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The Way You Perceive Your Body Matters: Interventions Aimed to Reduce Body Dissatisfaction

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Authors' contributions

This work was carried out in collaboration between both authors. Author LH designed the study, performed the statistical analysis and prepared the first draft of the manuscript. Author MC oversaw the study, revised and approved the final manuscript. Both authors read and approved the final manuscript.

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ABSTRACT

Aims: To determine if brief interventions of cognitive dissonance, media literacy, and a mindful body scan can reduce body dissatisfaction among female undergraduate students and whether mindfulness, emotion regulation, positive and negative affect, and media literacy levels have an impact on body appreciation.
Study Design: The present study used an experimental design and included three intervention groups and an active control group.
Place and Duration of Study: Centre for Psychological Innovation at Mount Royal University in Calgary, Alberta, Canada from January 17th to March 6th, 2020.
Methodology: 78 female participants between the ages of 17 to 49 years with a mean age of 21 years (*SD* = 5.16). All participants underwent a body dissatisfaction induction procedure and completed self-report questionnaires on body satisfaction (using the Body Appreciation Scale), mindfulness (using the Five Facet Mindfulness Scale), emotion regulation (using the Difficulties in Emotion Regulation), positive and negative affect (using the Positive and Negative Affect Schedule), and media literacy (using the Critically Thinking About Media Messages, Media Attitudes Questionnaire, and the Sociocultural Attitudes Towards Appearance Questionnaire).

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Results: Three separate multiple linear regression tests revealed that there were differences in the variables predicting body appreciation scores at Time1, $F(7, 70) = 12.09$, $p < .001$, Time 2, $F(7, 70) = 14.74$, $p < .001$, and Time3, $F(7, 70) = 15.07$, $p < .001$. A one-way ANOVA revealed that body appreciation scores increased for all four conditions after completion of the intervention, $F(1, 76) = .069$, $p = .793$ but not after the body dissatisfaction induction procedure or before the intervention.
Conclusion: These findings confirm that negative affect and low levels of media literacy contribute to feelings of body dissatisfaction and that brief periods of steering the mind away from the body lead to increases in body appreciation.

Keywords: Body dissatisfaction; cognitive dissonance; media literacy; mindful body scan.

1. INTRODUCTION

Negative body image affects many individuals and is found to have adverse physical and psychological consequences [1]. Researchers have found that women who were dissatisfied with their bodies in their early 20s were more likely to continue dieting and engaging in disordered eating behaviors throughout their adult life [2]. A survey conducted in Australia (2010) found that 40.3% of women aged 20-24 years-old reported body image as their biggest concern in their life [3]. For instance, Wade et al. (2009) claimed that being dissatisfied with one's body involves having a discrepancy between an individual's actual body and their desired or ideal body [1]. This discrepancy has been found to be predictive of the development of eating disorders such as bulimia nervosa and anorexia nervosa, [4] where anorexia has been shown to have a higher mortality rate than any other psychiatric disorder [5].

1.1 Personality and Eating Disorders

Past literature has found that individuals who are dissatisfied with their bodies also experience certain emotions such as negative affect [6]. Researchers have also found associations between eating disorders and specific personality traits such as "perfectionism, obsessive-compulsiveness, impulsivity, sensation seeking, narcissism, sociotropy, and autonomy" [7]. Likewise, individuals who have bulimia nervosa are more likely to be narcissistic [8], impulsive, and to score higher on novelty-seeking dimensions [9]. Similarly, individuals who are diagnosed with anorexia nervosa are likely to score higher on impulsivity and reward dependence dimensions [10]. As a result, it is imperative to determine if there is an association between body dissatisfaction and various emotional states in order to create the most effective interventions.

1.2 Treatments and Interventions to Reduce Body Dissatisfaction

1.2.1 Cognitive dissonance

Researchers have found that cognitive dissonance (CD) or dissonance-based interventions (DBIs) are effective in treating a variety of issues. Dissonance-based interventions aim to reduce the faulty beliefs and assumptions that an individual may hold while also decreasing BD [11]. According to Leon Festinger's theory of cognitive dissonance, DBIs instruct individuals to conduct exercises where they engage in oral, written, and behavioral techniques that are designed to go against the thin-ideal [12]. By engaging in these counter-attitudinal exercises, individuals are less likely to engage in negative evaluations of their weight and appearance [1].

Many researchers have used cognitive dissonance to decrease BD among individuals [6,1,12]. Wade et al. (2009) found that the body dissatisfaction induction task reduced both weight and appearance satisfaction for all participants and that all three interventions (e.g., cognitive dissonance, distraction, and acceptance) increased weight satisfaction where CD showed the highest increase in weight and appearance satisfaction by 45% relative to the other conditions [1]

1.2.2 Mindfulness

Hernando et al. [13] demonstrated that mindfulness predicted the absence of eating disorders among young women as well as risk-taking behaviors such as binge eating disorder and substance-related disorders [9]. In addition, Albertson et al. [14] conducted a study to determine whether listening to a self-compassion mediation through audio recordings could improve body image concerns among adult

women [14]. Over the span of 3 weeks, participants listened to podcasts of different mediations: Compassionate Body Scan meditation, Affectionate Breathing meditation, and a Loving-Kindness Meditation. The researchers found that all three interventions showed significant reductions in body dissatisfaction and body shame. Furthermore, Atkinson et al. (found no difference between mindfulness and cognitive dissonance on weight and shape concern, eating disorder symptoms, and socio-cultural pressures [6]. Consequently, an awareness of the benefits of these interventions is valuable as participants showed positive body image even at a 6-month follow-up [6].

1.2.3 Media literacy

Western society and the media play a significant role in creating body dissatisfaction. According to the Heatherton and Polivy's spiral model [15], individuals who diet also engage in negative self-evaluations when they are presented with slim body images from the media [16]. Heatherton and Polivy [15] claim that these images promote the dieter to try to attain the slim figure and in doing so, the individual spirals into an increase in negative affect, "body dissatisfaction, reduced self-esteem, and an increase in dietary disinhibition and overeating" [16]. This internalization leaves the individual at an increased risk of developing bulimic symptoms [16].

The media further affects women's BD through the process of social comparison [17]. Researchers have found that when an individual compares themselves to someone they consider to be superior to themselves (upward social comparison), this leads to decreases in positive self-evaluation [18]. However, when they compare themselves to someone they think is inferior to themselves (downward social comparison); this leads to an increase in positive self-evaluation [18]. Thus, media literacy can help individuals have high media literacy would enable individuals to be less likely to compare themselves with the thin-ideal images that are perceived to be unrealistic, thus reducing BD [19].

1.3 Current Research

To build upon existing literature and address knowledge gaps, the purpose of this study is to explore the effectiveness of brief interventions on reducing body dissatisfaction among female undergraduate students. It is hypothesized that individuals in cognitive dissonance, media literacy, and the mindful body scan conditions will show the largest increase in body appreciation compared to the active control condition. Furthermore, researchers have also found that individuals who are dissatisfied with their bodies are likely to demonstrate negative affect, however, little is known of whether body dissatisfaction is associated with emotional irregularity or levels of mindfulness. As a result, it was hypothesized that individuals who score lower on negative affect, mindfulness, and emotion regularity levels will have the highest levels of body dissatisfaction. We hoped that this research study would contribute to the field by providing researchers with further information that will assist in developing interventions to reduce BD.

2. METHODS

2.1 Participants

Although men suffer from body dissatisfaction, researchers have found that body dissatisfaction and eating disorders are much more prevalent among women [20]. As a result, the current study only included females. In total, 78 female undergraduate students between 17 to 49 (M = 21.01, SD = 5.16) participated in the study where 85.9% were between the ages of 18-23. In addition, there were no exclusionary criteria for participants belonging to various ethnic groups and thus this information was not collected during the study. Participants received 1% credit towards their introductory psychology course grade.

2.2 Materials

In addition to providing basic demographic information such as age, year and program of study as well as sex, participants completed seven questionnaires described below.

All participants completed a body dissatisfaction induction procedure where they were given 10 minutes to view 16 images of thin, beautiful models and to arrange the images from most attractive to least attractive, based on their preference.

2.2.1 Body appreciation scale (BAS)

The 13-item BAS [21] was used to measure body image as a positive dimension and to determine

how dissatisfied a participant was with their body (e.g., I respect my body; I feel that my body has at least some good qualities). Items ranged from 1 (*never*) to 5 (*always*) where scores were added together and averaged. Higher scores indicated a higher level of body appreciation or a higher level of body satisfaction. The BAS demonstrated good reliability in this study (α= .97).

2.2.2 Difficulties in emotion regulation (DERS-18)

The 41-item DERS-18 [22] was completed by participants who reported the extent to which they regulated their emotions across four dimensions, including (1) awareness and understanding of emotion regulation, (2) acceptance of emotions, the ability to engage in goal-directed behaviour, and (3) refrain from impulsive behaviour, when experiencing negative emotions, and (4) access to emotion regulation strategies perceived as effective. The scores from all four dimensions will be summed and averaged to create one score where higher scores indicate higher emotion regulation levels. Participants indicated how often these items applied to themselves, with responses ranging from 1 (*never*) to 5 (*always*). The DERS-18 exhibited good reliability in the current study (α = .85).

2.2.3 Positive and negative affect schedule – expanded version (PANAS)

The 60-item PANAS– Expanded Version [23] is comprised of 60 different words that examine 11 different affects. Sample words from the scale include: sluggish, joyful, angry, guilty, sad, and depressed. Participants are instructed to rate the extent to which they have felt these affects during the past week on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Score for both positive and negative affect are summed separately where higher scores for both mean higher positive and negative affect. The reliability in the current study for the PANAS was good (α = .89).

2.2.4 Five Facet Mindfulness Questionnaire – Short Form (FFMQ-SF)

The 18-item short form of the FFMQ-SF [24] consists of five facets of mindfulness: observing, describing, acting with awareness, non-judging and nonreactivity. Each facet of mindfulness contained 8 items while non-judging and nonreactivity contained 7 items. Participants rate the extent to which they feel certain facets of mindfulness (e.g., "I pay attention to how I feel" or "when I'm upset, I become out of control"). Items are scored on a 5-point scale from 1 (*almost always)* to 5 (*almost never*). The facet scores were calculated by summing the scores on the individual facet items where higher scores indicated a higher level of mindfulness. The FFMQ-SF demonstrated good reliability in the current study (α = .55).

2.2.5 Critically thinking about media messages (CTMM)

A total of six items from the CTMM [25] were used in the current study that assessed the frequency in which participants think critically about media messages. Participants responded to questions such as: "when I look at ads with thin female models I think about what the people who made the media message want me to believe" which were rated by the participant on a 6-point scale from 1 (*never*) to 6 (*always*). Scores were summed and averaged where higher scores reflected higher levels of media literacy. The CTMM exhibited good reliability in this study (α = .91).

2.2.6 Media attitudes questionnaire (MAQ)

The MAQ [25] is a media processing measure that focuses on attitudes individuals possess about the appearance of models presented in the media. The MAQ is comprised of three subscales: Realism, Similarity, and Desirability. For the current study, only the Realism and Similarity subscales were used for a total of six questions. The three questions from the Realism subscale asked participants to rate the extent to which they believed media images to be realistic representations of social reality (e.g., "Normally women in real life are as thin as the models in ads"). The three questions from the Similarity subscale assessed the extent to which participants believed themselves to be similar to others portrayed in the media (e.g., "I could be as thin as the models in ads"). Each subscale score was summed and averaged to obtain two different scores – one for realism and one for similarity where higher scores indicated a higher level of realism and similarity to the appearance of models. The questions were rated by the participant on a 5-point scale from 1 (*completely disagree*) to 5 (*completely agree*). For this study, the MAQ demonstrated satisfactory reliability (α = .47).

2.2.7 Sociocultural attitudes towards appearance questionnaire (SATAQ)

The 9-item SATAQ [26] assesses the extent to which participants internalize sociocultural standards for appearance based on their own personal criteria. Responses to items such as "I would like my body to look like the people who are on TV" or "attractiveness is very important if you want to get ahead in our culture" were indicated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). One question ("I do not wish to look like the models in magazines and on TV") was reverse coded. The scores of all questions were summed and higher scores reflect greater awareness and internalization of the thin-ideal. The SATAQ demonstrated good reliability (α = .87).

2.3 Procedure

Ethics approval for the current study was granted on January 8, 2020 by the Mount Royal University Human Research Ethics Board (HREB). An advertisement for the current study was posted on Mount Royal University's SONA system which is an online sign-up platform where participants were able to select a time slot that fit their schedule and were instructed to come into the Centre for Psychological Innovation on the day and time of the study.

Once the participant came into the Centre for Psychological Innovation at Mount Royal University, they were asked to give their name which was written down on a sign-in sheet. Then they were given a unique code that represented the intervention condition they were randomly assigned to. These codes were selected randomly for each participant where codes such as: 101010 represented the media literacy condition, 202020 representing the cognitive dissonance condition, 303030 representing the mindful body scan condition, and 404040 representing the active control condition. The codes increased numerically for every additional participant that came into the lab (e.g., 101011, 101012, *etc. k*). Random assignment to the various conditions was implemented by having participant one complete the media literacy condition, then participant two completed the cognitive dissonance condition, until the end of the conditions. This process was repeated for all participants. The completion of the study was supervised by the co-investigator who informed the participant both verbally and in writing about the purpose of the study prior to participation. The consent form outlined the purpose of the study and any distressing subject matter that they may encounter.

Once the participant completed the consent form, they were required to complete seven different questionnaires, which directly assessed the studies hypotheses, through an online survey platform (Google Forms). The first set of questionnaires assessed participants' body appreciation levels, emotion regulation levels, positive and negative affect levels, media literacy levels, and mindfulness levels. The length of the first questionnaire lasted between 10 to 20 minutes. Participants from all four conditions completed all of the questionnaires. Once the first set of questionnaires was complete, they underwent a body dissatisfaction induction procedure which lasted 10 minutes. After the dissatisfaction task was complete, all participants were required to fill out the BAS once more. Then, they were randomly assigned to the condition and finally filled out the BAS again. The total time to complete the entire study was approximately 1 hour.

2.4 Experimental Design

Cognitive dissonance participants in the cognitive dissonance condition were instructed to write about the costs and consequences of pursuing the thin ideal and positive attributes about themselves, for a total of five minutes. The researcher timed the participant for the five minute written portion and re-entered the single testing room where the participant was then instructed to read an article derived from the National Eating Disorder Academy [27,28] that explains the harmful effects eating disorders can have on an individual's mental, social, and physical health. The reading portion of this condition lasted ten minutes and was timed by the researcher. Once the ten minutes was over, the participant was instructed to write for an additional five minutes on what they learned from reading the article.

Media literacy participants in the media literacy condition were instructed to write what they think the thin-ideal is and ways in which they can resist the urge to engage in this ideal, for a total of five minutes. The researcher timed the participant for the five minute written portion and re-entered the single testing room where the participant was then instructed to watch a video [29,30] about the harmful effects advertisements and social media can have on an individual's social, mental and

physical health. The video portion of this condition lasted ten minutes and was timed by the researcher. Once the ten minutes was complete, the participant was instructed to write for an additional five minutes on what they learned from watching the video.

Mindful body scan participants were instructed to listen to a 20 minute guided mindful body scan from YouTube [31]. They were informed that they have the option to stay seated in their chair in the single testing room in the Centre for Psychological Innovation or in another room where they were provided with a yoga mat.

Active control participants in the active control condition were instructed to watch a 20 minutevideo [32,33,34] on effective ways to prepare for an exam and strategies for building good study habits.

2.5 Statistical Analysis

The Statistical Package for the Social Sciences (SPSS version 23) was used to run the analysis of the current study. Multiple regression analyses were conducted to determine the impact of PANAS, DERS-18, FFMQ-SF, SATAQ, MAQ, CTMM on body appreciation whileANOVA's were used to determine the effect of the four conditions on BAS scores. In order to test the significance of these tests, alpha values of p< .001 and p< .005 were used.

3. RESULTS

A one-way analysis of variance (ANOVA) was conducted to compare Time1BAS scoresbetween the 4 conditions to determine whether random assignment to the different conditions worked and that these groups started off relatively the same. The one-way ANOVA was not statistically significant, $F(3, 74) = .923$, $p = .434$ showing us that random assignment to the various conditions worked. See Table 1.

Table 1. Descriptive statistics for the four conditions

	N	Mean	Std. Deviation
Media Literacy	20	41.90	8.24
Cognitive Dissonance	18	44.94	8.29
Mindful Body Scan	21	40.48	8.54
Control	19	42.95	9.26
Total	78	42.47	8.58

Note. Means and standard deviations for the four conditions

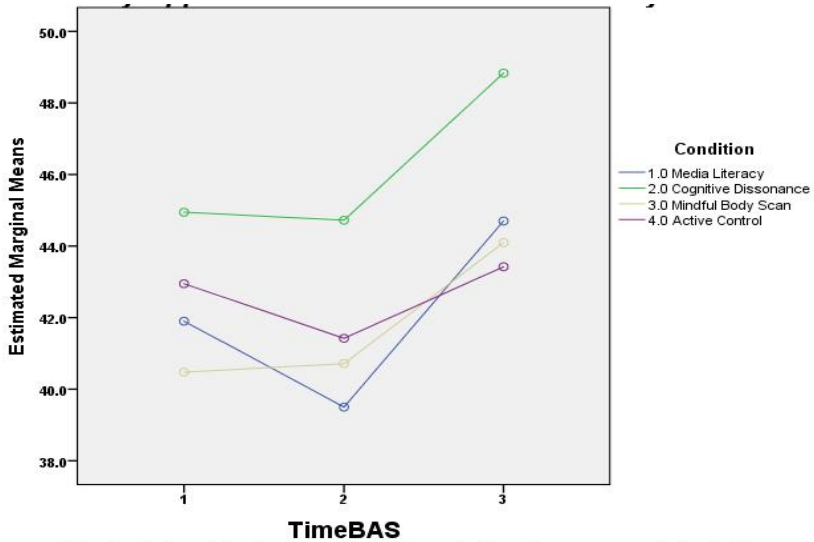
Three multiple regression analyses were conducted to predict Body Appreciation Scores (BAS) for each time point (pre-test, post-manipulation, and post-intervention) from the predictors. The multiple regression model statistically significantly predicted BAS1, $F(7, 70) = 12.092$, p< .001 showing us that as Sociocultural Attitudes Towards Appearance and Media Attitudes increased, BAS1 scores decreased. In addition, it was found that as positive affect increased, BAS1 scores decreased.Furthermore, the second multiple regression model statistically significantly predicted BAS2, $F(7, 70) = 14.744$, p< .001 and found that as Sociocultural Attitudes Towards Appearance, Negative Affect and Media Attitudes increased, BAS2 scores decreased. Moreover, as positive affect and critically thinking about media messages increased, BAS2 scores decreased. The third multiple regression model statistically significantly predicted BAS3, $F(7, 70) = 15.068$, p< .001 showing us that as Sociocultural Attitudes Towards Appearance, Negative Affect, and Media Attitudes increased, BAS3 scores decreased. Moreover, as PA and CTMM increased, BAS3 scores decreased. See Table 2 for results.

A mixed analysis of variance (ANOVA) was conducted and found a main effect for TimeBAS, $F(1, 74) = 30.854$, p< .001, revealing that there were differences across the 3 body appreciation scores before the body dissatisfaction induction procedure, after the procedure, and after the intervention. Post hoc testing using Bonferronicorrection found that those differences were seen from Time BAS1 (M = 42.374, SD = 8.5792) to Time BAS3 (M = 45.179, SD = 8.8019), p< .001 and between TimeBAS2 (M = 41.500, SD = 9.4838) to TimeBAS3 (M = 45.179, SD = 8.8019) $^{+}p< .10$ $*p< .05$. $**p< .01$.p< .001. However, BAS scores did not change from TimeBAS1 (M = 42.474, SD = 8.58) to TimeBAS2 (M = 41.500, SD = 9.48). However, there was no main effect for condition, $F(3, 74) = 1.053$, $p = .374$. In addition, there was a marginally significant interaction between TimeBAS and condition, $F(6, 74) = 2.12$, $p = .054$. See Fig. 1.

As a result, a follow-up one-way ANOVA was used by collapsing interventions together and comparing it against the control condition to determine if intervention conditions in general performed higher on BAS scores comparedto the control. After collapsing the data, the interaction

Table 2. Results from multiple regression analyses of predictor variables on imeBAS

	B	B	Std Error	R2
TimeBAS1				**.547**
Predictors				
FFMQSF	-.128	-.221	.158	
SATAQ	-.257*	-.332	.121	
PA	.422**	.210	.043	
NA	-.194	-.080	.046	
MAQ	-.216*	-.739	.305	
DERS	-.123	-.095	.081	
CTMM	.169	.256	.129	
TimeBAS2				***.596***
Predictors				
FFMQSF	-.093	-.177	.165	
SATAQ	-.279*	-.399	.127	
PA	.402**	.221	.045	
NA	-.316*	-.144	.048	
MAQ	-.197**	-.745	.318	
DERS	-.046	-.039	.084	
CTMM	.169*	.282	.135	
TimeBAS3				***.601***
Predictors				
FFMQSF	-.079	-.140	.152	
SATAQ	-.337**	-.446	.117	
PA	.414**	.212	.041	
NA	-.291	-.123	.044	
MAQ	-.276	-.965	.293	
DERS	.011	.008	.078	
CTMM	.156*	.242	.124	



Note. A mixed analysis of variance (ANOVA) revealed that there was a marginally significant interaction between body appreciation times and condition, $F(6, 74) = 2.12$, $p = .054$.

Fig. 1. Mixed analysis of variance (ANOVA) on condition by TimeBAS

between Time BAS and condition revealed a statistically significant interaction effect, $F(2, 76) = 3.906$, $p = .022$.

As a follow-up, a one-way analysis of variance (ANOVA) was conducted to determine if interventions in general performed better than the control condition. The ANOVA produced a statistically significant result for the control group, $F(1, 18) = 338.210$, $p = < .001$. Post hoc testing using Bonferroni correction found that the differences were between TimeBAS2

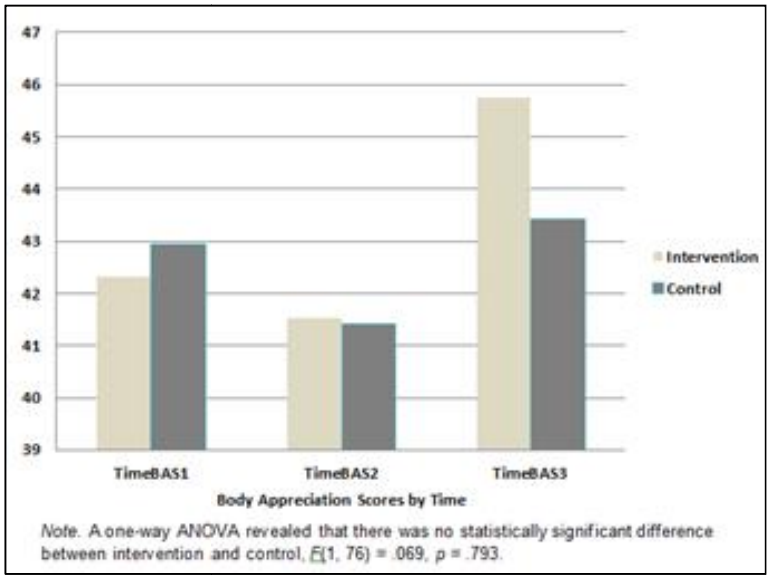


Fig. 2. Comparison of interventions vs control conditions on TimeBAS

(*M* = 41.421, *SD* = 11.3153) to TimeBAS 3 (*M* = 43.421, *SD* = 10.3297). When the 3 interventions were collapsed, the ANOVA showed a statistically significant effect of TimeBAS, *F*(2, 58) = 32.63, p< .001. Bonferroni found that these differences were between TimeBAS1 (M = 42.32, SD = 8.4andTimeBAS3 (M = 45.75, SD = 8.27) and between TimeBAS2 (M = 41.525, SD = 8.93) to TimeBAS3 (M = 45.75, SD = 8.27), p< .001. See Fig. 2.

4. DISCUSSION

The current study explored the effectiveness of brief interventions for reducing body dissatisfaction, with interest in determining whether mindfulness, emotion regulation, and media literacy awareness affect predict bodyappreciation. Contrary to the spiral model [15], being shown images of beautiful and thin models during the body dissatisfaction induction procedure did not reduce body appreciation. However, before concluding that the BD procedure was not effective, it is helpful to consider that people spend on average, more time viewing unrealistic portrayals of the thin-ideal on social media sites for more than merely ten minutes in a given day [35]. As a result, this finding may not be a true representation of real-world situations in which BD is induced through social media sites such as Instagram or Facebook. Thus, future research should determine whether viewing images of the thin ideal on various social media platforms affects body appreciation scores.

In addition, the images presented to participants included images of models who were approximately between the ages of 18 to 29. Consequently, for older participants these images might have a different response than younger participants because they were not being represented in these images. Older women might not be dissatisfied with their bodies after viewing images of models who are muchyounger than themselves because they understand that these images do not portraypeople in their age range. Thus, they understand that this “ideal” is not realistic for themselves. As a result, this finding may not accurately represent body appreciation scores. Future research should investigate whether images of women of older age can induce body dissatisfaction among older-aged women participants.

In addition, this study also aimed to explore the effects that mindfulness and emotion regulation have on body dissatisfaction. Although researchers have found an association betweencertain personality and cognitive characteristics with eating disorders, mindfulness and emotion regulation did not predict body appreciation. This may be due to the fact that individuals who are dissatisfied with their bodies are different in general than individuals with clinical eating disorders. For instance, an eating disorder is characterized by having an intense fear ofgaining weight or of becoming fat [36] and taking extreme measures to obtain this desire. On the contrary, an individual who is merely dissatisfied with their body might not be inclined

to take such drastic measures to obtain such an unhealthy ideal. As a result, individuals who are merely dissatisfied with their bodies may be more able to regulate their emotions and stay grounded compared to an individual with a serious mental health disorder such as an eating disorder.

Consistent with past research, negative affect predicted body appreciation scores at Time 1, Time 2, and at Time 3 [6]. However, contrary to past research, as positive affect increased, BAS1, BAS2, and BAS3 scores decreased. This is contrary to what we expected and this result may be due to the fact that individuals associated the positive affect words to external situations from the study such as their interpersonal relationships, academic, social, or work life. The second possible rationale for this result is that some researchers have found that individuals who diet are positively inspired by the thin media messages which enhances their positive affect [37].

Consistent with our hypothesis that individuals who have lower levels of media literacy awareness would show lower levels of body appreciation, it was found that participants who scored higher on the Sociocultural Attitudes Towards Appearance and Media Attitudes Questionnaire, showed lower levels of bodyappreciation. This finding suggests that the more an individual believes that models in magazines or on social media portray women in real life, their appreciation for their body decreases.This finding was confirmed in the current study where BAS1, BAS2, and BAS3, scores decreased as SATAQ and MAQ increased.

The Critically thinking about Media Messages questionnaire assessed the extent to which participants thought critically about a media image or media message. It was found that CTMM increased after the body dissatisfaction induction procedure and after the intervention. We speculate that CTMM scores increased body appreciation only after viewing images of models and after the intervention because the participant was made aware of the negative effects media and advertisements have on an individual whileviewing the images and videos and/readings assigned to the various interventions.

The benefits of cognitive dissonance, media literacy, and mindful body scan interventions were explored in relation to body appreciation. Regardless of intervention type, body appreciation scores increased significantly only after the completion of the intervention. This finding supports the view that women who are distracted by their appearance tend to have negative body image [38] and thus, in the current study, when an individual shifts their focus away from their body and onto anything else, they tend to show increases in being satisfied with their body even when their focus is on something completely unrelated to body image. As a result, cognitive distraction is an effective technique to reduce BD [38].

The results of the current study can be incorporated into clinical practice by educating individuals about the harmful effects the media has on an individual's mental and physical health as well as creating interventions online that are brief which aim to reduce body dissatisfaction for individuals who do not want to seek person-to-person therapy. In addition, future research can extend this study and aim to determine whetherbody dissatisfaction induction can be done through social media sites such as Facebook or Instagram and whether this induction of BD is higher or lower compared to in-lab BD induction.

5. CONCLUSION

In conclusion, this study revealed three key findings: 1) body appreciation increases after doing any of the four conditions; 2) emotion regulation and mindfulness do not impact body appreciation and 3) individuals who are more aware of the negative impact of the media are more likely to appreciate their bodies. Future research should look at the effects of brief interventions on body appreciation among men who idealize the muscular-ideal.

CONSENT

Authors declare that informed consent was obtained from each participant for publication of this research study.

ETHICAL APPROVAL

Authors hereby declare that this study was approved by the Mount Royal University Human and performed in accordance with their ethical standards. Research Ethics Board, Study Number 102044.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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