

University of Nevada, Reno

**THE EFFECTS OF BODY SIZE AND MESSAGE VALENCE IN
INSTAGRAM POSTS UPON WOMEN'S BODY IMAGE**

A thesis submitted in partial fulfillment of the requirements for the degree of

Bachelor of Science in Psychology and the Honors Program

By

Charlotte Ebner

Dr. Lars Strother, Thesis Advisor

May 2020

**UNIVERSITY
OF NEVADA
RENO**

THE HONORS PROGRAM

We recommend that the thesis
prepared under our supervision by

CHARLOTTE EBNER

entitled

The Effects of Body Size and Message Valence In Instagram Posts Upon
Women's Body Image

be accepted in partial fulfillment of the
requirements for the degree of

BACHELOR OF SCIENCE

Lars Strother, Ph.D Thesis Advisor

Matthew Means, P.S., Director, **Honors Program**

May 2020

Abstract

Using an online program 136 women were randomly assigned to view different simulated Instagram posts (16 total for each group) featuring women's bodies and specific messages about the bodies. Participants viewed various combinations of large bodies/thin bodies and positive/negative messages. ANCOVAS and T tests were performed, and it was found that the large positive group increased in mood as compared with the large negative and thin negative groups. Findings inform that the interventions were not successful in altering body image, and only message valence had an effect on participant mood. Implications, limitations and future directions are explored.

Acknowledgments

My sincerest thanks go to Dr. Lars Strother and Christopher Hebein for their guidance in the creation of this thesis. I have learned an immense amount about research through this process and this is due in large part to their wisdom and insight.

Table of contents

Introduction	1
Methodology	6
Results	10
Discussion	15
Works Cited	20

List of tables/figures

Figures

Figure 1: Large vs. thin operationalization	6
Figure 2: Message valence operationalization	7
Figure 3: The estimated marginal means of BMIS scores for large positive, large negative, thin positive and thin negative groups	13

Tables

Table 1: Means and standard deviations for BESAA attribution, BESAA appearance, BESAA weight, and BMIS, for large positive, large negative, thin positive and thin negative groups	10
Table 2: Means and standard deviations for SATAQ 3 subscores: internalization- general, internalization-athlete, pressures and information, for large positive, large negative, thin positive and thin negative groups	11
Table 3: Means and standard deviations for Body Comparison Scale subscores: general, muscle and weight, for large positive, large negative, thin positive and thin negative groups	11
Table 4: Modes and medians for weight and means and standard deviations for age, for large positive, large negative,	12

v

thin positive and thin negative groups.

Introduction

Body image, or an individual's perception of their body and the emotions and thoughts that arise from that perception, is a topic of increasing relevance and concern in the realm of women's health in the current world. Psychological research and interventions are crucial tools to be used in advancing the ultimate goal of increasing mental and physical health through the improvement of body image. One major area of interest is the way that media affects body image through its transmission of messages about what kinds of bodies are attractive and normal.

When we turn to the research that has been completed upon the general relationship between body image and media in women, most of the focus is upon the media's emphasis on beauty and worth through the "thin ideal," or the idea that an ultra-thin woman is the most attractive and valuable kind of woman. The majority of this research has found a significant relationship between the proliferation of thin ideal in media and poor body image in women: one key study found that experimental exposure to the "perfect body" led to significantly higher body and appearance dissatisfaction, but that the type and amount of media use were not correlated with body dissatisfaction in adolescent girls (Dittmar & Bell 2011). One literature review states that "evidence is accumulating that repeated exposure to media and to both direct and indirect (via media's effects on peers, parents, coaches, physicians, etc.) pressures from media to be thin constitute risk factors for body dissatisfaction, concerns over weight and disordered eating behaviors in adolescent girls and young women" (López-Guimerà et al 2010). More research indicates that social comparison and levels of appearance comparison predict depression and reduced body satisfaction when women are exposed to the thin

ideal (Durkin & Paxton 2002). Additional research by Dittmar (2009) found that individual differences and psychological processes such as *identification* with the thin ideal are important mediating factors in the causal relationship between image exposure and attitudes towards the body.

Narrowing the focus from media in general to Internet social media, this effect appears to hold true. Researchers found that exposure to manipulated Instagram photos directly led to lower body image in adolescent girls, especially girls with higher social comparison tendencies (Kleemans et al. 2016). Another study found that Instagram use predicted body dissatisfaction and a drive for thinness in college-aged women through the mediating variable of appearance-related comparisons (Hendrickse et al. 2017). In 2017, researchers found that women's interaction with photo activities on Facebook and following appearance-related accounts on Instagram both are related to body image issues (Cohen et al. 2017). Additional research found that photos of conventionally attractive celebrities and peers on Instagram had negative effects on mood and body image in college-aged women, with no apparent difference between viewing celebrities or peers but both being mediated by levels of social comparison (Brown & Tiggemann 2016).

As of today, there are few studies that examine the effects of media that focuses on women with larger bodies, and most of the research that does exist comes from advertising. Some researchers found lower levels of body-focused anxiety in women viewing advertisements of "average" bodied models as opposed to thin models (Halliwell & Dittmar 2004). In addition, other researchers found that women had more positive thoughts about their own bodies after seeing advertisements with plus sized women as

opposed to thin women (Peck & Loken 2004). In a meta-analysis, Holmstrom found that viewing media of plus-sized women increased women's positive body image (Holmstrom 2004). Other researchers found that women experience the greatest body satisfaction when viewing plus-sized models in advertising (Clayton, Ridgway and Hendrickse 2017).

Finally, and perhaps most directly applicable to the topic of this research are the studies that examine the weight-related trends that exist on the social media website Instagram, principally body positivity and fitspiration. Body positivity is defined as a social movement dedicated to body-based acceptance, love and compassion while fitspiration refers to posts that encourage body dissatisfaction, weight loss and fitness. One study presented participants with either self-compassionate body positive or thin ideal media and found that the body positive media caused improvements in the participants' mood, body satisfaction and body appreciation (Cohen et al. 2019). One study compared the kinds of fitspiration and self-compassion quotes that are found on some Instagram pages, and found that the self-compassion quotes had a positive effect on both body image and mood (Slater et al. 2017). Looking only at fitspiration messages, researchers found that they had a negative impact on mood and body satisfaction (Tiggemann & Zaccardo, 2015).

When considering the question of why precisely these messages and images have an impact on body image, there are two main theories to take into consideration, self-discrepancy theory and social comparison theory. The first, self-discrepancy theory, describes the way that people may experience a discrepancy between their actual, ideal and "ought" selves (with ought selves being the selves that we know we ought to have based on societal standards) and will experience affective responses depending on the

kind of discrepancy that occur (Higgins 1987, quoted in Clayton, Ridgway & Hendrickse 2017). In the case of body image, women may experience a discrepancy between how they perceive their bodies and the way they know their bodies ought to look based culturally influenced thin ideals, and will consequently experience emotions like anxiety and tension because of their failure to meet the expectations imposed upon them (Higgins 1987, quoted in Clayton, Ridgway & Hendrickse 2017). These thought processes are hypothetically activated when women are exposed to thin-ideal media or media that encourages a self-critical mindset around weight.

The second theory, social comparison theory, states that we learn about the world by comparing ourselves to others, either in upward comparisons or downward comparisons, with the former being comparisons with those we perceive as being better than us and the latter being comparisons with those we perceive as being worse than us (Lewis & Weaver 2016, quoted in Clayton, Ridgway & Hendrickse 2017). Researchers have found that body image comparisons are much more frequent when women are presented with images of other women that exemplify an ideal body as opposed to non-ideal bodies (Tiggeman & McGill 2004, Clayton, Ridgway & Hendrickse 2017). This theory goes a long way in explaining the proposed effect of body positive media representing women with non-ideal bodies.

With this entire sum of knowledge in mind, it becomes apparent that investigating the impact of such social media trends can contribute a great deal of information to the greater field of research on body image. How do the messages of self-love interact with the diversity of body types that may be presented in these posts? Are the messages themselves more important, or are the images of women's bodies more important? Are

they merely platitudes that have no real impact, or are these messages that are truly effective for women to hear? What is the impact of the pro-weight loss messages that have begun to slip through the cracks of the body positive movement? These questions are deemed extremely important and relevant ones by the researcher and serve as the justification for the present line of study, focusing on the potential interaction between message valence (positive or negative) and body size (thin or large) in Instagram posts.

The main predictions of this study are as follows: the women who view posts featuring both body positive messages and large bodies will show the greatest improvements in body image and mood after exposure and following them will be the group exposed to positive messages. The group exposed to large bodies and negative messages are predicted to decrease in body image and mood and the group exposed to thin bodies and negative messages are predicted to show the greatest decreases. Thusly, the presenting body size and message valence will interact and show either improvement or a decrease in mood and body image. All of these relationships will be influenced by the score (high or low) of social body comparison and thin-ideal internalization as measured by the Body Comparison Scale and Sociocultural Attitudes Towards Appearance Questionnaire-3. The higher the body comparison and internalization the less impact the positive interventions will have while the negative interventions will increase in efficacy. Finally, each participant's own weight is predicted to have an impact on their results - thin and average participants (less than 160 pounds) will have less of a response to the images of large women, while large women (more than 160 pounds) will have an increased response to images of large women.

Methodology

The design of this experiment is a 2 x2 factorial design with the independent variables of body size (large and thin) and message valence (positive and negative). The dependent variables are body image and mood, and covariates include age, weight, body comparison and thin-ideal internalization.

16 fake Instagram posts were generated for each level of exposure using a simulated Instagram post generator on Zeoob.com. Positive and negative posts were created to present to participants. The first independent variable, body size, was operationalized by establishing thin and large body sizes using face validity and the results of specific Google image searches using the key phrases “thin” and “fat.” All images of women were matched for characteristics such as race, hair color and how revealing their clothing was (number of women in swimsuits as opposed to dresses, for example.) Figure 1 demonstrates the operationalization of body size.



Figure 1: Large vs. thin operationalization

The second independent variable, message valence, was operationalized by writing messages that were inspired by either body positivity posts or self-critical/thin ideal posts found on Instagram. Positive messages featured the following themes: self-compassion, self-acceptance, self-love, beauty, and resisting the thin ideal. Negative messages featured the following themes: weight loss/thinness as a goal, self-consciousness, self-criticism, ugliness, insecurity and fatness as a negative trait. Figure 2 demonstrates the operationalization of message valence.

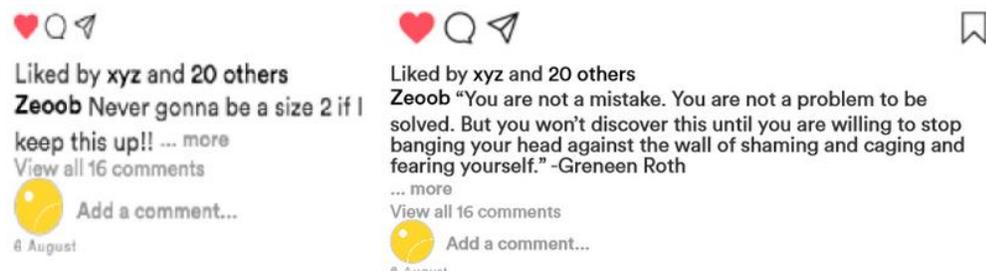


Figure 2: Message valence operationalization

The dependent variable of body image was operationalized using the Body-Esteem Scale for Adolescents and Adults (BESAA), a measure that has demonstrated itself to be a valid and reliable measure of adult and adolescent feelings about the body in the following categories, each represented by a subscale: general feelings about appearance, weight satisfaction, and others' evaluations of one's body and appearance, referred to as attribution (Mendelson and White, 1997). The BESAA is a 23-question scale with 10 measures in the appearance subscale, 8 questions in the weight subscale,

and 5 questions in the attribution subscale. Participants respond on a 0 (never) to 4 (always) Likert scale of questions such as the following: “I feel I weigh the right amount for my height.”

The dependent variable of mood was operationalized using the Pleasant-Unpleasant scoring of the Brief Mood Intervention Scale (BMIS) (Mayer and Gaschke 1988). The scale is comprised of sixteen mood adjectives (“gloomy,” “peppy” etc.) which the participant must respond to on a Meddis scale ranging from XX (definitely do not feel) to VV (definitely feel). The Meddis scores are then converted to a four-point scale so that XX is set to 1, X to 2, V to 3 and VV to 4. The Pleasant-Unpleasant scoring was used because it was the most comprehensive of the scoring options and matched most closely to the mood valances that were of interest in this research.

The covariate of thin ideal internalization was operationalized using the Sociocultural Attitudes Towards Appearance Questionnaire 3 (SATAQ 3), a 30-question measure using a Likert response system ranging from 1 (definitely disagree) to 5 (definitely agree). The validity and reliability of the questionnaire has been demonstrated by Thompson et. Al. (2003). It features four subscales: internalization-general with 9 questions, internalization-athlete with 5 questions, pressures with 7 questions, and information with 9 questions (Thompson et. al 2003). An example of an internalization-general question is as follows: “I do not care if my body looks like the body of people who are on TV.”

The covariate of body comparison was operationalized using the Body Comparison Scale (BCS), a 20 question measure that uses a 1(never) to 5 (always) Likert

scale to determine the extent to which participants compare each aspect of their own body to other people of their own sex. The three subscales are general (9 questions), muscle (5 questions) and weight (4 questions), and the measure's reliability and validity have also been demonstrated by Thompson and fellow researchers (Thompson et al. 2002). A sample question asks a participant to "rate how often you compare your stomach, thighs or calves to a same-sex peer."

162 participants were recruited through social media and through SONA at a large Western university, where they were awarded 2 credits for their participation in the research. All participants were screened for gender and history. All participants were female and did not disclose any history of eating disorders. Participants were informed of the potentially distressing nature of the thin/negative exposures. The experiment itself was run exclusively online through the program PsyToolkit. Upon receiving the link participants electronically signed their informed consent and then had an unlimited amount of time to work through the experiment. Demographics (weight and age) were collected first, and then participants completed the SATAQ 3, BCS, BMIS and BESAA. Following this they were randomly assigned to one of the experimental conditions using PsyToolkit's random assignment feature, coded into the experiment after the initial tests.

Group 1 viewed 16 images of large bodies with positive messages, group 2 viewed 16 images of large bodies with negative messages, group 3 viewed 16 images of thin bodies with positive messages and group 4 viewed 16 images of thin bodies with negative messages. The experimental exposure also featured an attention check measure wherein the participant was required to describe the details of the outfit featured in the

image. After the exposure, BMIS and BESAA data was gathered again. Participants were provided with a list of resources including counseling services, crisis support hotlines and body image support groups.

Results

Participants who ignored the attention check and participants who demonstrated no change across the pretest and posttests were removed from analysis. With these participants removed, 136 participants remained. Pretest data was checked using box plots and histograms to ensure normal distributions, and outliers were removed. The total BESAA and BMIS scores were calculated by subtracting participants' posttest scores from their pretest scores for each subscale. Two-way ANCOVAs were performed for each dependent variable. Independent samples and two-tailed T-tests were performed for the groups whose differences were found to be statistically significant.

Descriptive statistics for each BESAA and BMIS subscale are presented in Table 1, while descriptive statistics for each SATAQ 3 subscale are presented in Table 2. Descriptive statistics for each Body Comparison Scale subscale are presented in Table 3 and descriptive statistics for age and weight scores are presented in Table 4.

Group	BESAA attribution change mean	BESAA attribution standard deviation	BESAA appearance change mean	BESAA appearance standard deviation	BESAA weight change mean	BESAA weight standard deviation	BMIS mean	BMIS standard deviation
1: Large positive	.048	1.622	-.048	3.215	.809	2.424	.881	2.948
2: Large negative	-.333	.963	-.542	3.575	.470	2.335	-1.208	2.874
3: Thin positive	.015	1.716	-.182	2.242	0.000	1.871	.212	2.521

4: Thin negative	-.556	1.520	-.194	3.560	.222	2.368	-.917	2.247
------------------	-------	-------	-------	-------	------	-------	-------	-------

Table 1: Means and standard deviations for BESAA attribution, BESAA appearance, BESAA weight, and BMIS, for large positive, large negative, thin positive and thin negative groups.

Group	Internalization - general mean	Internalization - general standard deviation	Internalization -athlete mean	Internalization -athlete standard deviation	Pressures Mean	Pressures Standard deviation	Information mean	Information Standard deviation
1: Large positive	25.714	9.045	15.429	4.619	20.095	7.595	22.500	8.089
2: Large negative	26.833	8.859	15.429	5.438	20.583	8.076	24.625	6.398
3: Thin positive	26.333	8.905	15.382	4.619	20.206	7.595	21.765	7.889
4: Thin negative	23.639	10.215	16.500	5.305	20.583	8.076	23.444	7.564

Table 2: Means and standard deviations for SATAQ 3 subscores: internalization- general, internalization-athlete, pressures and information, for large positive, large negative, thin positive and thin negative groups.

Group	General mean	General standard deviation	Muscle mean	Muscle standard deviation	Weight mean	Weight standard deviation
1: Large positive	21.643	7.398	14.548	5.181	15.595	4.191
2: Large negative	20.750	5.848	14.000	3.901	14.875	3.055
3: Thin positive	20.235	4.349	13.706	4.189	15.000	3.651
4: Thin negative	21.167	6.649	14.444	4.312	14.750	4.965

Table 3: Means and standard deviations for Body Comparison Scale subscores: general, muscle and weight, for large positive, large negative, thin positive and thin negative groups.

Group	Weight mode	Weight median	Age mean	Age standard deviation
1: Large positive	100-130	131-160	26.439	12.673
2: Large negative	100-130	131-160	23.000	9.212
3: Thin positive	100-130	131-160	24.945	11.032
4:Thin negative	100-130	100-130	25.167	11.874

Table 4: Modes and medians for weight and means and standard deviations for age, for large positive, large negative, thin positive and thin negative groups.

Two-way ANCOVA tests were then performed to determine if body size and message valence interacted to create an effect in terms of each of the dependent variables (BESAA attribution, weight and appearance and BMIS), taking into consideration each of the covariates (age, weight, SATAQ 3internalization-general, SATAQ 3internalization-athlete, SATAQ 3pressure, SATAQ 3information, Body Comparison Scale general, Body Comparison Scale muscle, and Body Comparison Scale weight).

For the BMIS ANCOVA (Table 1), message valence had a significant main effect ($F(1, 132)=9.386$), $p=.003$ while body size had no significance ($F(1, 132)=.149$, $p=.700$). Figure 3 depicts the estimated marginal means for BMIS scores across the four groups. There was no significant interaction between body size and message valence ($F(1, 132)=1.127$, $p=.290$) and none of the covariates showed any level of significance (SATAQ 3internalization- general: $F(1, 132)=.070$, $p=.791$, SATAQ 3internalization -athlete: $F(1, 132)=.218$, $p=.641$, SATAQ 3pressure: $F(1, 132)=.239$, $p=.626$, SATAQ 3 information: $F(1, 132)=1.106$, $p=.305$, Body Comparison Scale general: $F(1, 132)=1.106$, $p=.305$, Body Comparison Scale muscle: $F(1, 132)=.589$, $p=.444$, Body Comparison Scale Weight: $F(1, 132)=1.709$, $p=.194$, age: $F(1, 132)=.034$, $p=.854$, weight: $F(1, 132)=.883$, $p=.349$).

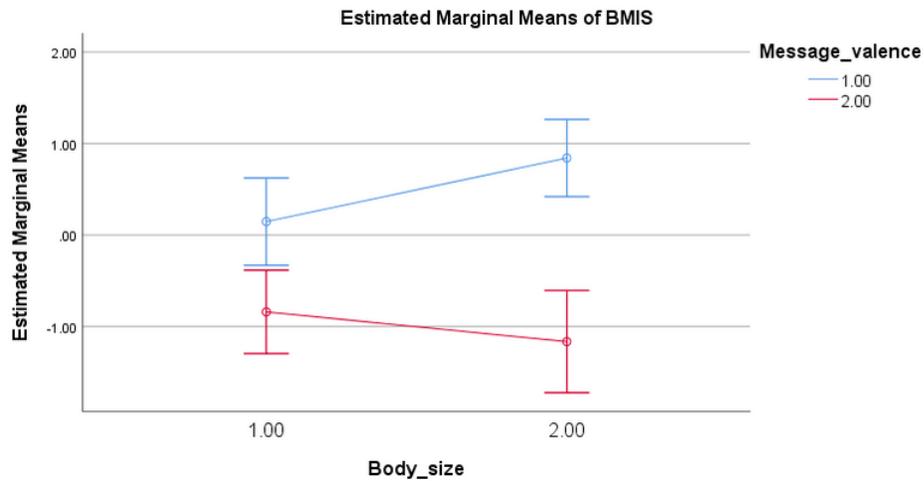


Figure 3: the estimated marginal means of BMIS scores for large positive, large negative, thin positive and thin negative groups. Message valence 1.00 is negative and 2.00 is positive while body size 1.00 is thin and body size 2.00 is large. Error bars indicate +/- 1SE.

For the BESAA attribution ANCOVA (Table 1), no significant effects were found for body size ($F(1, 132)=.283, p=.596$), message valence ($F(1, 132)=2.794, p=.097$) or the interaction between body size and message valence ($F(1, 132)=.025, p=.874$). None of the covariates showed any level of significance (SATAQ 3internalization- general: $F(1, 132)=.042, p=.838$, SATAQ 3 internalization- athlete: $F(1, 132)=.090, p=.765$, SATAQ 3pressure: $F(1, 132)=.248, p=.618$, SATAQ 3information: $F(1, 132)=.361, p=.549$, Body Comparison Scale general: $F(1, 132)=.690, p=.408$, Body Comparison Scale muscle: $F(1, 132)=.069, p=.973$, Body Comparison Scale weight: $F(1, 132)=.004, p=.952$, age: $F(1, 132)=1.066, p=.304$, and weight: $F(1, 132)=.003, p=.959$).

For the BESAA appearance ANCOVA (Table 1), no significant effects were found for body size ($F(1, 132)=.072, p=.788$), message valence ($F(1, 132)=.151, p=.698$), or the interaction between body size and message valence ($F(1, 132)=.127, p=.722$). The only covariate with a level of significance was weight ($F(1, 132)=10.813, p=.001$) and the others demonstrated no

significance (SATAQ 3internalization- general: $F(1, 132)=.452$ $p=.503$, SATAQ 3internalization-athlete: $F(1, 132)=.292$, $p=.590$, SATAQ 3pressure: $F(1, 132)=.542$, $p=.463$, SATAQ 3information: $F(1, 132)=.833$, $p=.363$, Body Comparison Scale general: $F(1, 132)=0$, $p=.993$, Body Comparison Scale muscle: $F(1, 132)=.001$, $p=.971$, Body Comparison Scale weight: $F(1, 132)=.878$, $p=.351$, age: $F(1, 132)=1.185$, $p=.278$).

For the BESAA weight ANCOVA (table 1), no significant effects were found for body size ($F(1, 132)=.234$, $p=.630$), message valence ($F(1, 132)=1.210$, $p=.274$), or the interaction between body size and message valence ($F(1, 132)=2.336$, $p=.129$). None of the covariates demonstrated any level of significance (SATAQ 3internalization- general: $F(1, 132)=.774$, $p=.381$, SATAQ 3internalization athlete: $F(1, 132)=.087$, $p=.768$, SATAQ 3pressures: $F(1, 132)=.083$, $p=.774$, SATAQ 3information: $F(1, 132)=.983$, $p=.323$, Body Comparison Scale general: $F(1, 132)=.010$, $p=.919$, Body Comparison Scale muscle: $F(1, 132)=.648$, $p=.422$, Body Comparison Scale weight: $F(1, 132)=.002$, $p=.969$, age: $F(1, 132)=.005$, $p=.946$, and weight: $F(1, 132)=.569$, $p=.452$)

Independent samples T tests (two-tailed) were performed as post-hoc tests for the BMIS groups (table 1) as BMIS was the only dependent measure to demonstrate any significant level of change. There was a statistically significant difference between the large positive and large negative groups ($t(66)=.010$, $p=.007$) and the large positive and thin negative groups ($t(79)=1.499$, $p=.004$). None of the other groups demonstrated any significant level of difference (large positive and thin positive: $t(75)=.330$, $p=.253$, large negative and thin positive: $t(57)=.172$, $p=.062$, large negative and thin negative: $t(61)=1.030$, $p=.661$, and thin positive and thin negative: $t(70)=.485$, $p=.066$).

Discussion

The main prediction for this study was that body size and message valence in the Instagram images would interact to change participants' body image and mood for better or worse depending on the combinations involved: the large positive group would improve the most, with the thin positive group also improving. The thin negative group would decrease more than the large negative group. All of these relationships would be mediated by body comparison, thin ideal internalization and the participants' own weight.

After exposing the participants to the simulated Instagram posts and measuring their body image and mood before and after, only the hypothesis that positive interventions would increase mood was supported. As previously mentioned, the BMIS ANCOVA for message valence demonstrated significant main effect ($F(1, 132)=9.386$), $p=.003$ and T tests showed a statistically significant difference between the large positive and large negative groups ($t(66)=.010$, $p=.007$) and the large positive and thin negative groups ($t(79)=1.499$, $p=.004$). Considering message valence, the large positive group was significantly different from the thin and large negative groups. In other relationships measured, the null hypothesis was accepted as differences between groups were not supported as by statistically significant relationships. From this, one possible conclusion is that in the given intervention, body size and mood did not independently inform body image or mood, nor did they interact to do so. Participant body weight, thin ideal internalization and body comparison had no effect on the impact of the interventions.

Implications

Spending a few minutes looking at 16 Instagram posts online did not have an effect on body image. The experimental evidence that was found does not support either

of the theories about body image previously discussed (social comparison and self-discrepancy) as both were related to changes in body image and no significant changes in body image were found in this study. Mechanisms of body image change through self-discrepancy theory and social comparison theory have been demonstrated in numerous other studies similar to this one, and further research is necessary to determine why significant effects have been demonstrated in other studies and not in this one.

Hypothetically, it may be that the theories explaining changes in body image explored in the introduction may require more complex/drastic/intense interventions than the one that was implemented here in order to manifest significant changes. Body image seems to be robust enough to withstand change in the face of this intervention.

Additionally, the Internet medium of this experiment may bring its simulation closer to the actual lived experience of viewing posts on Instagram for a few minutes at a time with potential distractions and divided attention.

It may be good news for women who use social media that viewing images of women's bodies online, as they did with a small number (16) of images in the current study, did not have a measurably detrimental impact upon their perceptions of their bodies or moods, although future studies for long term exposure may help inform these relationships. It may be extremely important to determine exactly what about this particular intervention made its impact insignificant while other exposures to the thin ideal have proven to have a significant negative effect, as demonstrated in the cumulative body of research explored previously in this paper. Such a discovery could provide us with a great deal of insight into the mechanisms of change involved in body image and the ways that women can mitigate exposures that are damaging to their mental health.

Considering the significant relationship that was found between message valence and mood, one possible explanation lies in the field of positive psychology, which emphasizes the human capacity for positive, constructive traits such as hope, courage, compassion and perseverance (Seligman and Csikszentmihalyi 2000) Interventions designed to draw attention to the good in participants' lives and bring awareness to the positive qualities that participants already possess have demonstrated significant and lasting increases in their happiness (Seligman et al. 2005). Given that the positive valence messages in this study also emphasized messages of self-compassion, acceptance and love and demonstrated significant changes for the better, it may be possible to explain this significant relationship through the mechanisms that have shown positive psychology to be an effective intervention in improving mood.

Limitations

Several limitations are present in the current study. Comparisons were initially made to other similar body image studies to ensure that the number of images shown in this study was sufficient to potentially produce an effect. 16 images per group were used in this study while 12 images per group were used in Clayton, Ridgeway and Hendrickse's 2017 study of plus-size images in advertising and 2 images per group were used in Halliwell & Dittmar's 2004 study on the average and thin-sized models in advertising. It is still possible that more or different images might produce a stronger effect. Future studies might look at the various effects of total image exposure.

Another potential limitation of this research was that it was conducted entirely online, with no controlled laboratory setting or researchers to ensure participants are not influenced by extraneous stimuli. An online study provides less ideal conditions for

controlling the participant's environment. It is possible that completing a study remotely might make it easier for participants to simply click through responses and exposure images without truly engaging with them. A laboratory setting might increase the possible control and the amount of time spent on each image. To ensure equivalent exposure, future studies could increase control by having the captions read aloud or, by adding an automatic timer for viewing each image.

An additional shortcoming of this research is that the independent variables of body size and message valence were operationalized using face validity alone. Ideally a pilot study should be run to ensure that the images and messages that were selected for each Instagram post truly operationalize the ideas of thinness, largeness, positivity and negativity they are meant to represent in an accurate and meaningful way.

In addition, the measure used to collect information about the participants' body size was a simple measure of weight range (under 100 pounds, 101-130 pounds etc). This was chosen so that participants would not have to take time to compute their body mass index (BMI) and out of a concern for the potential aversiveness/invasiveness of having to report one's exact weight for a study. On reflection, BMI is a more useful and specific measure of body size in the participants.

Future Directions

When considering future directions for research with these limitations in mind, it becomes apparent that a modified version of this study might include laboratory implementation to control for outside distractions and ensure that participants are exposed to the images for enough time and actually read the captions. In addition, the independent variables would be operationalized using more rigorous methods than mere

face validity; ideally this would take the form of a pilot study used to assess the validity of the operationalizations. Finally, BMI would be used as the measure of body size as opposed to a weight range measure.

Seeing that message valence alone had a significant impact upon mood outcomes, a further avenue of research might be to compare the effect of positive and negative messages about body image on mood alone without images of bodies to accompany them. Additional research could then compare messages alone to messages accompanied by images to determine their efficacy in changing mood. Given that the relationship between the thin ideal and poor mood and body image is already better established, a novel approach to this research could also be to focus exclusively on positive interventions.

Another intervention that might more closely resemble the real-world experience of viewing posts on Instagram could have participants spend several minutes a day viewing these posts over the course of a longer period of time, perhaps the course of a week or two weeks. It is possible that such an intervention would demonstrate results that closely mirror the results that actually come from spending a few minutes a day on Instagram, while the present study provided only one viewing session.

Works Cited

- Bell, B. T., & Dittmar, H. (2011). Does Media Type Matter? The Role of Identification in Adolescent Girls' Media Consumption and the Impact of Different Thin-Ideal Media on Body Image. *Sex Roles, 65*(7-8), 478–490. doi: 10.1007/s11199-011-9964-x
- Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on Instagram: Effect on womens mood and body image. *Body Image, 19*, 37–43. doi: 10.1016/j.bodyim.2016.08.007
- Clayton, R. B., Ridgway, J. L., & Hendrickse, J. (2017). Is plus size equal? The positive impact of average and plus-sized media fashion models on women's cognitive resource allocation, social comparisons, and body satisfaction. *Communication Monographs, 84*(3), 406–422. doi: 10.1080/03637751.2017.1332770
- Cohen, R., Fardouly, J., Newton-John, T., & Slater, A. (2019). #BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image. *New Media & Society, 21*(7), 1546–1564. doi: 10.1177/1461444819826530
- Cohen, R., Newton-John, T., & Slater, A. (2017). The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women. *Body Image, 23*, 183–187. doi: 10.1016/j.bodyim.2017.10.002
- Dittmar, H. (2009). How do "body perfect" ideals in the media have a negative impact on body image and behaviors? Factors and processes related to self and identity. *Journal of Social and Clinical Psychology, 28*(1), 1–8.

- Durkin, S. J., & Paxton, S. J. (2002). Predictors of vulnerability to reduced body image satisfaction and psychological wellbeing in response to exposure to idealized female media images in adolescent girls. *Journal of Psychosomatic Research*, 53(5), 995–1005. doi: 10.1016/s0022-3999(02)00489-0
- Fisher, E., Dunn, M., & Thompson, J. K. (2002). Social Comparison And Body Image: An Investigation Of Body Comparison Processes Using Multidimensional Scaling. *Journal of Social and Clinical Psychology*, 21(5), 566–579. doi: 10.1521/jscp.21.5.566.22618
- Halliwell, E., & Dittmar, H. (2004). Does Size Matter? The Impact of Models Body Size on Womens Body-Focused Anxiety and Advertising Effectiveness. *Journal of Social and Clinical Psychology*, 23(1), 104–122. doi: 10.1521/jscp.23.1.104.26989
- Hendrickse, J., Arpan, L. M., Clayton, R. B., & Ridgway, J. L. (2017). Instagram and college womens body image: Investigating the roles of appearance-related comparisons and intrasexual competition. *Computers in Human Behavior*, 74, 92–100. doi: 10.1016/j.chb.2017.04.027
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94(3), 319–340. doi: 10.1037//0033-295x.94.3.319
- Holmstrom, A. J. (2004). The Effects of the Media on Body Image: A Meta-Analysis. *Journal of Broadcasting & Electronic Media*, 48(2), 196–217. doi: 10.1207/s15506878jobem4802_3

- Kleemans, M., Daalmans, S., Carbaat, I., & Anschütz, D. (2016). Picture Perfect: The Direct Effect of Manipulated Instagram Photos on Body Image in Adolescent Girls. *Media Psychology*, *21*(1), 93–110. doi: 10.1080/15213269.2016.1257392
- Lewis, N., & Weaver, A. J. (2016). Emotional Responses to Social Comparisons in Reality Television Programming. *Journal of Media Psychology*, *28*(2), 65–77. doi: 10.1027/1864-1105/a000151
- López-Guimerà, G., Levine, M. P., Sánchez-Carracedo, D., & Fauquet, J. (2010). Influence of Mass Media on Body Image and Eating Disordered Attitudes and Behaviors in Females: A Review of Effects and Processes. *Media Psychology*, *13*(4), 387–416. doi: 10.1080/15213269.2010.525737
- Mayer, J. D., & Gaschke, Y. N. (2013) . Brief Mood Introspection Scale (BMIS) . Measurement Instrument Database for the Social Science. Retrieved from www.midss.ie
- Mendelson, B. K., White, D. R., & Mendelson, M. J. (1997). *Manual for the body-esteem scale for adolescents and adults*. (Res. Bull. 16, No. 2). Montreal: Concordia University.
- Peck, J., & Loken, B. (2004). When will larger-sized female models in advertisements be viewed positively? The moderating effects of instructional frame, gender, and need for cognition. *Psychology and Marketing*, *21*(6), 425–442. doi: 10.1002/mar.20012

- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5–14. <https://doi-org.unr.idm.oclc.org/10.1037/0003-066X.55.1.5>
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive Psychology Progress: Empirical Validation of Interventions. *American Psychologist*, 60(5), 410–421. <https://doi-org.unr.idm.oclc.org/10.1037/0003-066X.60.5.410>
- Slater, A., Varsani, N., & Diedrichs, P. C. (2017). #fitspo or #loveyourself? The impact of fitspiration and self-compassion Instagram images on women’s body image, self-compassion, and mood. *Body Image*, 22, 87–96. doi: 10.1016/j.bodyim.2017.06.004
- Thompson, J. K., Berg, P. V. D., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004). The sociocultural attitudes towards appearance scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders*, 35(3), 293–304. doi: 10.1002/eat.10257
- Tiggemann, M., & McGill, B. (2004). The Role of Social Comparison in the Effect of Magazine Advertisements on Womens Mood and Body Dissatisfaction. *Journal of Social and Clinical Psychology*, 23(1), 23–44. doi: 10.1521/jscp.23.1.23.26991
- Tiggemann, M., & Zaccardo, M. (2015). “Exercise to be fit, not skinny”: The effect of fitspiration imagery on womens body image. *Body Image*, 15, 61–67. doi: 10.1016/j.bodyim.2015.06.003

