "very dissatisfied" to "very satisfied." Each subscale is scored separately, and higher scores reflect higher body images. In the present study, reliability for MBSQR-AS subscales ranged from α = .75 to .90, which is consistent with internal statistics reported by the scale's author (α =.71 to .86; Cash, 2000).

To assess body image coping strategies, the Coping with Body Image Challenges (BICSI, Cash et al., 2005) was administered. The BISCI is a 39-item measure with three subscales that tap into the extent to which individuals use specific coping strategies to deal with their body images. These include appearance fixing (attempts to alter physical appearance by concealing or changing what is perceived as flawed), avoidance (actively avoiding thoughts and feelings associated with body image), and positive rational acceptance (positive self-care or rational self-talk about the appearance). Test-retest reliability of the BICSI subscales was adequate, with alphas equaling .73 for the avoidance subscale, .86 for appearance fixing, and .80 for positive rational acceptance.

To assess mindfulness, the Five Facet Mindfulness Questionnaire (FFMQ, Baer, Smith, Hopkins, Krietemeyer & Toney, 2006) was administered. The FFMQ is a 39-item measure that was created from a factor analytic study of five independently developed mindfulness questionnaires, including the Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001), the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, 2004), the Cognitive and Affective

Mindfulness Questionnaire (CAMS; Feldman et al., 2007), and the Mindfulness Questionnaire (MQ; Chadwick, Hember, Mead, Lilley, & Dagnan, 2005). The five facets of the FFMQ are the statistical factors reported to be most valid for the construct of mindfulness, and make up the measure's subscales (Baer et al, 2006). These facets include observing ("I notice the smells and aromas of things"), describing ("I am good at finding words to describe my feelings"), acting with awareness (reverse scored "I find myself doing things without paying attention"), non-judging of inner experience (reverse scored "I think some of my emotions are bad or inappropriate and I should not feel them"), and non-reactivity to inner experience ("I perceive my feelings and emotions without having to react to them"). Statements for each subscale are rated on a five-point Likert Scale, with responses ranging from 1 – never or rarely true of me, to 5- very often or always true of me. Internal consistency ratings for the FFMQ in the present study were good, with a range of α = .81 to .92, which was slightly higher than reported in previous studies (α = .72 to .92; Baer et al, 2008).

Procedure

Participants were recruited using fliers placed throughout the campuses of George Washington University, the University of the District of Columbia, and American University, all located in the District of Columbia. In addition, participants were recruited by emails sent out over American University and Rowan University list serves, and a classified advertisement on Craigslist.com. Each of these recruitment methods provided participants with a link, which directed them to the website hosting the survey. All data collection was performed online. Upon reaching the website, participants were given a set of instructions to complete the survey, which included information about potential compensation and a statement that implied consent. Once participants completed the study, they had the opportunity to indicate their name and local

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mailing address to receive compensation. Compensation was their choice of five dollars or a free, guided meditation C.D. All individuals who completed the surveys in their entirety were eligible for compensation and 56% of participants chose to receive compensation. Of those receiving compensation, 62 individuals chose the five dollars and 50 individuals chose the meditation C.D. All participants completed the study on a voluntary basis, which led us to believe this information was accurate and also pointed to potential interests in the constructs examined. All data collected on the web was then coded into the statistical software, thereby removing all identifying information.

CHAPTER 3

RESULTS

Data from 200 participants was analyzed using the statistical software program SPSS and all data were screened to account for missing responses and outliers. The initial screening also included creation of histograms and Q-Q plots to examine whether each variable had a normal distribution. These analyses determined that the variables did not significantly violate assumptions for normalcy and thus the data could be analyzed further using parametric tests.

Descriptive statistics for body image, body image coping, and mindfulness measures were produced to examine whether the current sample differed significantly from previously reported norms for each of the measures (Table 1). The Multidimensional Body-Self Relations Questionnaire (MBSRQ) was used to assess body image and produced scores on five subscales – Appearance Orientation, Appearance Evaluation, Overweight Preoccupation, Self-Classified Weight, and Body Areas Satisfaction. Appearance Orientation scores for the sample had a mean of 3.53 and a standard deviation of .65. This value was slightly lower than norms previously reported by the MBSRQ, which found a mean value of 3.7 for adults on the Appearance Orientation subscale (Cash, 2000). Appearance Evaluation scores produced a mean of 3.32 and a standard deviation of .92, which was also slightly lower than reported norms ($\mu = 3.48$, Cash, 2000). Overweight Preoccupation scores from the present sample had the same value as the MBSRQ's norms; both equaled 2.75, and the mean from the current study had a standard deviation of .96 (Cash, 2000). Self-Classified Weight values in the present sample were slightly higher than reported norms and equaled 3.31 with a standard deviation of .77. The mean value reported by Cash was the lower value of 3.27 (2002). Lastly, mean Body Areas Satisfaction scores for the present sample equaled 3.32 with a standard deviation of .67, which was fairly

similar to the MBSRQ's reported mean of 3.36 (Cash, 2000). Therefore, all five of the subscale means are comparable to previously reported normative data on the MBSRQ.

The Coping with Body Image (BICSI) inventory was used to assess body image coping strategies. The scored measure consisted of three subscales, including Appearance Fixing, Avoidance, and Positive Rational Acceptance. The Appearance Fixing score mean was 1.64 with a standard deviation of .62, which is higher than the BISCI's reported norms, where a mean of 1.41 was found (Cash & Grasso, 2005). The Avoidance score mean was also higher than published norms; the present sample found a mean of .91 and a standard deviation of .54, whereas Cash & Grasso reported a mean of 1.41 for Avoidance in an adult sample. Lastly, the mean of Positive Rational Acceptance scores was 1.58 with a standard deviation of .54, which is largely similar to the BISCI's normative data, where the mean was reported as 1.59 (Cash& Grasso, 2005). Again, the subscale scores are relatively similar to previous findings.

The Five Facet Mindfulness Questionnaire (FFMQ) was used to assess mindfulness and was broken into five separate subscales. These included Observe, Describe, and Act with Awareness, Non-reactivity, and Non-judgment. Observe score mean was 27 and had a standard deviation of 5.80. This is higher than the FFMQ's average score on Observe, which was 24.32 (Baer, 2008). The Describe score mean was 28.56 with a standard deviation of 7.34, which was slightly higher than the reported mean of 26.46 (Baer, 2008). The Act with Awareness score mean was 25.36 with a standard deviation of 5.94. This value was very similar to the FFMQ's reported mean score for Act with Awareness, which was 25.31. The Non-judgment score mean was 25.29 with a standard deviation of 5.04, which is lower than the mean found in Baer's 2008 study where a mean of 27.75 was reported. Non-reactivity score mean was 20.84 with a standard deviation of 7.62. This value is similar to the FFMQ's reported mean score for Non-reactivity,

20.50. Thus it can be concluded that the subscale means for the present study were similar to those found previously by other authors studying mindfulness in an adult sample.

Table 1 - Descriptive Statistics for Body Image, Body Image Coping, and Mindfulness Subscales

	Variable	Range	Mean	Std. Deviation
Body Image	Appearance Orientation	1.58 – 4.92	3.533	.65
	Appearance Evaluation	1.14 – 5	3.318	.92
	Overweight Preoccupation	1 – 5	2.754	.96
	Self-Classified Weight	1 – 5	3.309	.77
	Body Areas Satisfaction	1.67 – 4.89	3.317	.67
Coping	Appearance Fixing	0 – 2.9	1.642	.62
	Avoidance	0 – 2.63	0.913	.54
	Positive Rational Acceptance	0 – 2.91	1.575	.54
Mindfulness	Observe	8 – 39	27	5.80
	Describe	8 – 40	28.5641	7.34
	Act with Awareness	9 – 40	25.359	5.94
	Non-reactivity	7 – 35	20.842	7.62
	Non-judgment	8 - 40	25.293	5.04

A one-way analysis of variance was conducted to determine if group differences between males and females existed on body image, body image coping, and mindfulness variables. This test found significant differences between males and females on three variables. First, the effect of gender on appearance fixing was significant, $F(1, 190) = 14.60$, $p < .001$. The average scores for females ($M = 1.73$, $SD = 0.58$) were significantly higher than the average scores for males (M

= 1.32, *SD* = .64). Thus, females indicated higher levels of appearance fixing than males to cope with their body image. A graph of this result is depicted in Figure 1.
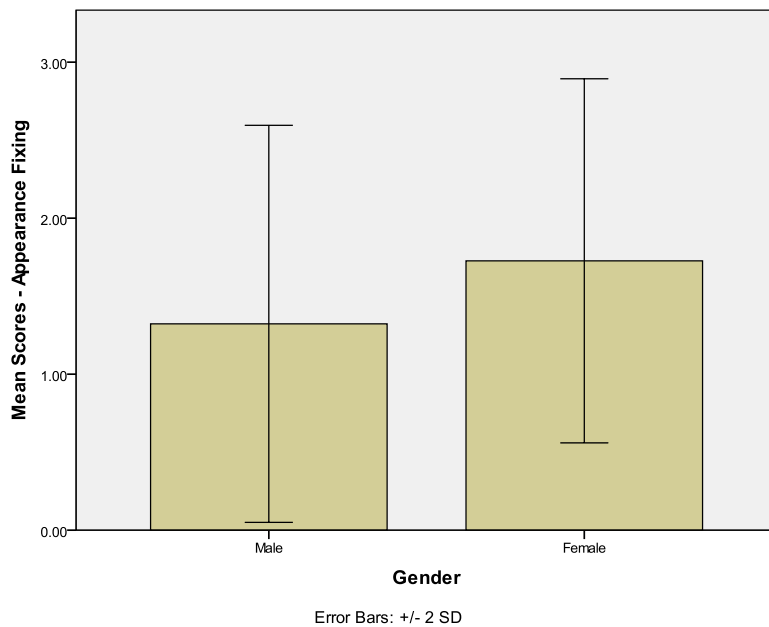
Figure 1. Result of One-way ANOVA Examining Gender and Appearance Fixing

There was also a significant effect of gender on positive rational acceptance, F (1, 189) = 8.48, p < .01. The average scores for females (M = 1.63, SD = .512) were significantly higher than the average scores for males (M = 1.32, SD = .64). This means that females were more likely than males to indicate engagement in positive rational acceptance as a means of coping with their body image. A representation of this result can be seen in Figure 2.

Lastly, there was a significant effect of gender on appearance orientation, F (1, 195) = 6.368, p <. 05. Females indicated higher levels of appearance orientation (M = 3.59, SD = .624) than males (M = 3.32, SD = .68). This means that in the present sample, females were more likely to report higher levels of investment in their appearance than their male counterparts. Figure 3 depicts this result.
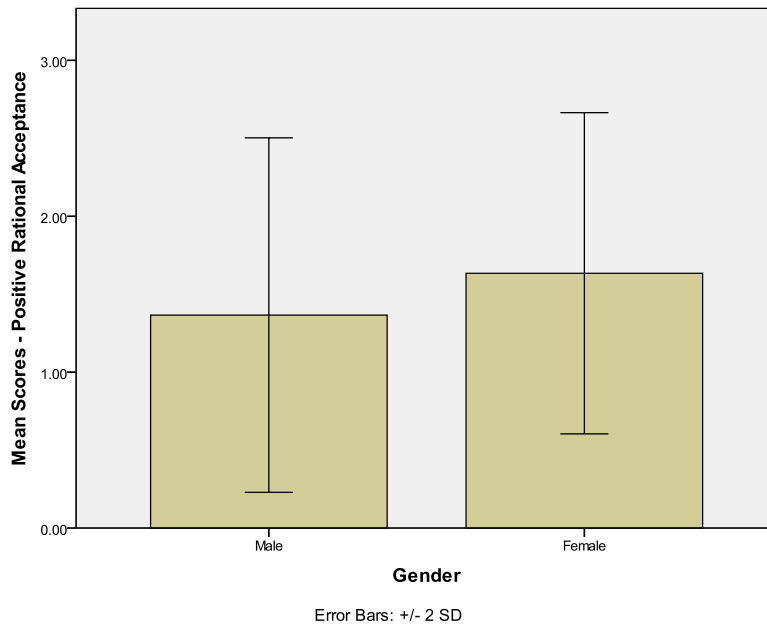
Figure 2. Result of One-Way ANOVA Examining Gender and Positive Rational Acceptance

Figure 3. Result of One-way ANOVA Examining Gender and Appearance Orientation

A second one-way analysis of variance was conducted to determine the effects of age on

body image, body image coping, and mindfulness variables. Age was converted into categorical

variables in increments of five years, where Group One equaled ages 18-23, Group Two equaled

ages 24-29, Group Three equaled ages 30-35, Group Four equaled ages 36-41, Group Five

equaled ages 42-47, Group Six equaled ages 48-53, and Group Seven equaled ages 54-59. The ANOVA found a significant effect of age on the mindfulness facet Observe, $F (6, 190) = 2.686$, $p = .016$. Younger participants, like those in Group 1 ($M = 26.78$, $SD = 5.49$), scored significantly lower on Observe than older individuals in Group 7 ($M = 32.29$, $SD = 5.49$). These differences indicate that older individuals were more likely to endorse higher levels of Observe than younger individuals. Figure 4 depicts this result.

Error Bars: +/- 2 SD
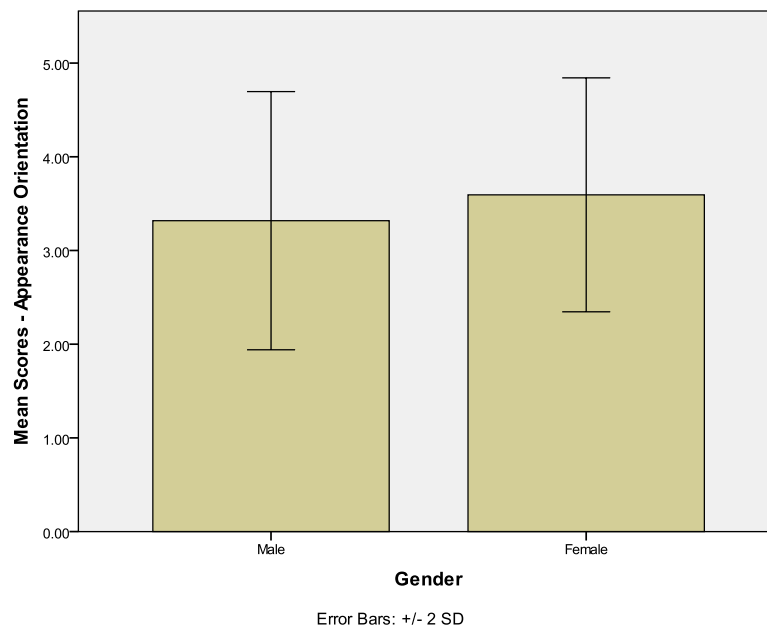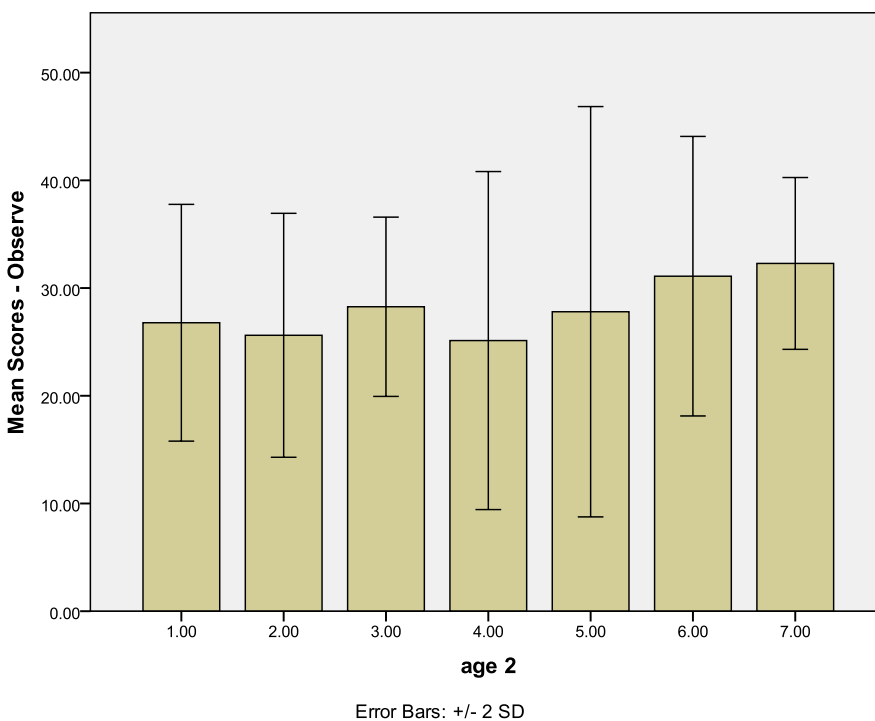
Figure 4. Results of One-way ANOVA Examining Age and Observe

A third one-way analysis of variance was conducted to determine the effects of education level on body image, body image coping, and mindfulness variables. Highest Education Level obtained was divided into four categories, which included a high school diploma, some college, a college degree, and an advanced graduate degree. Results of this test found a significant effect of education level on overweight preoccupation, $F (3, 194) = 2.931$, $p = .035$. Individuals who had completed some college had the highest scores ($M = 2.92$, $SD = .96$), followed by

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individuals who had earned a college degree (M = 2.84, SD = .88), followed by individuals who had earned a graduate degree (M = 2.79, SD = 1.03), and individuals who only had a high school degree (M = 2.38, SD = .96). Thus, individuals who had taken some college coursework were more likely to endorse overweight preoccupation than individuals with other levels of education. This result is depicted in Figure 5.

Error Bars: +/- 2 SD
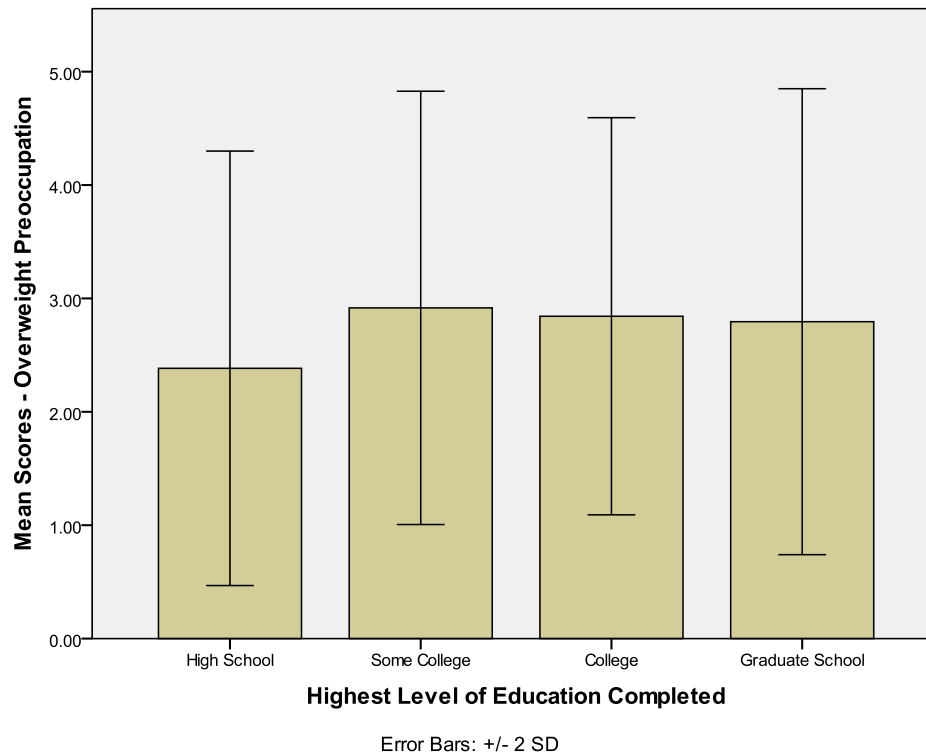
Figure 5. Results of One-way ANOVA Examining Education and Overweight Preoccupation

A final one-way analysis of variance was conducted to determine the effect of race on body image, body image coping, and mindfulness variables when controlling for gender differences.   This test found two significant differences. For males, there was a significant effect of race on positive rational acceptance $F (4, 37) = 2.77$, $p < .05$. Asian males scored highest on positive rational acceptance (M = 1.4, SD = .20), followed by Caucasian males (M = 1.48, SD = .56), African American males (M = 1.22, SD = .56), and Latino males (M = 1.0, SD = .51). There was only one male who indicated a mixed racial profile and fell into the category of

"other;" his score was omitted from the ANOVA so that the results would not be skewed. The results of this test indicate that Asian and Caucasian males were most likely to use positive rational acceptance as a body image coping strategy. Figure 6 represents these results.

For Females, there was a significant effect of race on appearance orientation, $F(4,149) = 27.50$, $p = .030$. More specifically, African American women had the highest mean scores on appearance orientation ($M = 3.85$, $SD = .60$), followed by Caucasian women ($M = 3.64$, $SD = .62$), Asian women ($M = 3.26$, $SD = .46$), Latina women ($M = 3.20$, $SD = .63$, and women indicating a mixed racial profile ($M = 3.18$, $SD = .48$). Thus, African American women were more likely to endorse higher levels of appearance orientation than other women in the present sample. This is illustrated in Figure 7.
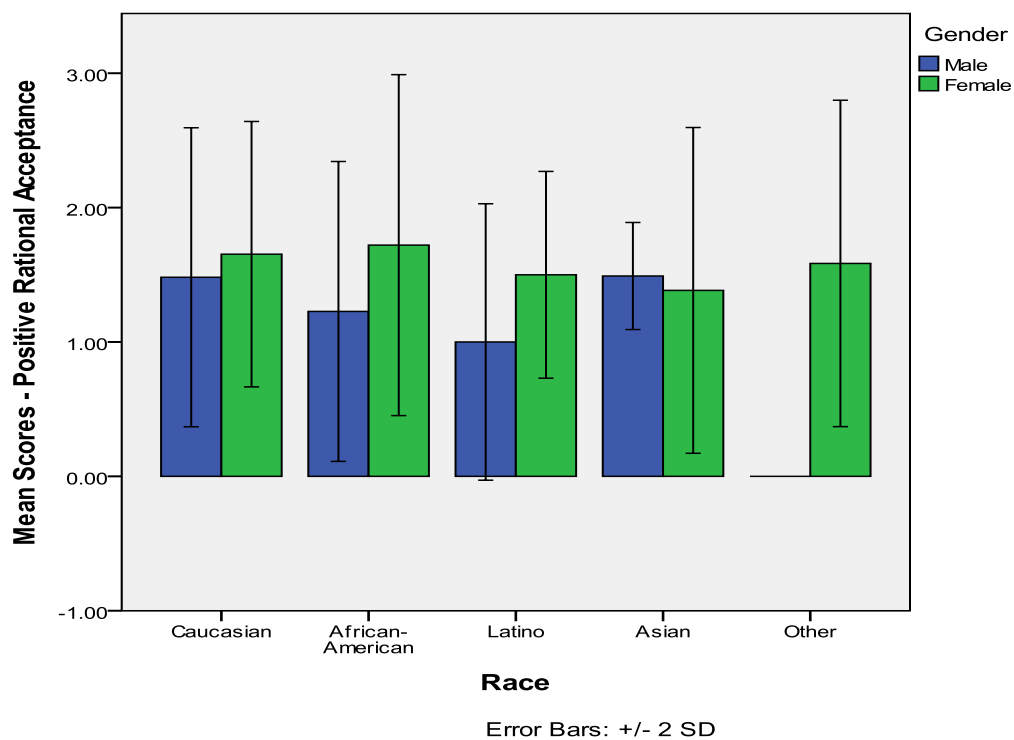
Figure 6. Results of One-way ANOVA Examining Positive Rational Acceptance and Race by Gender

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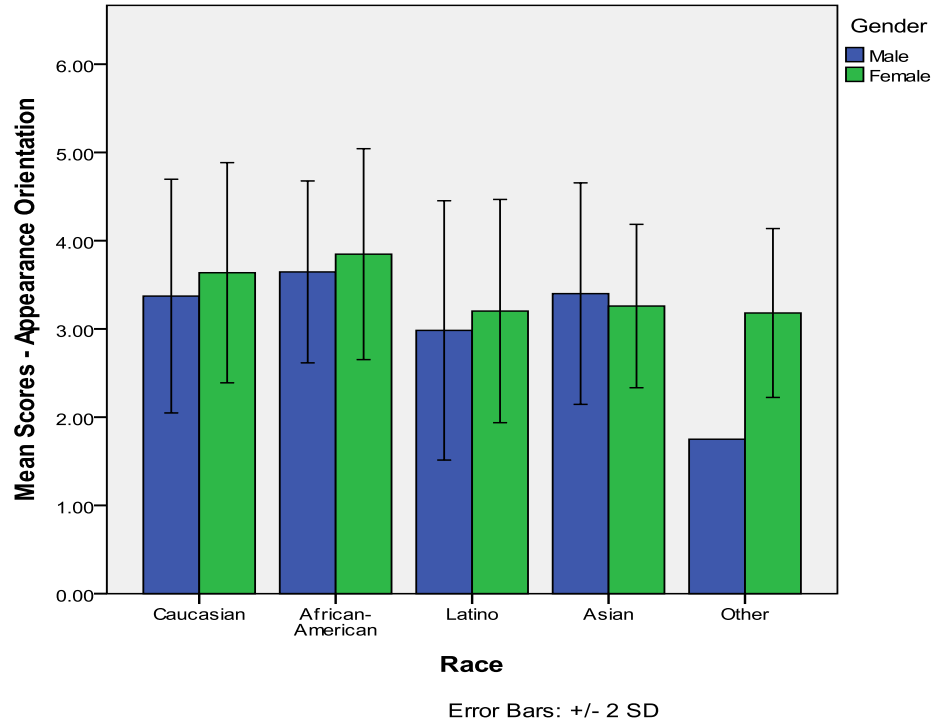
Figure 7. Results of One-way ANOVA Examining Appearance Orientation and Race by Gender

To explore the relationships among body image, body image coping, and mindfulness subscales, a series of bivariate correlation analyses were conducted. Results of this analysis can be seen in Table 2. Correlations between Appearance Evaluation and all three coping mechanisms were statistically significant, with Pearson coefficients ranging from -.58 to .35, indicating moderate associations. More specifically, as Appearance Evaluation scores increased, Positive Rational Acceptance also increased, but both Appearance Fixing and Avoidance decreased. Four of the five mindfulness subscales were also significantly related to Appearance Evaluation, with Pearson correlations ranging from .20 to .34, indicating modest associations. This relationship was positive in that as Appearance Evaluation increased, scores on Describe, Act with Awareness, Non-judgment, and Non-reactivity also increased.

Table 2 - Correlation Matrix of Body Image, Coping, and Mindfulness Subscales

		BISCI			FFMQ				
		App Fix	Avoid	Accept	Observe	Describe	Aware	Non-judge	Non-react
MBSRQ	Appearance Evaluation	-.31**	-.58**	.35**	.09	.20**	.27**	.34**	.28**
	Appearance Orientation	.68**	-.07	.10	-.09	-.02	-.04	-.11	-.15*
	Overweight Preoccupation	.54**	.28**	-.18*	-.03	-.08	-.13	-.26**	-.21**
	Self-Classified Weight	.17*	.34*	-.08	.01	.06	-.02	-.06	-.02
	Body Areas Satisfaction	-.35**	-.52**	.28**	.10	.11	.23**	.21**	.19**

**p<. 01, *p<. 05

MBSRQ- Multidimensional Self-Relations Questionnaire; BISCI- Coping With Body Image Inventory; FFMQ- Five Facet Mindfulness Questionnaire

Appearance Orientation had a high, positive association with Appearance Fixing. As individuals indicated greater investment in their appearance, reported attempts to fix their appearance also increased. Appearance Orientation also had a negative association with Non-reactivity, meaning that individuals who reported high Appearance Orientation indicated experiencing increased reactivity to stimuli.

Overweight Preoccupation was significantly and positively associated with Appearance Fixing and Avoid. Overweight Preoccupation was also significantly and negatively associated with Positive Rational Acceptance, Non-judgment, and Non-reactivity. This means that concern about being or becoming fat was related to greater reported attempts to fix or avoid body image concerns, and fewer attempts to manage body image concerns through positive means. In addition, participants who reported increased worry about weight were less likely to engage in non-judgment and non-reactivity when faced with distressing life situations.

Self-classified Weight was positively correlated with Appearance Fixing and Acceptance. Individuals classifying themselves as overweight or obese also reported engaging in behavioral and cognitive attempts to avoid or fix their body image concerns.

Body Areas Satisfaction and all three coping subscales were significant, with Pearson correlations ranging from -.52 to .28. Body Areas Satisfaction was also associated with three of the five mindfulness subscales, with correlations ranging from .19 to .23, indicating modest associations. Specifically, Body Areas Satisfaction was significantly and negatively related to Appearance Fixing and Avoidance, meaning as satisfaction with specific body parts increased, coping through appearance fixing and avoidance decreased. Body Areas Satisfaction was also significantly and positively related to Positive Rational Acceptance, Act with Awareness, Non-judgment, and Non-reactivity. Thus, individuals who reported increased satisfaction with body areas were more likely to cope with body image concerns using Positive Rational Acceptance, and also indicated higher levels of Acting with Awareness, Non-judgment, and Non-reactivity.

Another series of bivariate correlation analyses were conducted to explore the relationship between coping and mindfulness. Appearance Fixing was significantly and negatively associated with three of the five mindfulness subscales, with correlations ranging from -.26 to -.37, indicating modest associations. Avoidance was significantly and negatively correlated with four of the five mindfulness subscales, with coefficients ranging from -.29 to -.42, indicating modest associations. This means that as individuals engaged in Appearance Fixing and Avoidant coping strategies, their levels of mindfulness decreased. Conversely, Positive Rational Acceptance was significantly and positively associated with two of the five mindfulness subscales, with correlations ranging from .25 to .37, indicating moderate associations. This means that individuals who coped with body image challenges in a positive

way also received higher scores on two of the five mindfulness subscales – Observe and Non-reactivity. A correlation matrix of these variables can be seen in Table 3.

Table 3 - Correlation Matrix of Coping and Mindfulness Subscales

		FFMQ				
		Observe	Describe	Aware	Non-judge	Non-react
BISCI	App Fix	.06	-.09	-.32**	-.37**	-.26**
	Avoid	-.14	-.30**	-.37**	-.42**	-.29**
	Accept	.25**	.13	.13	.05	.37**

**p<. 01

BISCI- Coping with Body Image Inventory; FFMQ- Five Facet Mindfulness Questionnaire

To test the validity of coping strategies and mindfulness as predictors of body image, a series of bivariate linear regressions were run. Five independent, multiple linear regressions were run with coping subscales and/or mindfulness subscales as the predictor variables and with body image subscales as the criterion variables. Predictors were chosen based on their statistical significance in the correlation model. If a correlation coefficient indicated a statistically significant relationship between body image and coping, or body image and mindfulness, the variable was examined as a potential predictor. All variables were entered into the model simultaneously. A summary of the regression analyses can be seen in Table 4.

The first multiple regression was conducted with Describe, Act with Awareness, Non-judgment, Non-reactivity, Appearance Fixing, Avoidance, and Positive Rational Acceptance as the predictor variables and Appearance Evaluation as the outcome variable. The model produced an R square of .407, which was statistically significant, [$F (7,155) = 15.227$, $p = .001$]. Thus, Describe, Act with Awareness, Non-judgment, Non-reactivity, Appearance Fixing, Avoidance,

and Positive Rational Acceptance accounted for 40.7 % of the variance in Appearance Evaluation. Appearance Fixing, Avoidance, and Positive Rational Acceptance contributed unique variance to the model. Appearance Fixing was negatively related to Appearance Evaluation ($\beta = -.181$, $p = .010$), Avoidance was negatively related to Appearance Evaluation ($\beta = -.442$, $p = .001$), and Positive Rational Acceptance was positively related to Appearance Evaluation ($\beta = .294$, $p = .001$). When all of the predictor variables were entered into the model, Describe, Act with Awareness, Non-judgment and Non-reactivity were no longer significantly related to Appearance Evaluation.

The second multiple regression was conducted with Appearance Fixing and Non-reactivity as the predictor variables, and Appearance Orientation as the criterion variable. The model produced an R square of .468, which was statistically significant, [$F_{(2,182)} = 80.118$, $p = .001$] and accounted for 46.8 % of the variance in Appearance Orientation. Appearance Fixing contributed unique variance and was positively related to Appearance Orientation ($\beta = .688$, $p = .001$). When both variables were entered into the model simultaneously, Non-reactivity was no longer significantly related to Appearance Orientation.

The third multiple regression was conducted with Non-judgment, Non-reactivity, Appearance Fixing, Avoidance, and Positive Rational Acceptance as predictor variables and Overweight Preoccupation as the outcome variable. The model produced an R square of .352, which was statistically significant, [$F_{(5,167)} = 18.137$, $p = .001$]. All together, the variables accounted for 35.2 % of the variance in Overweight Preoccupation. However, Appearance Fixing, Avoidance, and Positive Rational Acceptance contributed unique variance to Overweight Preoccupation. Appearance Fixing was positively related to Overweight Preoccupation ($\beta = .523$, $p = .001$), Avoidance was positively related to Overweight Preoccupation ($\beta = .156$, $p =$

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.027), and Positive Rational Acceptance was negatively related to Overweight Preoccupation (β = -.172, p = .013). When all of the predictor variables were simultaneously entered into the model, it was determined that Non-judgment and Non-reactivity were no longer related to Overweight Preoccupation.

The fourth multiple regression was conducted with Appearance Fixing and Avoidance as the predictor variables and with Self-Classified Weight as the outcome variable. The model produced an R square of .125, which was statistically significant, [F (2,185) = 13.207, p = .001]. Appearance Fixing and Avoidance accounted for 12.5 % of the variance in Self-Classified Weight. Avoidance contributed unique variance and was positively related to Self-Classified Weight (β = .316, p = 0.001). Appearance Fixing was no longer significantly related to Self-Classified Weight when both predictor variables were entered into the regression.

The fifth multiple regression was conducted with Act with Awareness, Non-judgment, Non-reactivity, Appearance Fixing, Avoidance, and Positive Rational Acceptance as predictor variables and with Body Areas Satisfaction as the outcome variable. The model produced an R square of .341, which was statistically significant, [F (6,159) = 13.716, p = .001] and accounted for 34.1 % of the variance in Body Areas Satisfaction. Appearance Fixing, Avoidance, and Positive Rational Acceptance contributed unique variance to prediction of Body Areas Satisfaction. Appearance Fixing was negatively related to Body Areas Satisfaction (β = -.286, p = .001), Avoidance was negatively related to Body Areas Satisfaction (β = -.407, p = .001), and Positive Rational Acceptance was positively related to Body Areas Satisfaction (β = .250, p = .001). The mindfulness facets Act with Awareness, Non-judgment, and Non-reactivity were no longer significantly related to Body Areas Satisfaction when all variables were entered into the regression model simultaneously.

Table 4 - Summary of Multiple Regression Analyses for Coping and Mindfulness as Predictors of Body Image

Criterion	Predictor		B	SEB	β	R^2	F
Appearance Evaluation						.41***	15.23
	BISCI	Fixing	-.27	.11	-.18**		
		Avoid	-.76	.15	-.44***		
		Accept	.49	.11	.29***		
	FFMQ	Describe	-.01	.01	-.07		
		Awareness	.00	.01	.00		
		Non-judge	.01	.01	.10		
		Non-react	-.01	.01	-.04		
Appearance Orientation						.47***	80.12
	BISCI	Fixing	.73	.06	.69***		
	FFMQ	Non-react	.00	.01	.01		
Overweight Preoccupation						.35***	18.14
	BISCI	Fixing	.80	.10	.52***		
		Avoid	.28	.12	.16*		
		Accept	-.30	.12	-.17*		
	FFMQ	Non-judge	.00	.01	.03		
		Non-react	.01	.01	.03		
Self-Classified Weight						.13***	13.21
	BISCI	Fixing	.13	.09	.10		
		Avoid	.47	.12	.32***		
Body Areas Satisfaction						.34***	13.72
	BISCI	Fixing	-.31	.08	-.29***		
		Avoid	-.52	.09	-.41***		
		Accept	.30	.09	.25***		
	FFMQ	Awareness	-.00	.01	-.01		
		Non-judge	-.00	.01	-.03		
		Non-react	-.01	.01	-.07		

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

MBSRQ- Multidimensional Self-Relations Questionnaire; BISCI- Coping With Body Image Inventory; FFMQ- Five Facet Mindfulness Questionnaire

To test the hypothesis that mindfulness predicted significant variance in body image coping scores, a series of three independent bivariate regressions were run. In these regression models, mindfulness subscales were entered as predictor variables and body image coping strategies were entered as criterion variables. Once again, predictors were chosen based on their statistical significance in the correlation model. If a particular correlation coefficient indicated a statistically significant relationship between coping and mindfulness, the variables were examined further. All variables were entered into the regression model simultaneously. A summary of the regression analyses can be seen in Table 5.

The first multiple regression to examine mindfulness and coping was conducted with Act with Awareness, Non-judgment, and Non-reactivity as the predictor variables and with Appearance Fixing as the criterion variable. The model produced an R square of .183, which was statistically significant, $[F (3,177) = 13.213, p = .001]$ and accounted for 18.3 % of the variance in Appearance Fixing. Act with Awareness and Non-judgment contributed unique variance to

Appearance Fixing. Specifically, Act with Awareness was negatively related to Appearance

Fixing (β = -.160, p = .039), and Non-judgment was negatively related to Appearance Fixing (β

= -.265, p = .001). When entered into the regression model with all of the other predictor

variables, Non-reactivity was no longer significantly related to Appearance Fixing.

      The second multiple regression was conducted with Describe, Act with Awareness,

Non-judgment, and Non-reactivity as the predictor variables, and with Avoidance as the outcome

variable. The model produced an R square of .243, which was statistically significant, [F (4,176)

= 14.157, p = .001]. Describe, Act with Awareness, Non-judgment, and Non-reactivity

accounted for 24.3 % of the variance in Avoidance. Act with Awareness and Non-judgment

contributed unique variance to the prediction of Avoidance. Act with Awareness (β = -.209, p =

.006) and Non-judgment (β = -.258, p = .001) were both negatively related to Avoidance. Non-

reactivity was no longer significant when entered into the regression with the other mindfulness

facets.

Table 5 - Summary of Multiple Regression Analyses for Coping and Mindfulness as Predictors
of Body Image

Criterion	Predictor	B	SEB	β	R^2	F
Appearance Fixing					.18***	13.21
	Awareness	-.02	.01	-.16*		
	Non-judge	-.02	.01	-.27***		
	Non-react	-.02	.01	-.18		
Avoidance					.24***	14.157
	Describe	-.01	.01	-.08		
	Awareness	-.02	.01	-.21**		
	Non-judge	-.02	.01	-.26***		
	Non-react	-.01	.01	-.11		
Rational Acceptance					.15***	15.802
	Observe	.01	.01	.12		
	Non-react	.03	.01	.31***		

A multiple regression was conducted with Observe and Non-reactivity as the predictor variables, and with Positive Rational Acceptance as the outcome variable. The model produced an R square of .147, which was statistically significant, [$F_{(2,183)}$ = 15.802, p = .001]. Observe and Non-reactivity accounted for 14.7 % of the variance in Positive Rational Acceptance. Non-reactivity explained unique variance in the model, and was positively related to Positive Rational Acceptance (β = .314, p = .001).

In sum, results of the correlation analyses indicated that body image coping strategies and several mindfulness subscales have statistically significant relationships with aspects of body image. Furthermore, regression analyses indicated that coping scores were predictive of the variance in body image subscales, but mindfulness scores were not. However, mindfulness subscale scores were predictive of variance in body image coping strategies.

CHAPTER 4

DISCUSSION

The objective of the current study was to explore the relationships between body image, coping, and mindfulness. More specific goals of this study were to (1) confirm previously reported relationships between body image and coping strategies, (2) expand on general links reported between body perception and mindfulness (3) explore the potential of mindfulness as a predictor of body image, and (4) determine if any relationship exists between coping and mindfulness. The first goal was met by conducting a series of correlation and regression analyses on subscales of body image and body image coping assessments. The second goal was met by using comprehensive, psychometrically valid measures of body image and mindfulness that yielded more information than previously reported data. The third and fourth goals were met by performing a series of correlation and regression analyses to elucidate relationships between body image and mindfulness subscales, and ascertain relationships between mindfulness and coping subscales.

Building on previous theory and research, it was first hypothesized that positive body image would be significantly and negatively correlated with the avoidant and appearance fixing coping strategies, and significantly and positively correlated with positive rational acceptance. This hypothesis was supported by the significant correlation coefficients between body image subscales and avoidance, appearance fixing, and positive rational acceptance. In addition, results from the regression analyses confirmed that appearance fixing, avoidance, and positive rational acceptance explained significant variance in several body image subscales. Appearance fixing predicted lower scores on appearance evaluation and body areas satisfaction, and predicted higher scores on appearance orientation and overweight preoccupation. Avoidance predicted lower scores on appearance evaluation and body areas satisfaction, and predicted higher scores

on overweight preoccupation and self-classified weight. Positive Rational Acceptance predicted higher scores on appearance evaluation and body areas satisfaction, and predicted lower scores on overweight preoccupation. These results were consistent with those found by Cash (2004).

The second hypothesis was that positive body image would be related to increased mindfulness. This premise was supported by significant, positive correlations between body areas satisfaction and several mindfulness subscales. This specific relationship was a replication and extension of that reported by Dijkstra and Barelds (2011). Due to imprecision in their assessment, Dijkstra and Barelds were unable to investigate specific components of mindfulness associated with body areas satisfaction and only reported the overall positive correlation between the two constructs. The current use of a more valid measure of mindfulness (the FFMQ) further elaborated the relationship and revealed that awareness, non-judgment, and non-reactivity were the facets of mindfulness associated with greater body area satisfaction.

The use of the MBSRQ-AS in the present study contributed additional unique information about the links between body image and mindfulness by measuring appearance evaluation, appearance orientation, overweight preoccupation, and self-classified weight as well as body areas satisfaction. Higher appearance evaluation scores were associated with elevated scores on act with awareness, non-judgment, and non-reactivity. This connection added additional support to the hypothesized positive correlation between positive body appraisal and mindfulness.

Correlation analyses also found significant, negative relationships that were not originally hypothesized. Appearance Orientation was negatively related to non-reactivity, and Overweight preoccupation was negatively associated with non-reactivity as well as non-judgment. Appearance orientation refers to the extent to which a person believes that appearance is a

significant determinant of worth; thus higher scores are not indicative of better body image. In the current sample, appearance orientation was negatively associated with non-reactivity, meaning that individuals reporting high scores on appearance orientation scored low on non-reactivity (and were more reactive to external stimuli). High scores on overweight preoccupation indicated increased fears of being or becoming fat. The association between increased overweight preoccupation and lowered non-judgment and non-reactivity indicates that individuals who fear becoming fat are more likely to be judgmental and reactive to their inner experiences. Both of these correlations ultimately support the second hypothesis that positive body image is related to greater levels of mindfulness when considering the logical inverse relationship - that decreased appearance orientation and decreased overweight preoccupation would be associated with greater non-reactivity and non-judgment.

While many facets of mindfulness and body image subscales were significant in the correlation model, mindfulness facets did not contribute unique variance to body image in the regression model. Thus, the third hypothesis was not supported by the current data, as it did not provide direct support for mindfulness as a predictor of body image.

The final hypothesis concerned the previously unexplored relationships between body image coping strategies and facets of mindfulness. Correlation coefficients supported the hypotheses that Appearance Fixing and Avoidance would be significantly and negatively associated with mindfulness, while Positive Rational Acceptance would be significantly and positively associated with mindfulness. Regression analyses contributed additional support to the hypothesis with the finding that several mindfulness facets explained significant variance in the coping subscales. More specifically, Awareness and Non-judgment were significantly predictive of lower scores on Appearance Fixing and Avoidance, and Non-reactivity was

significantly predictive of higher scores on Positive Rational Acceptance. Thus the hypothesis that mindfulness and positive coping would be positively related was supported, as was the hypothesis that mindfulness and negative coping would be negatively related.

The ability of mindfulness to predict body image coping (but not body image) is more logical when the definition of mindfulness is considered. Mindfulness is the detailed observation of each present moment and involves acting with awareness, without judgment or reactivity. It may not directly impact body image, but it can alter the mechanisms by which a person experiences larger behavioral change by changing reactions to problems, stressors, and imperfections. Within this framework, a person can be mindful and still be unsatisfied with aspects of his or her appearance, but the presence of mindfulness may protect the individual against the development of significant impairment. Mindfulness will not change that person's physical characteristics or cultural ideals of beauty. However, increased presence of mindfulness qualities like awareness, non-reactivity and non-judgment help to increase adaptive coping mechanisms that are ultimately associated with better body image.

The results from this study are most applicable to the design of future research in the body image field. First, the replication of Cash's 2004 results lends support to the use of the MBSRQ-AS and BISCI when studying adult populations. Both measures produced norms and relationships that were present in Cash's studies, and proved to be valid and reliable measures of body image and coping. In addition, though mindfulness was initially related to body image, further analyses found that it was not predictive of the construct, but was predictive of coping. This is obviously an important relationship to consider when planning future studies of mindfulness and body image, but the interaction between these variables could also be important in other types of research exploring body image. For example, individuals studying other

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emotional, cognitive, or behavioral correlates of body image (such as resilience or thin-ideal internalization) could benefit from the inclusion of the coping assessment. The correlates may not be able to predict body image itself (as was the case with mindfulness) but they may be able to predict coping strategies that ultimately lead to adaptive behavioral change.

Applied research on mindfulness as a treatment for body image or eating pathology should also consider measuring coping along with other outcome variables. Increased mindfulness may not necessarily increase body image or decrease pathology, but it may change the coping strategy used to manage body image concerns. Without that additional piece of information, treatment outcome data could be skewed and importance of mindfulness may be ignored.

In addition, current treatments addressing body image concerns could greatly benefit from the integration of mindfulness. In particular, results from the current study indicate that interventions fostering the cultivation of awareness, non-reactivity and non-judgment could be beneficial for individuals with negative body image. Development of mindfulness may decrease distress associated with negative body image and increase the use of positive coping strategies. These skills could also help to protect individuals with positive body image from developing concerns by decreasing their use of negative coping.

While the sample surveyed consisted mostly of younger, Caucasian, females who had achieved some kind of academic success, it also included a good number of males as well as several different ethnic groups. Though male body image and eating pathology is on the rise, many studies examining body image solely recruit from female samples. The inclusion of males in the present study adds additional information to our understanding of the male body image experience. It was also interesting to note that while the sample was largely white females, there

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were still significant differences between groups of individuals. More specifically, results of the one-way analyses of variance indicated that significant differences exist between males and females of varying ages, races, and education in the understanding of body image, coping, and mindfulness. The differences found between specific populations of interest should be considered and examined in future research. Sampling efforts should continue to include a wide spread of age, race, and education levels to better understand the constructs.

While the present study contributes important information to the understanding of body image, body image coping strategies, and mindfulness, it also has several limitations. The study's design did not control for the specific origins of mindfulness. Individuals were not asked to describe any regular practice of techniques that enhance mindfulness (like meditation, prayer, yoga, or other means). Regular yoga or meditation impacts mindfulness, but also may increase other mechanisms that influence coping strategies or body image. For example, both regular exercise and meditation decrease stress, improve sleep, and have the potential to influence dietary behaviors.

Increased mindfulness could also be the result of personality differences that have nothing to do with the ability to be non-judgmental, aware, or non-reactive. For example, individuals exhibiting low levels of neuroticism could feasibly score higher on certain mindfulness subscales. These scores would not necessarily be related to presence of mindfulness, and could be explained by the generally stable affect of an individual with low neuroticism. Because mindfulness could originate from different places, inclusion of information about personality and current mindfulness practice would be useful in interpreting future results.

Results of the present study could also be skewed if participants were experiencing any kind of eating or body image pathology. Individuals who are pathological may respond to body image inventories differently than those who do not experience pathology, and often grossly over-estimate shape and weight. Current eating pathology and objective weight information was not assessed in the present study. The body image subscale "self-classified weight" assessed subjective viewpoints towards weight, but it is unclear how accurate that information is. Future research should also collect objective information about participants' current body size (which can be measured through body mass index and calculated from a participant's height and weight) and eating behaviors.

Regardless of limitations, the results of the present study are incredibly exciting. Before this research, the specific relationships between body image, coping, and mindfulness were unknown. The current work found significant relationships between good body image, positive rational acceptance, and increased mindfulness. The findings lend support to the idea that positive body image is attainable and is directly influenced by the ways in which an individual reacts to body image pressures. Subsequent reactions to body image pressures are directly influenced by cultivation of mindfulness. Conversely, relationships between maladaptive body image, negative coping processes, and decreased mindfulness were found. Individuals with poor body image may be better able to cope with their feelings by using mindfulness techniques. Specific interventions focusing on mindfulness and coping would be exciting to investigate in the future, as they could be promising for the large percentage of individuals who experience significant impairment as a result of their body image concerns. While the extent to which mindfulness specifically changes body image is unclear, it may be able to protect against the development of severe dysphoria and eating pathology by increasing the ability the positively

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cope with those cognitions and beliefs. The use of mindfulness techniques to improve coping

strategies could then allow individuals on all parts of the body image spectrum to truly

experience a happy, fulfilled life.

REFERENCES

Baer, R. A. (2004). Assessment of Mindfulness by Self-Report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, *11*(3), 191-206. doi: 10.1177/1073191104268029

Baer, R. A., Hopkins, J., Krietemeyer, J., Smith, G. T., & Toney, L. (2006). Using Self-Report Assessment Methods to Explore Facets of Mindfulness. *Assessment, 13*(1), 27-45.

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., ... Williams, J. G. (2008). Construct Validity of the Five Facet Mindfulness Questionnaire in Meditating and Nonmeditating Samples. *Assessment*, *15*(3), 329-342. doi: 10.1177/1073191107313003

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*(4), 822-848. doi: 10.1037/0022-3514.84.4.822

Brown, T. A., Cash, T. F., & Mikulka, P. J. (1990). Attitudinal body image assessment: Factor analysis of the Body-Self Relations Questionnaire. *Journal of Personality Assessment*, *55*, 135-144.

Buchheld, N., Grossman, P., Walach, H. (2001). Measuring mindfulness in insight meditation (vipassana) and meditation-based psychotherapy: The development of the Freiburg Mindfulness Inventory (FMI). *Journal for Meditation and Meditation Research,* 1, 11-34.

Cash, T.F. (2008). The Body Image Workbook: An 8-Step Program for Learning to Like Your Looks (2nd ed.). Oakland, CA: New Harbinger Publications.

Cash, T.F. (2000). The Multidimensional Body-Self Relations Questionnaire users' manual. Available from the author at www.body-images.com.

Cash, T., Santos, M., & Williams, E. (2005). Coping with body-image threats and challenges: validation of the Body Image Coping Strategies Inventory. *Journal of Psychosomatic Research*, *58*(2), 190-199. doi: 10.1016/j.jpsychores.2004.07.008

Chadwick, P., Hember, M., Symes, J., Peters, E., Kuipers, E., & Dagnan, D. (2008). Responding mindfully to unpleasant thoughts and images: Reliability and validity of the Southampton mindfulness questionnaire (SMQ). *British Journal of Clinical Psychology*, *47*(4), 451-455. doi: 10.1348/014466508X314891

Dijkstra, P., & Barelds, D. P. H. (2011). Examining a model of dispositional mindfulness, body comparison, and body satisfaction. *Body Image*, 8(4), 419-422.

Feldman, G. C., Hayes, A. M., Kumar, S., Greeson, J., & Laurenceau, J. P. (2007). Development, factor structure, and initial validation of the Cognitive and Affective Mindfulness Scale. *Journal of Psychopathology and Behavioral Assessment*, *29*, 177-190.

Jackson, T., Reel, J. J., Thackeray, R. (2011). Coping with "Bad Body Image Days": Strategies from first-year young adult college women. *Body Image*, 8(4), 335-342.

Kristeller, J. L., Baer, R. A., & Quillian-Wolever, R. (2006). Mindfulness-Based Approaches to Eating Disorders. In *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications* (pp. 75-89). Amsterdam: Elsevier, Academic Press.

Lavin, M. A., & Cash, T. F. (2001). Effects of exposure to information about appearance stereotyping and discrimination on women's body images. *International Journal of Eating Disorders*, *29*(1), 51-58. doi: 10.1002/1098-108X(200101)29:13.0.CO;2-Q

Sira, N., & White, C. P. (2010). Individual and Familial Correlates of Body Satisfaction in Male and Female College Students. Journal of American College Heath. 58(6). 507-514. doi: 10.1080/07448481003621742

Stewart, T. M. (2004). Light on Body Image Treatment: Acceptance Through Mindfulness. *Behavior Modification*, *28*(6), 783-811. doi: 10.1177/0145445503259862

Williams, E. R., Cash, T. F., & Santos, M. T. (2004, November). *Positive and negative body image: Precursors, correlates, and consequences*. Paper presented at the meeting of the Association for Advancement of Behavior Therapy.

Wood-Barcalow, N. L., Tylka, T. L., & Augustus-Horvath, C. L. (2010). "But I Like My Body": Positive body image characteristics and a holistic model for young-adult women. *Body Image*, *7*(2), 106-116. doi: 10.1016/j.bodyim.2010.01.001