The Effects of Exposure to Body Positive and Fitspiration Instagram Content on Undergraduate Women’s State Body Satisfaction, State Body Appreciation, and Mood

by

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ABSTRACT

The promulgation of the thin-ideal is associated with bulimia, dieting, supplement use, negative affect, and body dissatisfaction. “Fitspiration” was created as an “antidote” to the thin-ideal through the promotion of healthy eating and exercise; however, research indicates Fitspiration continues to promote the thin-ideal with similarly detrimental outcomes. Recently, research has shifted from a focus on body disturbance to concepts of positive body image (Halliwell, 2015), often researched through the concept of body appreciation. While the research is limited, a few studies have shown increases in body appreciation and mood after viewing body positive images. Therefore, the purpose of this study was to experimentally examine the impact of exposure to body positive and Fitspiration Instagram images on the body satisfaction, body appreciation, and mood of undergraduate women. Participants were 98 female undergraduate students (18-29 years old) currently attending Arizona State University. Participants were randomly assigned to view Fitspiration, Body Positive, or appearance neutral Instagram images. Dependent variables of state body appreciation, state body dissatisfaction, and state mood were measured using Visual Analogue Scales. Trait thin-ideal internalization, trait social comparison, and body mass index (BMI) were included as covariates. Qualitative short-answer questions were included as an exploratory aim. A one-way analysis of covariance (ANCOVA) was used to examine group differences in post-test scores followed by post-hoc analyses using the Bonferroni correction when significant. After controlling for baseline score, trait thin-ideal internalization, trait social comparison, and BMI, post-test body appreciation scores within Fitspiration condition were significantly lower than the control (MD= 9.818, SE=3.743, p=.031) and Body Positive condition (MD=9.372,
SE=3.492, p=0.26). After controlling for baseline score, trait thin-ideal internalization, trait social comparison, and BMI, the Body Positive condition demonstrated significantly higher post-test body satisfaction scores than the control (MD= 11.134, SE=3.093, p=.002) and Fitspiration condition (MD=17.312, SE=3.092, p=<.001). After controlling for baseline scores, mean post-test positive mood scores within the Fitspiration group were significantly lower than the Body Positive condition (MD=-0.378, SE=.135, p=.019). There were no differences in post-test negative mood across conditions. Findings suggest short-term exposure to body positive images may improve body appreciation, Body Positivity, and positive mood among undergraduate females.
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CHAPTER 1

Body dissatisfaction has been labeled as a primary determinant of many eating disorders including anorexia and bulimia (Fiske et al., 2014, Fallon, Harris, and Johnson, 2014, Uhlmann et al, 2018, Karrazsia, Muren, & Tylka, 2017). It has also been linked to decreased likelihood of individuals performing cancer screenings or self-exams (Fallon, Harris, and Johnson, 2014). Though many factors may contribute to body dissatisfaction, the “thin-ideal” has consistently been noted as having particular influence on body dissatisfaction. Indeed, thin-oriented body dissatisfaction has been distinguished as one of the strongest predictors of disordered eating (Karrazsia, Muren, & Tylka, 2017). Such negative outcomes have grave costs. Eating disorder treatment programs for a single individual can range from $1288 to $8042 U.S. dollars each year (Fallon, Harris, and Johnson, 2014). While the relationship between thin-ideal media and the detrimental impacts of its’ influence are well established, less is known about the impact that other beauty standards may have on individual’s mental and physical well being.

Much of the research examining the relationship between body image and body dissatisfaction among women has focused on the “thin-ideal” body image. Though the mediums through which beauty standards are spread have changed, obsession with the thin-ideal beauty standard has remained. Thin-ideal media (often referred to as ‘Thinspiration’) features individuals or text photos that promote unhealthy weight loss or eating patterns for the sake of achieving an appearance that is incredibly lean. Current research has associated concern for the thin-ideal with bulimia, dieting, supplement use, negative affect, and body dissatisfaction (Uhlmann et al, 2018). Historically, the “thin-ideal” body image was promoted within traditional media such as magazine or television
advertisements and supermodels. However, in today’s culture, this thin-ideal is pervasively diffused through Thinspiration and Fitspiration imagery on social media. Though intended to promote behaviors such as consuming a healthy diet and exercise participation, Fitspiration media generally promotes these habits for the sake of appearance rather than health. Fitspiration continues to promote the thin-ideal by featuring individuals that are both incredibly toned and lean. While some research has examined the relationship between Fitspiration media, Thinspiration media, and their impacts on mental and physical well-being, research is still fairly limited. Given the popularity of these beauty trends, it is important to understand their effects on women’s body dissatisfaction, body appreciation, and mood.

Though Facebook remains the most popular social networking site (Fardouly & Vartanian, 2016), Instagram has rapidly grown to over 1 billion active monthly users (Instagram, 2019). A demographic particularly vulnerable to the potential negative impacts of Fitspiration and Thinspiration Instagram exposure are young women aged 18-29 (Slater, Varsani, & Diedrichs, 2017). Findings from the Pew Research Center (2019) suggest that 67% of 18-to-29-year olds use Instagram, and that 76% of such users visit Instagram at least once daily. Previous studies have noted Instagram’s unique ability to transmit sociocultural body image ideals (Prichard et al, 2018) through photo sharing. Instagram instantly connects users to photos of both peers and the broader public, allowing individuals to be both consumers and creators of media content. However, such immediate connection also allows for rapid appearance comparisons to often idealized and filter-enhanced images (Tiggemann & Zaccardo, 2015). As Social Comparison Theory suggests individuals will readily compare themselves to those perceived as
similar to oneself (Brown & Tiggemann, 2016), it is plausible that viewing content of peers, either known or unknown to the individual, may instigate individuals’ body satisfaction or mood. A content analysis of Fitspiration imagery across Facebook, Instagram, Twitter, and Tumblr found that the most posted content tagged with the hashtag “fitspo” was found on Instagram (Carrotte, Prichard, & Lim, 2017). Given both the popularity of and pervasiveness of Thinspiration and Fitspiration content on this social networking site, the current study chose Instagram as the medium to examine the potential impacts that viewing such imagery may have on body appreciation, body dissatisfaction, and mood.

A number of theories and models have been described within the literature to explain the relationship between viewing Fitspiration or Thinspiration and the observed impacts of such. Social Comparison Theory has often been cited to explain the relationship between social media exposure and the observed negative effects on body satisfaction and mood (Fardouly et al., 2015, Brown & Tiggemann, 2016, Tiggemann & Zaccardo, 2018, Robinson et al., 2017). Brown & Tiggemann (2016) note that the damaging impact of viewing thin-idealized media is often attributed to the innate drive individuals have to compare themselves to others. Thus, as individuals compare themselves to seemingly unattainable Thinspiration and Fitspiration images on social media, they may indeed perceive themselves as falling short of this sociocultural norm, leading to greater body dissatisfaction, less body appreciation, and more negative mood.

Another theory commonly identified within the literature is Fredrickson and Roberts’ (1997) Self Objectification Theory (Prichard et al., 2018, Tiggemann and Zaccardo, 2016). Self Objectification Theory asserts that the body is an object to be viewed and in
the case of social media, sexualized, rather than something to be considered for its functional capacity (Prichard et al., 2018). Studies have illustrated that Thinspiration and Fitspiration media content not only objectify the women pictured (Boapple & Thompson, 2016, Boapple et al., 2016, Carrotte, Prichard, & Lim, 2017, Tiggemann & Zaccard, 2016), but also increase self-objectification of individuals that are exposed to such media (Alleva, Veldhuis, & Martijn, 2016, Cohen et al., 2019a, Prichard et al., 2018).

Much of the detrimental impact of viewing Thinspiration and Fitspiration social media has also been attributed to the internalization of the thin-ideal (Grabe, Ward, & Hyde, 2008, Uhlmann et al., 2018, Boapple & Thompson, 2016). The Tripartite Model asserts that internalization links sociocultural pressures, such as the thin-idea or fit-ideal, to outcomes to body dissatisfaction, dieting, and even clinical outcomes just as bulimic behavior or disordered eating (Uhlmann et al., 2018). A survey of over 74,000 women in 10 major world regions regarding body weight ideals and body dissatisfaction found that exposure to western media was associated with the thin-ideal figure, and that women in the Americans had greater body dissatisfaction that in other world regions (Swami et al., 2010). Current research links much of women’s body image dissatisfaction with their internalization of the media’s unrealistic appearance ideals, causing appearance comparisons and body dissatisfaction related outcomes (Cohen et al., 2019).

Thinspiration, or thin-ideal media, is regularly associated with decreased mental and physical health outcomes. In one of the most notable meta-analyses to date, Grabe, Ward, & Hyde (2008) conducted a review of the correlational and longitudinal research on thin-ideal media exposure and health outcomes. Results illustrated a relationship between thin-ideal media exposure, body dissatisfaction, internalization on thin-ideal, and
disordered eating behaviors (Grabe, Ward, & Hyde, 2008). Ultimately, this study created the consensus that viewing thin-idealized social media has detrimental effects to women’s mental and physical well-being.

Fitspiration, or fit-ideal social media, is intended to be a healthier alternative to Thinspiration media by promoting healthy eating and exercise. However, current literature supports the opinion that these images may be equally detrimental as they continue to incite greater body dissatisfaction and negative mood due to the unattainable nature of such photos (Uhlmann et al., 2018). Content analyses of Thinspiration and Fitspiration social media have found alarmingly similar appearance-motivated content. As much of the previous literature suggests that Thinspiration and Fitspiration both contribute to decreased body satisfaction and mood, Boapple & Thompson (2016) sought to better understand the underlying commonalities of Thinspiration and Fitspiration websites by conducting content analyses of each. While Thinspiration websites had a tendency to promote unhealthy messaging more frequently, results of this content analysis supported that both websites contained dangerous messaging regarding body weight, thinness, eating guilt, stigmatization, and objectification (Boapple & Thompson, 2016). Thus supporting the notion that while Fitspiration social media is intended to be an antidote (Uhlmann et al, 2018) against the detrimental messaging of Thinspiration, viewing such may in fact do more harm than good to women’s body image, eating behaviors, and mood. The findings of Boapple & Thompson (2016) have been well supported by other content analyses examining Fitspiration website content on different mediums of social media. Content analyses of Fitspiration websites support the observation that most of the women pictured are thin, toned, highly sexualized, and their
bodies were objectified (Carrotte, Prichard, & Lim, 2017, Boapple et al., 2016).

Following a novel study on the effects of Instagram Fitspiration on body satisfaction and mood (Tiggemann & Zaccardo, 2015), Tiggemann & Zaccardo (2016) conducted a content analysis of Fitspiration imagery specific to Instagram. Results of their study support the findings of previous Fitspiration content analyses and concluded that the majority of Fitspiration images portrayed an overwhelmingly homogenous (Slater, Varsani, & Diedrichs, 2017) body type that was objectified, thin and toned (Tiggemann & Zaccardo, 2018).

Content analyses are not the only research to support such findings. One of the most regularly cited studies on the impact of Fitspiration media was conducted by Tiggemann & Zaccardo (2015) to understand how viewing Fitspiration images influenced mood and body dissatisfaction compared to a control group. Participants were assigned to view either Fitspiration images or appearance-neutral travel images sourced from Instagram. Results of this study demonstrated that participants who were exposed to Fitspiration images had a significant increase in negative mood and body dissatisfaction compared to the control group (Tiggemann & Zaccardo, 2015). Since this study, a handful of researchers have conducted similar studies that support the relationship between body dissatisfaction and Fitspiration (Robinson et al., 2017, Prichard et al, 2018). Given the results of these studies and the aforementioned content analyses on Fitspiration, further research regarding the effects of Fitspiration Instagram content on body image is necessary.

While social media use has often been correlated with decreased body dissatisfaction (Prichard et al, 2018), many studies have also examined the negative effects of social
media on mood (Prichard et al, 2018, Tiggemann & Zaccardo, 2015, Fardouly et al., 2015, Brown & Tiggemann, 2016). Fardouly et al. (2015) found that greater time spent on Facebook resulted in greater negative mood than those in the control group. Similar findings related to increased negative mood have been observed after Instagram exposure to Fitspiration (Tiggemann & Zaccardo, 2015, Prichard et al., 2018), attractive celebrities and attractive unknown peers (Brown & Tiggemann, 2016).

A handful of studies have examined other methods of attenuating Fitspiration’s negative impacts on mood and body image, such as focus on inspiration to participate in exercise behavior (Robinson et al, 2017), self-compassion, or body functionality (Prichard et al., 2018, Slater, Varsani, & Diedrichs, 2017). As Fitspiration was intended to be a healthy alternative to Thinspiration through promotion of exercise and healthy eating, albeit mostly for appearance purposes (Boapple & Thompson, 2016), few studies have examined if such inspiration translates to actual behavior change. Robinson et al. (2017) randomly assigned participants to view either thin-ideal, athletic-idea, or muscular-ideal images and then performs a bout of exercise. Not only did researchers find that athletic and thin-ideal images led to greater body dissatisfaction, but also observed no significant difference in participant’s motivation to exercise (Robinson et al., 2017). Further, researchers found that athletic-ideal (fit-ideal) media exposure caused even greater increases in body dissatisfaction compared to participants exposed to Thinspiration images (Robinson et al., 2017).

Following Tiggemann & Zaccardo (2015)’s methods, Slater, Varsani, & Diedrichs (2017) examined potential protective role of self-compassion amongst individuals exposed to Fitspiration image. Subjects were randomized to view either self-compassion
content, Fitspiration and self-compassion content, Fitspiration-only content, or appearance neutral content from Instagram. Interestingly, while researchers found that Fitspiration content did not impact participants body satisfaction or mood, they did observe that participants who viewed both self compassion and Fitspiration content demonstrated more positive outcomes compared to the Fitspiration only group. The results of this study both warrant a need to continue research related to the effects of viewing Fitspiration Instagram content on body satisfaction, and also offer a potential avenue for future research regarding the role that concepts such as self-compassion may have in attenuating the negative impacts of viewing Fitspiration images.

In an attempt to potentially offset the self-objectification experienced from exposure to Fitspiration images, a handful of researchers have examined the impact of promoting body function and the effects of such on body satisfaction and body appreciation. Alleva, Veldhuis, & Martijn (2016) randomly assigned participants to describe either the meaningfulness of their body’s functionality, or to describe the routes they traveled to work to before being exposed to a series of thin-ideal imagery. Results of this study illustrated that those randomized to describe their body’s functionality scored higher functionality and body appreciation scores after viewing thin-ideal imagery than the control group.

Over the last decade, body image research has shifted from focus on body disturbance to examining concepts related to positive body image (Halliwell, 2015). One topic with increasing popularity on social media is the concept of Body Positivity. Within the literature, the concept of Body Positivity is described as holistic (Tylka & Wood-Barcalow, 2015) and defined by six major themes (Tylka & Wood-Barcalow, 2015,
Cohen et al., 2019a): body appreciation, body acceptance and love, conceptualizing beauty broadly, adaptive body care and investment, inner positivity, and protective filtering of information (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). A trend that has been only briefly studied is the #bodypositive movement on Instagram. A recent search of the hash tag “bodypositive” on Instagram elicits over 11 million posts (Instagram, 2019), alluding to the popularity of this content trend. Body positive content often portrays ideals that go against what is culturally accepted, and attempts to move away from focus on appearance often observed within Thinspiration or Fitspiration social media content (Cohen et al, 2019b). Within the literature, Body Positivity is often operationalized and researched through the concept of body appreciation, which encompasses valuing one’s body beyond just appearance to appreciate functionality, health, or special feature (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). The few studies that have examined this topic found associations between improved body satisfaction, body appreciation, and mood after viewing body positive images. Cohen et al., (2019a) recently performed a study comparing body positive content to Thinspiration and neutral images sourced from Instagram. Compared to participants who viewed Thinspiration images, those that were exposed to body positive images illustrated a significant increase in positive mood and body satisfaction. As expected, participants that viewed Thinspiration content experienced a significant decrease in mood and body satisfaction (Cohen et al, 2019a). These results held true even when researchers controlled for trait body appreciation (Cohen et al, 2019a). Such results are promising and provide a potential means for mitigating the detrimental effects of viewing Fitspiration or Thinspiration images on social media. These results are well supported by
a content analysis of body positive Instagram. Cohen et al., (2019b) found that the hash tag “bodypositivity” on Instagram portrayed a range of body sizes and appearances, and that the overwhelming majority contained components of Body Positivity including body appreciation, body acceptance and love, conceptualizing beauty broadly, adaptive investment in body care, inner positivity, and protective filtering of information (Cohen et al, 2019b).

To date, there are no known studies comparing the impact of exposure to Fitspiration, which is intended to promote healthy behaviors and well-being, to Body Positivity, which also intends to do the same. However, the aforementioned research may suggest that though both well intended, the two concepts may indeed have very different impacts on women’s feelings of body image and mood. Building on the recent study performed by Cohen et al. (2019a), the current study intended to fill this gap in the literature by examining the effects of both content themes on body satisfaction, body appreciation, and mood compared to appearance neutral images sourced from Instagram.

A majority of previous studies have used Visual Analogue Scales to measure the impact of viewing different social media content on body satisfaction, body appreciation, and mood based off of Heinberg and Thompson’s (1995) methods. In addition to quantitative measures of mood, the current study will included four, brief, qualitative short answer questions. We intend to use qualitative interview questions to add to the literature by exploring the specific aspects of each social media trend (Fitspiration, body positive, or appearance-neutral) that drive the observed body satisfaction and mood outcomes. This data is currently underreported within the literature.
Recommendations to stop or decrease Instagram use are unrealistic given the growing popularity of this social networking medium. Thus, alternative means of moderating or attenuating the observed detrimental effects of exposure to trends such as Thinspiration or Fitspiration on social media are necessary. If Body Positivity does illicit improved mood and body satisfaction, recommendations to increase exposure to such images may be a realistic and feasible way to attenuate the negative effects of viewing thin-idealized Instagram content. Based on evidence from previous experimental research, the following aims and hypotheses were created:

**STUDY PURPOSE**

The purpose of the present study was to experimentally examine the impact of exposure to body positive and Fitspiration Instagram content on the body satisfaction, body appreciation, and mood of undergraduate women at Arizona State University.

**RESEARCH AIMS AND HYPOTHESES**

**Specific Aim 1.** To experimentally investigate the impact of viewing “Fitspiration” and “body positive” content from Instagram on undergraduate women’s state body satisfaction compared to exposure to appearance neutral content.

*Hypothesis 1 (H₀).* Viewing Fitspiration and body positive content from Instagram will have no effect on undergraduate women’s state body satisfaction compared to appearance neutral content.

*Hypothesis 2 (H₁).* Based on Cohen et al. (2019b) findings, we hypothesize that viewing body positive content from Instagram will result in greater state body satisfaction compared to participants exposed to Fitspiration and appearance neutral content.
**Specific Aim 2.** To experimentally investigate the impact of viewing “Fitspiration” and “body positive” content from Instagram on undergraduate women’s state body appreciation compared to exposure to appearance neutral content.

*Hypothesis 3 (H_0).* Viewing Fitspiration and body positive content from Instagram will have no effect on undergraduate women’s state body appreciation compared to appearance neutral content.

*Hypothesis 4 (H_A).* Viewing body positive content from Instagram will result in greater state body appreciation compared to participants exposed to Fitspiration and appearance neutral content.

*Hypothesis 5 (H_A).* Viewing Fitspiration content from Instagram will result in decreased state body appreciation compared to participants exposed to body positive and appearance neutral content.

**Specific Aim 3.** To experimentally investigate the impact of viewing “Fitspiration” and “body positive” content from Instagram on undergraduate women’s state mood compared to appearance neutral content.

*Hypothesis 6 (H_0).* Viewing Fitspiration and body positive content from Instagram will have no effect on undergraduate women’s state mood when compared to appearance neutral content.

*Hypothesis 7 (H_A).* Based on Cohen et al. (2019) findings, we hypothesize that viewing body positive content from Instagram will result in greater state positive mood compared to participants exposed to Fitspiration and appearance neutral content.
**Hypothesis 8 (H₈).** Viewing Fitspiration content from Instagram will result in greater state negative mood compared to participants exposed to body positive and appearance neutral content.

**Specific Aim 4.** To qualitatively explore the specific aspects of each social media trend (Fitspiration, body positive, and appearance-neutral) that drives the observed body satisfaction, body appreciation, and mood outcomes.

**DEFINITION OF TERMS**

**Body Appreciation.** Valuing one’s body beyond just appearance to appreciate functionality, health, and special feature (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a).

**Body Image.** Individual’s perception of their body appearance, as well as the thoughts and feelings that result from this perception (Robinson et al, 2017).

**Body Positive.** Images that promote body appreciation, body acceptance and love, conceptualizing beauty broadly, adaptive investment in body care, inner positivity, and protective filtering of information (Cohen et al, 2019b).

**Body Satisfaction.** “Negative perceptions and feelings a person has about their body and is influenced by factors such as body shape and appearance, attitudes towards weight gain, and cultural norms in relation to an ideal body,” (McGuinness & Taylor, 2016).

**Fitspiration.** Fit-idealized images (also referred to as fitspo or fit-ideal), that promote toned and lean individuals, or content that promotes exercise or diet for appearance rather than health (Boapple & Thompson, 2016).
**Mood.** The emotional states or reactions of study participants either pre or post exposure to intervention.

**Negative Mood.** Negative mood is comprised of reported feelings of anger, anxiety, and depression scores at pre- and post-test.

**Positive Mood.** Positive mood is comprised of reported feelings of happiness and confidence at pre- and post-test.

**Thinspiration.** Thin-idealized images (also referred to as thinspo or thin-ideal), such as photos of individuals or text photos promoting unhealthy weight loss or eating patterns for appearance.

**LIMITATIONS AND DELIMITATIONS**

A potential limitation of this study was the use of solely undergraduate females at Arizona State University, which may inhibit the generalizability of this study’s findings. This study will use an experimental design, and participation will take place completely online. While this may have presented an opportunity for false survey responses, this format allowed participants to browse Instagram images within their setting of choice, much as they would normally browse social networking sites. While this may support the ecological validity of the current study, it does present opportunity for confounding variables (such as other people, surrounding distractions, false demographic information) to influence responses. Delimitations of this study include the option not to test moderators such as trait mood, trait body satisfaction, and self-objectification for the sake of feasibility. Additionally, the study only take place at one point in time, limiting researchers to conclusions related only to state feelings of body appreciation, Body Positivity, and mood rather than observing effects over time. To further support
ecological validity of participants normal Instagram browsing habits, participants were permitted to view each image for an unlimited amount of time, rather than a set period. To ensure participants were not mindlessly clicking through the intervention, a series of manipulation checkpoints were included asking questions related to previous images each participant viewed. Lastly, while Fitspiration, body positive, and appearance-neutral imagery will be sourced from Instagram, they only included users’ names and the Instagram frame. Doing so will inhibited users from viewing the comments or likes under such photos to avoid additional confounding variables. While some research has determined that these do not play a role in influencing body satisfaction, at least in terms of Fitspiration images (Prichard et al., 2018) this again takes away from the true ecological interaction that participants may have with the selected images outside of this study.
CHAPTER 2

INTRODUCTION

From magazines to Miss America, the media has consistently contributed to the spread of sociocultural beauty standards for decades (Grabe, Ward, & Hyde, 2008). Much of the initial research regarding media’s effects on body image explored the impact of magazine and television advertisements. Specifically, much of the research has focused on the effects that the media’s promotion of the thin-ideal has on body dissatisfaction and mood. Current research has associated concern for the thin-ideal with bulimia, dieting, supplement use, negative affect, and body dissatisfaction (Uhlmann et al., 2018). Body dissatisfaction is considered a primary determinant of many eating disorders, as well as the maintenance of eating disorders (Fardouly & Vatanian, 2014). As eating disorders have the highest mortality rate of any mental illness (Zimmerman, 2018), the need to address body dissatisfaction as a health concern is imperative. Studies have also established that depression and anxiety have increased with the growth of social media and pressures to fit into unattainable beauty standards (Zimmerman, 2018). The literature related to thin-ideal media, decreased body dissatisfaction, and negative mood is robust with a common understanding that thin-ideal media promotes increased appearance comparisons to seemingly unattainable beauty standards. From these findings a new wave of body image concepts known as the fit-ideal (Fitspiration) and Body Positivity rapidly evolved across media networks. However, research has found that, though well intended, Fitspiration content continues to promote the thin-ideal and has been associated with similarly detrimental outcomes of body dissatisfaction and negative mood. With an understanding that Fitspiration continues to promote the thin-ideal, an outcry for more...
realistic and inclusive beauty standards was met by the Body Positivity movement. Though only a handful of experimental studies have explored this topic, the findings of such have reported improved outcomes related to body image and wellbeing in women, as will be explored throughout this review of literature.

Over the last 20 years, sociocultural beauty standards have spread through a new medium: social networking sites. Social networking sites such as Facebook, Instagram, Reddit, Snapchat, YouTube, Twitter and Tumblr provide ways for individuals to instantly connect with their peers, celebrities, and media portraying sociocultural beauty norms. Within this medium, users are both consumers and creators of content. According to the Pew Research Center, seven in ten Americans use social media to regularly connect and engage, with the most popular sites being Facebook and Instagram (2019). Instagram alone has grown from 300 million users in 2013 to over 1 billion active users around the world as of 2019 (Instagram, 2019). A demographic particularly vulnerable to the potential negative impacts of Fitspiration and Thinspiration Instagram exposure are young women aged 18-29 (Slater, Varsani, & Diedrichs, 2017, Cohen, Newton-John & Slater, 2017). Findings from the Pew Research Center (2019) suggest that 67% of 18-to-29-year olds use Instagram, and that 76% of such users visit Instagram at least once daily. Previous studies have noted Instagram’s unique ability transmit sociocultural body image ideals (Prichard et al, 2018) through photo sharing. However, such immediate connection also allows for rapid appearance comparisons to often idealized and filter-enhanced images (Tiggemann & Zaccardo, 2015). As Social Comparison Theory suggests individuals will readily compare themselves to those perceived as similar to oneself (Brown & Tiggemann, 2016), it is plausible that viewing content of peers, either known
or unknown to the individual, may instigate decreases in individual’s body satisfaction or mood. Today, body image concepts are regularly represented as Thinspiration, Fitspiration, and Body Positivity on social media. A snapshot search of body image themes on Instagram illustrates just how popular this medium is for spreading sociocultural beauty standards. A search of the hashtags ‘fitspo,’ ‘Fitspiration,’ and ‘bodypositive,’ results in over 68.1 million, 18.2 million, 11.2 million Instagram posts, respectively. These images contain tens of thousands of likes per post. Further, Instagram has gone so far as to ban users’ ability to tag the phrase “Thinspiration,” attesting to just how dangerous this beauty phenomenon is. The following review of the literature will explore the progression of body image and social media research discussing known impacts of thin-ideal, fit-ideal, and body positive media.

THE THIN-IDEAL

Prior to research on the impact of social media on body image and mood, a number of studies related to body image and media effects were performed using traditional media such as magazines and television, commonly exploring the impact of the thin-ideal. The damaging impacts of exposure and internalization of thin-ideal media on women’s health is well supported within the literature. Research on thin-ideal internalization is important to consider when studying body dissatisfaction and mood influenced by social media. Many of the detrimental outcomes observed within social media research point to the promotion of the thin-ideal. Both Thinspiration and Fitspiration media have been found to encompass this beauty standard. Much of the literature has considered thin-ideal internalization to be a moderator between social media exposure and the detrimental impacts to body dissatisfaction and mood, as will be
explored below. A major takeaway from the literature is that the promotion of the “thin” as a beauty standard, be it simply thin and unfit or thin and toned, continues to spread the thin-ideal and a beauty standard. Ultimately, the impact of social networking sites such as Facebook or Instagram may in large part be due to the fact that users are comparing themselves to images of peers, who may seem to have more relatable lifestyles and resources than idolized celebrities or fashion models, leading to more regular appearance comparisons.

Grabe, Ward, & Hyde (2008) synthesize much of the correlational and experimental research related to thin-ideal media in their meta-analysis of 77 studies examining 15,047 participants. Such a large sample within meta-analytic research allows investigators to observe strong relationships between media exposure and impact on women’s body satisfaction, thin-ideal internalization, and eating behavior outcomes (Grabe, Ward, & Hyde, 2008). Researchers noted that prior to their meta-analysis, experimental studies were commonly conducted using magazine or television advertisements, and contained either women fitting the thin-ideal or a series of neutral images. Further, women exposed to the thin-ideal consistently illustrated decreases in body dissatisfaction (Grabe, Ward, & Hyde, 2008). Grabe, Ward, & Hyde (2008) sought to improve upon two previous meta-analyses conducted on thin-ideal media by including a larger sample of studies comprised of unpublished studies, controlled studies, and correlational studies. Studies included those that measured body satisfaction or dissatisfaction, body self-consciousness or objectification, internalization of the thin-ideal, or eating disorders and beliefs (Grabe, Ward, & Hyde, 2008). Further, authors only included research that involved the study of media use and exposure to media, rather than
self-reported media influence. This was done to help resolve inconsistent findings between the two previous meta-analyses associating the impact of media exposure with women’s’ body dissatisfaction (Grabe, Ward, & Hyde, 2008). Within each study, researchers coded for the type of media tested, the research design, the type of outcome measures used, whether participants were recruited from eating disorder clinics or had a history of body dissatisfaction, statistical findings, the mean age of respondents, and the date of publication. One author coded all 77 articles, and a second author double coded 25 studies, finding 100% agreement between the authors (Grabe, Ward, & Hyde, 2008). This strong agreement represents the reliability of the initial coder. When discussing the results of their findings, authors noted two important ideas: (1) when discussing effect sizes, authors reported that negative outcomes related to exposure to thin-ideal media were indicated by greater negative effect sizes (Grabe, Ward, & Hyde, 2008), and (2) moderators such as study design, age, type of media, publication year, history of body dissatisfaction, and ethnic minority were also considered. Overall, results of the current study illustrated a small to moderate effect size regarding the impact of media exposure on thin-ideal internalization, noting that these effects have grown stronger from the 1990s to the 2000s (Grabe, Ward, & Hyde, 2008). The moderator of publication date was suggested to be either a result of increased thin-ideal internalization, or increased measurement sensitivity throughout these decades. Further, researchers replicated the findings of previous meta-analyses that exposure to thin-ideal media was associated with increased body dissatisfaction scores with small to moderate effect sizes (Grabe, Ward, & Hyde, 2008). However, researchers noted that they found double the effect sizes as the previous meta-analysis, which contributes to the reliability and validity of their findings.
Results also illustrated associations between eating behaviors, media exposure, and thin-internalization. Small to moderate effect sizes illustrated that media exposure was associated with increased disordered-eating symptomology, and that participant’s age, media type, and publication status may moderate these results (Grabe, Ward, & Hyde, 2008). Findings also suggested that media exposure may have a greater impact on eating behaviors of adults, and that results were stronger in those studies that were published. Overall, researchers concluded that thin-ideal media is associated with greater body dissatisfaction, internalization of the thin-idea, and disordered eating behaviors and beliefs (Grabe, Ward, & Hyde, 2008). A strength of the current meta-analysis was researchers’ ability to clarify inconsistent findings from two previous meta-analyses on the impact of thin-ideal media by illustrating a small to moderately significant association between body dissatisfaction and thin-ideal media exposure. While a limitation of the current study is the sample’s composition of mostly white females, this demographic characteristic is consistent with much of the body image research. A mostly white sample of women. However, such a large sample of individuals and the number of studies reviewed help make a strong case for the detrimental effects imposed by exposure to thin-ideal media. Further, while researchers’ use of unpublished studies may suggest less credible conclusions, the current meta-analysis has been cited in almost all studies discussing body image and media effects within the literature. Thus, the findings of this meta-analysis are strongly accepted by scholars. Since this study, research examining the impacts of thin-ideal and fit-ideal media have produced similar findings.
SOCIAL MEDIA USAGE AND APPEARANCE-RELATED CONTENT

As the way individuals connect and communicate continues to evolve, so does research on the impact of exposure to media. Over the last decade, research on media and body image has largely shifted to the study of the effects of social media. Facebook remains the most popular social networking site with over two billion users worldwide (Mingoia et al., 2017). As such, the majority of social media research has examined this medium.

Much of the initial research on Facebook considered more broadly the ways that general social use impacted body satisfaction and mood. Researchers have suggested that greater exposure to appearance related media on Facebook, rather than the amount of Facebook usage itself, is associated with greater body dissatisfaction (Meier & Grey, 2014). With the expectation that appearance comparisons would be strongly associated with body image concerns, Fardouly & Vartanian (2014) performed a correlational study to examine the relationship between Facebook usage and body image of female university students. A sample of 227 first year female students in Australia were recruited for this study. The survey included measures of Facebook usage and measures from the Physical Appearance Comparison Scale to assess how often participants compared their physical appearance, the way they dressed, and their body figure to others when using Facebook (Fardouly & Vartanian, 2014). The survey also assessed how often individuals compared themselves to family members, close friends, friends of friends, celebrities, Facebook friends, and distant peers when using Facebook. In addition to the frequency of comparisons, the direction of these comparisons as either better or worse were also evaluated for each comparison group. To assess body image concern, the Body Dissatisfaction subscale and Drive for Thinness subscale from the Eating Disorder

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Inventory were included. Results of this study indicated that appearance comparisons on Facebook were positively correlated with Facebook usage and scores from the Eating Disorder Inventory (Fardouly & Vartanian, 2014). Thus, individuals that used Facebook more frequently illustrated greater body dissatisfaction. Also of note were the social groups to which the participants most often compared themselves. Findings suggested participants most commonly compared themselves to distant peers on Facebook, and reported the most negative comparisons against celebrities, followed by distant peers and close friends (Fardouly & Vartanian, 2014). The most important finding of this study is that the relationship between Facebook usage and body image concerns was mediated by appearance comparisons. Researchers noted it was specifically Facebook appearance comparisons that acted as a mediator between Facebook usage and body image concerns (Fardouly & Vartanian, 2014). Facebook usage was more often correlated with body image concerns when there was a high level of appearance comparisons to the Facebook content observed. This finding supports the idea that it may not be Facebook itself, but rather the specific content that individuals are exposed to, that is detrimental to body satisfaction. The findings that individuals most often compared themselves to distant peers may also be important to consider on other media sites. For example, Instagram is a forum where individuals are regularly exposed to a number of different comparison groups. While they are connected to their “peers” many of these individuals are personally unknown to the individual, yet seem more relatable than celebrities. Further, the finding that participants rated their appearance as worse than celebrities, close friends, and distant peers speaks to the potential damage that appearance-based sites such as Instagram may provide by offering rapid body image comparisons to these groups. The
biggest limitation of this study is the correlational nature of the study. However, these findings contribute to the literature examining if it is general social media use, or exposure to specific content that influences body satisfaction and mood of users.

Following this study, Fardouly et al. (2015) performed one of the first experimental studies examining how Facebook use impacts women’s body image and mood, using the Social Comparison Theory for the study’s framework. Researchers sought to identify if using Facebook elicited the same decreases in body satisfaction and mood as online magazines. Further, researchers assessed previously inconsistent findings within the literature regarding the impact that celebrities and peers comparisons have on body dissatisfaction outcomes. Additionally, researchers chose to assess face, hair, and skin comparisons to observe outcomes related to body dissatisfaction beyond solely weight appearance. This study took place at two separate time points. During the first part of this study, 112 female students between the ages of 17-25 were randomly assigned to view their own Facebook account, a fashion magazine, or an appearance neutral website for 10 minutes (Fardouly et al., 2015). Participants completed pre- and post- measures of mood and body dissatisfaction at the first experimental time point. As with the majority of body image research, Visual Analogue Scales were used to assess negative mood and body dissatisfaction. Mood measures included depression, anxiety, anger, confidence, and happiness at that specific time. Body dissatisfaction questions included satisfaction with body size and shape, physical attractiveness, and fat. Researchers also masked the purpose of this study by asking lifestyle satisfaction questions on this scale. One week after the intervention, participants completed an online survey that measured trait appearance comparison using the Upward and Downward Appearance Comparison Scale
and assessed demographic information. Participants also completed measures of state appearance discrepancy after exposure using the Self-Discrepancy Index. Results of this study illustrated that Facebook was a significant predictor of negative mood compared to the control condition, and that participants assigned to the Facebook experimental group illustrated more negative mood than the control (Fardouly et al., 2015). Additionally, trait appearance comparison tendency did not moderate exposure conditions and mood (Fardouly et al., 2015). Interpretation of these results may suggest that even without high levels of trait appearance comparison, individuals browsing social media may still be susceptible to negative mood outcomes from acute state appearance comparisons.

Women with high trait appearance comparison had higher face, hair, and skin related dissatisfaction in the Facebook group. Interestingly, body dissatisfaction was not significantly influenced by either experimental condition, and was not moderated by comparison tendency (Fardouly et al., 2015). While exposure to Facebook illustrated no greater body dissatisfaction than the online magazine or control, the methods of this study should be considered. Facebook offers users the opportunity to share text only statuses, write on friends’ Facebook walls, share photos, videos, comment, and like friends’ post. Instructing participants to simply search their Facebook for the 10-minute intervention may have allowed them to interact with multiple different characteristics of Facebook, and may not be representative of interactions with appearance related media. By contrast, this may be a more ecological representation of the interactions individuals have on Facebook. Much of the literature has noted that it may be the specific interaction with appearance related photos and videos, rather than actual time spent on Facebook, that causes decreases in body dissatisfaction and mood decreases (Fardouly & Vartanian,
2014). To fill this gap in the literature, future methods may warrant a look at social media platforms specifically dedicated to visual media, such as Instagram. Instagram is largely visual based, meaning that most of the interactions on this medium provide opportunities for instant appearance comparisons. Research using Instagram as a medium may be important, as appearance comparisons are likely due to individuals comparing themselves to images of others, rather than photos, thoughts, statuses, and an array of other features available on Facebook.

Cohen & Blaszczynski (2015) also used Facebook to conduct a study that sought to understand the relationship between appearance comparisons, body dissatisfaction, and the media platform individuals used when exposed to the thin-ideal. Researchers randomly assigned 193 female undergraduate students in Australia to view thin-ideal media either on Facebook or traditional media. The dependent variables included measures of appearance comparison and change in body dissatisfaction and independent variables were the media platform that participants were exposed to. The Facebook media intervention included mock Facebook profile pages represented on two slides that included a thin-ideal profile picture, statuses, peer comments, tagged pictures, pictures of friends and a zoomed in picture. Participants in this experimental group were exposed to 5 different mock profiles noted above. The control group viewed 10 traditional thin-ideal media images from magazine covers or advertisements. Thin-ideal internalization was measured pre- and post-intervention using the Sociocultural Attitudes Towards Appearance Questionnaire, consistent with previous research measuring thin-ideal internalization. The Body Areas Satisfaction Scale was used to assess body image dissatisfaction, and asked individuals to reflect on their level of satisfaction with their
physical appearance at that moment. Because previous literature illustrated that trait body image dissatisfaction may moderate the impact of media exposure on post-exposure body image scores, researcher chose to assess body image dissatisfaction change scores (Cohen & Blaszczynski, 2015). Within this study, negative changes illustrated a decrease in body image dissatisfaction, and positive changes illustrated an increase in body image dissatisfaction. This method differs from much of the other research using Visual Analogue Scales. Appearance comparison, self-esteem, and eating disorder risk were measured in addition to baseline measures of demographics, Facebook use, thin-internalization, body image dissatisfaction, and self-esteem were measured. Participants were then exposed to each image or slide for 30 seconds, totaling 5 minutes of exposure. Individuals completed manipulation checkpoints after exposure, as well as post-exposure measures of state appearance comparison, body image dissatisfaction, and eating disorder risk. Overall, the media platform illustrated no significant differences between appearance comparison and body dissatisfaction change scores (Cohen & Blaszczynski, 2015). This finding challenges statements of other research regarding individuals increased likelihood to compare themselves to those they are similar to, as they had no significantly greater appearance comparisons to the Facebook images than to traditional media models. However, the lack of difference between the two experimental groups could also be interpreted as suggesting that traditional media and Facebook media have similar effects on body image dissatisfaction. Thus, theories related to the impact of traditional media exposure on health may be applicable to social media concepts. The addition of a control group exposed to no thin-ideal media would help further answer this. Additionally, including a control group with the same Facebook format, but without
the thin-ideal, may enhance this study to determine if it is specifically thin-ideal media on Facebook, or general Facebook use that leads to increased body image dissatisfaction change scores. Results illustrated that the time spent on Facebook was associated with higher baseline body image dissatisfaction, greater risk of eating disorders, and increased appearance comparisons (Cohen & Blaszczynski, 2015), further illustrating the association between social media use and increased body image dissatisfaction. Though not specifically addressed, the fact that the intervention exposure for both types of media involved models that fit the thin-ideal further supports the idea that thin-ideal content may be a key characteristic of media that leads to the observed increases in body dissatisfaction and negative mood.

To help solve the question of whether it is social media usage, or appearance based social media usage that lead to increased body image concerns. Cohen, Newton-John & Slater (2017) conducted a correlational study examining Facebook and Instagram features related to body image. A sample of 259 Australian women aged 18-29 completed an online questionnaire. The participants were recruited via social media, suggesting they are representative of social media users. In addition to demographic information, participants reported if they had an account on Facebook or Instagram, and the amount of time they spent on each daily. Using the Facebook Questionnaire, researchers assessed Facebook use and Facebook appearance exposure, which included photo based activities. Thin-ideal internalism, appearance comparison, appearance evaluation assessing participant’s personal appearance satisfaction, and drive for thinness were assessed. Outcomes illustrated that Facebook use was significantly correlated with increased thin-ideal internalism and body surveillance (Cohen, Newton-John & Slater, 2017). Those
who used Instagram reported increased body surveillance (Cohen, Newton-John & Slater, 2017). This may speak to the highly visual characteristics of Instagram, in that individuals are regularly exposed to images of others that may cause immediate appearance comparisons to physical characteristics observed within the photos. Interestingly, those individuals who followed health and fitness accounts on Instagram were correlated with increased thin-ideal internalism and drive for thinness (Cohen, Newton-John & Slater, 2017). However, following accounts such as travel did not produce significant body image correlations (Cohen, Newton-John & Slater, 2017). This finding further supports the detriments that fit-ideal media may also impose, as will be explored in the following section. Overall, researchers concluded that it was not total social media usage that led to increased body image concerns (Cohen, Newton-John & Slater, 2017). Rather, greater photo activity on Facebook and following appearance-focused accounts on Instagram were associated with increased thin-ideal internalism and body surveillance scores. While this study was correlational in nature and cannot conclude causation, results do support the growing concern with Instagram use and the Fitspiration movement.

Mingoia et al. (2017) performed a recent meta-analysis to summarize the literature surrounding social media’s impact on internalization of the thin-ideal. Similar to inclusion criteria of Grabe et al. (2008) correlational and experimental studies were included if experimental groups were exposure to some form of media, and if they measured pre-exposure internalization. Correlational studies were included if they assessed participants’ media usage. Positive effect sizes were indicative of higher thin-ideal internalization associated with social networking sites (Mingoia et al., 2017). The
final sample consisted of six studies that contained a total of 1,829 participants aged 10 to 46 years old from Australia and the United States. As with much of the research related to social media’s impact on body image, Facebook was the most common social media network researched within the selected studies. The six studies used either measures of the Sociocultural Internalization of Appearance Questionnaire for Adolescents, the Sociocultural Attitudes Towards Appearance Scale, or measures adapted from this scale to measure thin-ideal internalization. Though not the same as body dissatisfaction, many studies within this literature review have noted that internalization of the thin-ideal moderates or affects their results, and that the thin-ideal is at the core of body dissatisfaction. Thus, this study’s finding that social media usage leads to increased internalization of the thin-ideal supports the notion that it may be exposure to thinness, either as part of Thinspiration or Fitspiration, that influences decreases in body dissatisfaction and mood (Mingoia et al., 2017). This is further supported by the findings that the relationship between appearance related social networking, such as posting or viewing images, and internalization of the thin-ideal had more positive effect sizes than the relationship between general social media use and thin-internalization (Mingoia et al., 2017). These results further contribute to the idea that it is appearance related and thin-focused media content that may be the true source of negative outcomes from media exposure.

Much of the literature discussed thus far focused on examining appearance comparisons and the thin-ideal on Facebook. However, little research currently exists examining general appearance comparisons on Instagram. Instagram has specific characteristics that offer users constant and immediate opportunities for comparisons.
The medium is image based, where users can post filtered pictures and videos to their peers and followers. The public profile setting makes these images available to everyone regardless of if the individual follows the profile user. Further, the “browse” section provides users with posts related to those they often search or like. Thus, individuals constantly “liking” appearance related media are virtually exposed to more constant appearance related images, furthering the opportunities for rapid and constant social comparison. Where fashion magazines and television often portray beauty standards by using models or celebrities, Instagram often contains content of one’s peers, individuals that seem more relatable, potentially leading to greater social comparison. To test if individuals were any more influenced by their peers than celebrities, Brown & Tiggemann (2016) randomly assigned 138 female undergraduates to either 15 images of celebrities, attractive but unknown peers, or travel images taken from public Instagram accounts. Under the social comparison theory, researchers argued that individuals are especially susceptible to comparisons against those they perceive to be similar to themselves. Thus, researchers sought to examine if participants would be impacted similarly when viewing photos of peers or celebrities (Brown & Tiggemann, 2016). As with the majority of body dissatisfaction and mood studies, Visual Analogue Scales were used to measure state mood and body dissatisfaction pre- and post-exposure. State appearance comparison and celebrity worship were also measured post-intervention. Participants viewed photos for 10 seconds each, and were asked to rate the image quality to ensure they were present during the intervention. Results of this study found that participants exposed to images of both celebrities or peers had greater decreases in body satisfaction, mood, and increased appearance comparisons when compared to the control
group (Brown & Tiggemann, 2016). Interestingly, there were no significant differences in state appearance comparison, body dissatisfaction, or mood between the two experimental groups. Thus, the notion that participants are both effected by images of those they deem similar to themselves and celebrities speaks to the number of opportunities that social networking sites provide for negative appearance-comparison related outcomes.

**THE RISE OF FITSPIRATION**

As noted previously, literature consistently has observed how exposure to media increases leads to increased body dissatisfaction through transmission of, and exposure to unhealthy sociocultural beauty ideals. From these findings came a call to reevaluate “beauty,” and the response came in the form of the fit-ideal (Fitspiration). Fitspiration claims to be an antidote to Thinspiration, offering women more ‘realistic’ beauty ideals that promote healthy eating and exercise. However, a number of content analyses exploring Fitspiration images across social media have found that Fitspiration may just be a “wolf in a sheep’s skin” (Uhlmann et al., 2018). Fitspiration, or fit-ideal social media, is intended to be a healthier alternative to Thinspiration through its’ promotion of healthy eating and exercise. However, current literature supports that these images may be equally detrimental as they continue to incite greater body dissatisfaction and negative mood due to the unattainable nature of such photos. In fact, much of the literature has illustrated that the fit-ideal and thin-ideal may not be dichotomous beauty standards. Content analyses of Thinspiration and Fitspiration social media have found alarmingly similar appearance-motivated content both promoting a thin and toned body figure.
Thinspiration websites are regarded as those that promote disordered eating or unhealthy weight loss, whereas Fitspiration websites are intended to promote healthy eating and exercise behaviors. As much of the previous literature suggests that Thinspiration and Fitspiration both contribute to decreased body satisfaction and mood, Boapple & Thompson (2016) sought to examine the potential underlying commonalities of Thinspiration and Fitspiration websites by performing content analysis of both.

Researchers selected the first 10 images on 50 Fitspiration and Thinspiration websites, discovered by searching “fitspo” “Fitspiration, “thinspo,” and “Thinspiration” on Google, Yahoo!, and Bing (Boapple & Thompson, 2016). They also required that included websites have the terms Fitspiration or Thinspiration as an explicit URL, website title or website description. Researchers coded both images and text by scoring the presence or absence of each of the following image characteristics: thin praise, thin pose, harmful messages about body, body or weight guilt, fat or weight stigmatization, harmful eating messages, dieting or restraint messages, and food guilt messages (Boapple & Thompson, 2016). Results of this analysis illustrated that characteristics such as weight loss content, positive comments about being thin, models posing to appear thinner, and guilt-induced messages related to food were more prevalent on Thinspiration websites than Fitspiration (Boapple & Thompson, 2016). However, findings also suggested that Fitspiration websites still promoted these characteristics. Further, both Thinspiration and Fitspiration websites presented content related to weight stigmatization, objectifying messages, guilt induced messages regarding weight, and content related to dieting with no significant differences between the two types of sites (Boapple & Thompson, 2016). While Thinspiration websites had a tendency to promote unhealthy messaging more frequently,
results of this content analysis supported that both websites contained dangerous messaging regarding body weight, thinness, eating guilt, stigmatization, and objectification. Interestingly, authors suggested that future experimental studies related to the detrimental effects of viewing these websites be performed within individuals that may be at risk for eating disturbances or body image issues, as these individuals are likely the ones that might search for such websites (Boapple & Thompson, 2016). Overall, this content analysis provides a great deal of support for notion that the Fitspiration concept, while potentially well-intended, may also promote the same dangerous body image and eating behavior characteristics as Thinspiration websites.

Following these findings, Boapple et al. (2016) conducted another content analysis with the intention of better understanding the specific themes and characteristics portrayed within Fitspiration social media websites. Following similar methods as Boapple & Thompson (2016), researchers searched the terms “fitspo” and “Fitspiration” on Google, Yahoo!, and Bing to and included websites with similar criteria noted in the study above. Researchers selected the first three web pages listed on such search engines under the assumption that the websites listed first were those with the most interactions. The first 10 images on each website were selected for analysis. Images were categorized as text, picture, or pictures and text. They were then coded by two independent raters according to body type portrayed in each picture, culturally based beauty ideals such as clear skin, clean and shiny hair, symmetrical features, white teeth and supple breasts, sexually objectifying content, thin-ideal messages, and exercise and food messages (Boapple et al., 2016). Results of this study suggested that 97% of the women featured in their pool of Fitspiration images were thin, and 84% of such images were sexually
objectifying, and 46% contain messages related to fat/weight stigmatization (Boapple et al., 2016). Of the websites that included Fitspiration text, 92% of such text focused on appearance-related messages pertaining to exercise (Boapple et al, 2016), further supporting the ideal that Fitspiration continues to use appearance, specifically sexually objectified thinness, as motivation to modify health behaviors. It should be noted that this study examined Fitspiration websites, which may contain images that may be similar to, or even the same as Fitspiration content found on social media sites such as Instagram or Facebook. However, these sites may also contain health related messages that might offset the impact of viewing Fitspiration websites, which was not analyzed as part of this study (Boapple et al., 2016). Thus, studies that examine the specific themes of Fitspiration on social networking sites as opposed to broader websites are necessary.

To further fill a void in the literature related to the specific content of Fitspiration media on specific social networking sites, Tiggemann & Zaccardo (2016) conducted a content analysis of Fitspiration media on Instagram. The first 600 images that appeared during a search of the hashtag “Fitspiration” were analyzed for this study. Coders focused on analyzing body shape, activities of subjects in photos, and if there were aspects of photos, such as body parts or poses, that were objectified. Captions of each image were coded based on the actual content expressed in each caption. High levels of inter-coder reliability were illustrated by a 96.3 percent agreement on the coding of all photos (Tiggemann & Zaccardo, 2016). Results of their study suggest that the majority of Fitspiration images featuring women portrayed an overwhelmingly homogenous body type that was objectified, thin, and toned (Tiggemann & Zaccardo, 2016). The majority of images featured posed individuals. Interestingly, this study found that over half of the
quotes analyzed were positive, whereas only 11.3% of those analyzed encouraged extreme or dangerous behaviors (Tiggemann & Zaccardo, 2016). Fitspiration images of men were that of average statute but high muscularity.

A content analysis of gendered images of Fitspiration on social media conducted by Carrotte, Prichard, & Lim (2017) further support the findings of Tiggemann & Zaccardo (2016). Within this study, researchers performed a search of the hash tag ‘fitspo’ across a number of sites including Instagram, Facebook, Twitter, and Tumblr to determine common characteristics of Fitspiration content and where this content is most often posted. The content analyzed were screenshots gathered at three different 10-minute time periods on each of the social media platforms. A total of 415 social media posts, including images and videos, were analyzed. Authors claimed that there was no “best practice” for collecting and searching for such data, and a combination of most popular and most recent media was collected (Carrotte, Prichard, & Lim, 2017). Each image was analyzed according to twenty-eight variables related to the social media platform, content present, theme of post, the number of people present in photos and their demographics, the areas of the body represented in the photo, if specific features were emphasized, if individuals pictures were functional or posed, the types of message the photo depicted, and thinness or muscularity (Carrotte, Prichard, & Lim, 2017). Further, they sought to understand if these characteristics were similar when separated by gender. Findings illustrated “fitspo” posts were most often posted on Instagram (Carrotte, Prichard, & Lim, 2017), further supporting the need to study the impacts of Fitspiration on females within the context of Instagram. Not only did researchers’ findings suggest that the majority of fitspo posts were found on Instagram, but also supported the common consensus that
most of the females observed were thin, toned, highly sexualized, and their bodies were objectified, especially by a lack of providing the face (Carrotte, Prichard, & Lim, 2017). With regards to the gender differences in social media Fitspiration content, this review found that the majority of women portrayed within this media were objectified as thin, whereas the majority of men were objectified as highly muscular, with little focus on the thin idea or losing weight (Carrotte, Prichard, & Lim, 2017). Moreover, this review emphasized that though approximately half of posts contained subjects exercising and most posts focused on the subject's appearance. This further supports the notion that Fitspiration may be less about promoting behaviors that improve health and more aimed towards promoting behaviors that increase individual’s adherence to aesthetic sociocultural beauty standards. While this study may act as a snapshot in time of Fitspiration content on social media, the lack of standardized methods for comparing different content across differing sites should be noted when considering the claims of this review.

While content analyses are imperative to understanding what specific characteristics of Fitspiration imagery may be harmful, research is necessary to determine if such content has any impact on individuals’ health. A handful of experimental and correlational studies have been conducted to understand how Fitspiration social media influences outcomes such as body image, body appreciation, body satisfaction, and negative mood. A novel study conducted by Tiggemann & Zaccardo (2015) has been cited numerous times and acts as a foundation for much of the research related to Fitspiration on Instagram. Within this study, researchers sought to understand how viewing Fitspiration images influenced mood and body dissatisfaction compared to a
control group. A sample of 130 undergraduate women were randomly assigned to view either 16 Fitspiration images or 18 travel images sourced from Instagram. Interestingly, some of the travel images included people, justified by researchers as a way to mask social comparison questions (Tiggemann & Zaccardo, 2015). As with much of body image research, Tiggemann & Zaccardo (2015) emphasized the role that social comparison may have on body satisfaction and mood outcomes. Researchers specifically emphasized the rate at which individual can connect to peers, the ability to select filters that enhance photos, the ability to like and comment on photos, and the photo-only aspect of Instagram as factors that contribute to increased social comparison on this medium (Tiggemann & Zaccardo, 2015). Mood and body dissatisfaction were both analyzed using Visual Analogue Scales. Upon arrival to the intervention, participants completed pretest measures of social media use, inspirational goals, mood, and body dissatisfaction. They were then exposed to their experimental condition, where each image was displayed for 20 seconds, and followed by a manipulation check asking participants to rate the photo quality from one to five. After exposure to their experimental condition, participants completed posttest measures of body dissatisfaction, mood, inspiration, state self-esteem, state appearance comparison, and trait appearance comparison. Authors noted that the test of trait appearance comparisons should remain constant despite exposure as this construct was deemed to be more a quality than a fluent state of being (Tiggemann & Zaccardo, 2015). The eight visual analogue scales included questions related how inspired individuals felt at that moment, and assess anxiety, depression, happiness, anger, confidence, weight dissatisfaction, and appearance dissatisfaction. Researchers determined an overall negative mood score by reverse coding positive mood items and
averaging all five mood items for a final score (Tiggemann & Zaccardo, 2015) Results of this study illustrated that participants who viewed Fitspiration images had a significant increase in negative mood and body dissatisfaction compared to the control group (Tiggemann & Zaccardo, 2015). Interestingly, both groups illustrated increased motivation to travel or exercise dependent on their experimental condition (Tiggemann & Zaccardo, 2015). This may speak largely to the impact that Instagram as an overall platform has on influencing users, even beyond the scope of that related to health and fitness. Further, researchers found that state appearance comparison did have a small impact on negative mood, and a significant impact on the way images impacted body dissatisfaction (Tiggemann & Zaccardo, 2015). However, trait appearance comparison did not have a significant impact as a moderator. Thus, these results may illustrate that even brief exposure to Fitspiration imagery can produce immediate decreases in body satisfaction if individuals are strongly comparing themselves to others when viewing Instagram media. The effect sizes of this study were moderate to large (Tiggemann & Zaccardo, 2015), whereas many studies illustrate small to moderate effect sizes, adding strength to the findings of this study.

Since Tiggemann & Zaccardo (2015) conducted their study of Fitspiration on Instagram, many other researchers have conducted similar experiments resulting in similar findings. With a claim of promoting healthy behaviors such as healthy diet and exercise, it may be reasonable to assume that those individuals who participate in physical activity would be considered fitness inspirations, despite having diverse body shapes. However, individuals portrayed in fitness magazines more often encompass bodies that are thin and toned than bodies of strong and fit or normal weight models
To explore if the thin-ideal does indeed confound fit-ideal media content, using a posttest only design, Homan et al. (2012) randomly assigned 138 U.S. female undergraduates to view images of either thin and athletic models, normal weight athletic models, or control images of neutral objects. Researchers sought to examine if exposure to ultra-fit images produced differing effects than exposure to fit and thin models, while also exploring the potential moderating effects of thin internalization and athletic internalization. Internalization was defined as the desire for an individual to assume the thin or athletic ideal. Internalization of fit or thin-ideal may moderately increase body dissatisfaction by exposing women to body types that are unrealistic to obtain, yet considered to be norms by society. However, women may feel inclined to take necessary or extreme measures in attempts to achieve such, ultimately leading to disappointment in chasing after a beauty ideal that they cannot obtain despite taking drastic, or dangerous measures to obtain such (Homan et al., 2012). To potentially observe the effects of internalization, participants first completed the Sociocultural Attitudes Towards Appearance Questionnaire-2 to evaluate internalization of thin and athletic ideals. Participants were then shown a slideshow containing seven online sourced photographs of either thin athletic, normal weight athletic, or neutral control photographs dependent upon the group they were randomized into. Each image was shown for 10 seconds followed by a 2 second blank screen. The inclusion criteria for each photo comprised photos of women that appeared age 18 or older, where at least three-fourths of their body was visible, and the model was neither pregnant nor covered by text (Homan et al., 2012). As with the majority of other studies, Heinberg & Thompson’s (1995) Visual Analogue Scale was used to measure body dissatisfaction after exposure with the
0mm representing individuals that were not at all dissatisfied, and the 100mm mark representing extremely feeling dissatisfied. Interestingly, this study only asked the dissatisfaction question: “Please make a mark on the line indicating how you feel about your body right now” (Homan et al., 2012). While researchers found that both athletic and thin internalization illustrated small but significant correlations with body dissatisfaction, they found that it was actually BMI that illustrated the strongest correlation to body dissatisfaction (Homan et al., 2012). Interestingly, researchers found that while internalization seemed to predict body dissatisfaction, internalization produced no significant results as a moderator. This is inconsistent with previous studies, and authors suggested that it may be that the questions assessing internalization were less thin-focused, and more general that may have contributed to inconsistent findings with previous studies (Homan et al., 2012). Though researchers found that athletic ideal internalization was not a moderator, authors argued that thin-ideal and athletic ideal are generally correlated. Thus, internalization of the athletic ideal alone may not be as strong of a moderator as the two combined. Compared to the control group, body dissatisfaction increased in those exposed to thin and fit models, but did not increase in those exposed to normal weight models (Homan et al., 2012) This finding is significant, as it supports the notion that it may not be the promotion of fitness, but rather the promotion of fitness in relation to thinness that contributes to the detrimental effects of exposure to Fitspiration media imagery. This begs for further research that looks at fitness and thinness at dichotomous in order to understand if it is the want to be fit, or want to appear fit and thin, that causes the detrimental effects of viewing Fitspiration media on body dissatisfaction.
While the previous study illustrated that the thin-ideal and fit-ideal may not be dichotomous, further research has sought to determine if hyper-muscularity influences women in similar ways as exposure to the typical thin and toned Fitspiration model. Building upon Homan et al. (2012) a study by Benton and Karazsia (2014) sought to contribute to preexisting research by also considering the impact that hyper-muscularity may have on body dissatisfaction. A sample of 366 females aged 18-29 years were recruited online and randomly assigned to view either 10 thin-ideal images, 10 thin and muscular images, 10 thin and hyper-muscular images, or 10 control images of cars. Images were racially and ethnically diverse (Benton and Karazsia, 2014), and sourced from online magazines, exercise websites, and other online sources. To assess pre- and post- measures of body dissatisfaction, Visual Analogue Scales were used. The Sociocultural Attitudes Towards Appearance Questionnaire and Body Esteem Scale were also included to assess baseline internalization. The entire study took place online. Individuals were recruited online, and if eligible presented with pre-test measures of body dissatisfaction and internalization. They were then randomly assigned to one of the experimental conditions by Qualtrics. Individuals were asked about the desirability to either look like models in the images, or to purchase the cars in images, between each picture to ensure they were actively participating in the study. A post-test Visual Analogue Scale asking how satisfied participants felt with their bodies at that moment was provided after exposure to the intervention. This study observed significant decreased in body dissatisfaction among the thin only and athletic (thin and fit) experimental groups, but no significant differences in scores of the thin and hyper-muscular or control groups (Benton and Karazsia, 2014). Neither internalization nor body
esteem scores seemed to moderate these observations (Benton and Karazsia, 2014). When these findings are considered alongside the findings of Homan et al. (2012), it seems that neither hyper-muscular nor normal weight individuals have significant influences on women’s body dissatisfaction. However, the thin and toned and thin-ideal images do seem to impact this outcome. Thus, the closer to thin that subjects within these images are, in line with current sociocultural standards in the United States, the more detrimental exposure outcomes may be. Extreme amounts of muscularity or normal weight do not seem to produce the same detrimental impact, despite thinness being a component of the hyper-muscular images. Future research might consider experimental groups that contain both average weight and muscular, and thin and hyper-muscular components to further support the inconsistent findings observed by Homan et al. (2012) and Benton and Karazsia (2014).

Given that literature supports that both exposure to thin-ideal and fit-ideal social media are detrimental to women’s body satisfaction and mood, a handful of studies have examined other methods of attenuating this effect through focus on body functionality, inspiration to participate in exercise behavior, or self-compassion. In an attempt to potentially offset the self-objectification induced by viewing Fitspiration images, some researchers have examined the impact of promoting body function and the effects of such on body satisfaction and body appreciation. In one pilot study, Alleva, Veldhuis, & Martijn (2016) randomly assigned 70 undergraduate females to describe either the meaningfulness of their body’s functionality, or to describe the routes they traveled to work to before being exposed to a series of thin-ideal imagery. In a previous study, Alleva et al. (2015) was able to illustrate that body functionality not only improved body
image but reduced women’s self-objectification. Thus, the goal of the current study was to observe if these results extended to acting as protective mechanism when exposed to thin-ideal media imagery (Alleva et al., 2016). Before partaking in the intervention, participants completed pre-test appearance, function, and mood measures. Women in the body functionality group received a list of body functions and an explanation of body functionality, whereas women in the control group were given a list of routes and route related details. Participants were asked to describe their assigned topic for 15 minutes, using a list of examples as they please. After the writing assignment, individuals were exposed to a series of thin-ideal advertisements. They then completed post-test measures that looked at appearance satisfaction, functionality satisfaction, self-objectification, body appreciation, demographic, and filler items. Appearance satisfaction and functionality satisfaction were assessed with Visual Analogue Scales, as utilized in prior studies. The Self-Objectification Questionnaire was used to measure self-objectification post-intervention, and body appreciation was assessed using the Body Appreciation Scale-2. Overall, these measurement tools are consistent with those used in prior research, which supports the reliability of these researchers’ findings. Results of this study illustrated that those assigned to write about their body’s functionality scored higher functionality and body appreciation scores after viewing the thin-ideal media than did the control group (Alleva et al., 2016). Interestingly, the body functionality group did not experience better self-objectification or appearance satisfaction scores. Authors claimed this may be due to deep rooted internalization of thin-ideal imagery which may a longer period of time to effect through focus on body functionality (Alleva et al., 2016). Another limitation of this study was the procedural decision not to have individual’s complete measures of self-
objectification and appearance satisfaction at pre- and post-test, rather than just post-test (Alleva et al., 2016). This would help draw better conclusions regarding the specific impact that focus on body function has on self-objectification and appearance satisfaction. As this study suggests, future research may be directed towards more long-term interventions focusing on body functionality, and more pre- to post-test measures (Alleva et al., 2016). Overall, the results of this study are promising in the impact that focus on body functionality may have in buffering the effects of exposure to thin-ideal or fit-ideal media.

While Alleva et al. (2016), demonstrated promising results regarding the impact of body function on functionality appreciation and body appreciation, similar results regarding the impact of focus on body function on individual’s body satisfaction were found by Prichard et al. (2018). In this study, researchers experimentally examined the impact of different forms of Fitspiration on body image by assigning participants to view either functional Fitspiration images or posed Fitspiration, accompanied by either appearance-focused, or no text. The functionality component of this study was examined with the understanding that Fitspiration images can be either functional or non-functional, and that focus on functionality may be less self-objectifying. The choice to test image text was included under the notion that Fitspiration imagery on social media is often accompanied by inspirational quotes to further promote health behavior change. The main outcomes measured were state self-objectification, body satisfaction, and negative mood among a sample of 152 women aged 17-30 years. Participants were randomized into one of four conditions where they were exposed to 14 images of Fitspiration images featuring toned and thin women that were either: 1) functionally pictured (i.e. performing
activity) with text 2) functionally pictured (i.e. performing activity) without text 3) non-functionally posed with text or 4) non-functionally posed without text. Trait-self-objectification was also measured as a moderator. Participants completed pretest measures including body satisfaction, mood, and state self-objectification all using the common Visual Analogue Scale measurement tool. Participants were then randomly assigned to one of the four conditions via Qualtrics, and exposed to the images. As a manipulation check, individuals were asked to rate how inspirational they believed each image was. After exposure to the intervention, participants completed the same Visual Analogue Scales as in the pretest, with the additional Self-Objectification Questionnaire (to measure trait self-objectification as a moderator. Interestingly, researchers found that neither image type nor the presence of appearance-focused text had an impact on participant’s body satisfaction (Prichard et al., 2018), resulting in similar findings of Alleva, Veldhuis, & Martijn (2016) regarding the little impact that focusing on body function had on deterring self-objectification. However, in this study body satisfaction rather than appreciation was examined, suggesting that functionality may impact body satisfaction and body appreciation differently. Results of the current study results suggest that body dissatisfaction and negative mood increased after exposure to Fitspiration images (Prichard et al., 2018), further supporting previous findings from Tiggemann & Zaccardo (2015). This occurred despite participants reporting greater inspiration from the functional Fitspiration photos, suggesting that Fitspiration may inspire individuals, but at the cost of their own body dissatisfaction and mental health. This study did find trait self-objectification to be a moderator (Prichard et al., 2018), in that those with higher trait self-objectification had increased body dissatisfaction when viewing functional images.
accompanied by appearance focused text. However, this study did find that there were no increases in state self-objectification after viewing Fitspiration images, which is inconsistent with previous research from Alleva et al. (2016) when examining the impact of functional images. Given the link between body dissatisfaction and self-objectification, a study examining the effects of body positive Instagram content on body satisfaction and mood is further warranted.

As the fit-ideal is intended to be a better alternative to aspiring for the thin-ideal through its promotion of exercise and healthy eating, albeit mostly for appearance purposes (Boapple & Thompson, 2016), few studies have examined if such inspiration translated into actual behavior change. Robinson et al. (2017) randomly assigned 106 female undergraduate students to view either thin-ideal, athletic-ideal, or muscular-ideal images and then perform a 10-minute exercise bout on a treadmill, traveling as far as possible during such bout. Researchers explained the role that Social Comparison Theory may play in the impact of Fitspiration exposure (Robinson et al., 2017), in that women exposed to this media may often compare themselves to such media, ultimately comparing themselves to an unattainable image leading to further body dissatisfaction. Thus, researchers hypothesized that exposure to thin and athletic ideal images, often associated with thinness, would lead to higher body dissatisfaction and state social comparison than muscular ideal images. As mentioned by Homan et al. (2012), muscular images often contain women who are strong and fit, but may be less associated with thinness. Thus, it could be assumed that lack of thin-association within muscular-ideal imagery might lead to less body dissatisfaction if thinness is a true confounder. The dependent variables tested were state body dissatisfaction, state social comparison, and
exercise behavior. Researchers also examined if trait social comparison would act as a modifier. Body dissatisfaction was evaluated pretest and posttest with Visual Analogue Scales. Demographic information, social media use, and physical activity data were also collected. A sample of 106 female university students in Australia were randomly assigned to view either thin-ideal, fit-ideal, or muscular ideal images via the Qualtrics Random Assignment. After exposure, participants were asked to complete a post-test body dissatisfaction VAS, and then perform a treadmill bout for 10 minutes at a pace of their choosing. This was done to measure exercise behavior, under the assumption that those who were more motivated by their experimental condition imagery may travel a farther distance or work at a faster rate. After the exercise bout, participants completed measures of state social comparison using the State Appearance Comparison Scale, trait social comparison using the Physical Appearance Comparison Scale-Revised, and fitness inspiration assessing how inspired they felt to improve fitness or to be physically active using a 7-point Likert scale. A subjective measure of normal physical activity and objectively measured BMI was also collected. Not only did researchers find that athletic and thin-ideal images led to greater body dissatisfaction than the muscular-ideal condition (Robinson et al., 2017), but their results suggested that women exposed to Fitspiration images had even greater body dissatisfaction than women exposed to thin-ideal images (Robinson et al., 2017). Given that the BMI, physical activity habits, age, and media usage of all sample participants illustrated no significant differences at baseline, this finding is important to consider. As suggested by much of the literature, it may be that the combination of both the thin-ideal and toned beauty standard suggested by Fitspiration creates an even more unrealistic beauty standard than the thin-ideal alone,
contributing to the decreased body dissatisfaction scores observed in this study. Researchers also found that state social comparison acted as a significant predictor of increased body dissatisfaction across all three experimental groups (Robinson et al., 2017). Trait social comparison was not found to moderate body dissatisfaction scores. Interestingly, despite difference in body satisfaction scores, researchers found no significant difference in participant’s motivation to exercise, despite athletic and muscular images being more inspirational than thin-ideal images (Robinson et al., 2017). This finding is truly significant to consider regarding the intention of Fitspiration. This study illustrated that the “inspiration” component of Fitspiration did not translate exercise behaviors. Thus, Fitspiration may do nothing more than promote an unhealthy body ideal, regardless of being well intended to improve exercise behavior.

Following Tiggemann & Zaccardo (2015)’s methods, Slater, Varsani, & Diedrichs (2017) examined the potentially protective role of self-compassion amongst individuals exposed to Fitspiration images on Instagram. A sample of 160 female undergraduate students was randomized to view either self-compassion Instagram content, Fitspiration and self-compassion content, Fitspiration only content, or appearance neutral content from Instagram. The concept of self-compassion was selected for both its’ foundation in positive body image and body appreciation and work from previous studies that have exemplified how self-compassion may lead to less social comparisons (Slater, Varsani, & Diedrichs, 2017). This study masked its purpose by stating the intention as memory recall and attention as influenced by personality characteristics when using Instagram. Pretest measures included social networking habits, and use of Visual Analogue scales to measure body satisfaction, self-compassion, body
appreciation, and negative mood. The self-compassion questions were adapted from Neff’s (2003) Self Compassion Scale, and mood questions asked individuals to report how anxious, depressed, happy, and confident they felt in that moment. Body Appreciation Visual Analogue Scale questions were adapted from the modified version of the State Body Appreciation Scale-2 (Slater, Varsani, & Diedrichs, 2017). After completing these measures, participants were exposed to 20 images collected and displayed on an Instagram account created for each condition. The control images were that of interior design, the Fitspiration images included thin and toned women both posed and active in exercise clothes, and the self-compassion images contained images of self-compassion quotes. All images were sourced from public Instagram accounts and pilot tested prior to the study. After exposure to their condition, participants then completed the same Visual Analogue Scale measures at posttest, with the addition of trait appearance comparison measured by the Physical Appearance Comparison Scale, and thin internalization using the Sociocultural Attitudes Towards Appearance Scale-3.

Similar to Tiggemann & Zaccardo (2015), researchers determined an overall negative mood score by reverse coding positive mood items and averaging all five mood items for a final score (Slater, Varsani, & Diedrichs, 2017). While this study found that Fitspiration content did not impact participants body satisfaction or mood (Slater, Varsani, & Diedrichs, 2017), they did observe that participants who viewed both self-compassion quotes and Fitspiration content had more positive outcomes compared to the Fitspiration only group. Findings of this study present conflicting results to previous literature. Results of the current study found that Fitspiration-only exposure resulted in no greater body dissatisfaction, body appreciation, or negative mood scores than those exposed to
the control interior design condition (Slater, Varsani, & Diedrichs, 2017). However, participants within the self-compassion and Fitspiration group illustrated significantly better body satisfaction than the control (Slater, Varsani, & Diedrichs, 2017). Researchers found that trait thin-idealism moderated these results, in that women with high thin-internalization who viewed self-compassion Instagram images illustrated greater body satisfaction compared to the control, that the self-compassion and Fitspiration group compared to the Fitspiration only group resulted in greater body satisfaction (Slater, Varsani, & Diedrichs, 2017). Body appreciation illustrated similar results, with no significant differences in body appreciation between Fitspiration images only and control, but with the Fitspiration and self-compassion condition illustrating greater body appreciation than the Fitspiration group alone (Slater, Varsani, & Diedrichs, 2017). Researchers did find that women exposed to Fitspiration only images demonstrated less self-compassion than the control, regardless of trait thin internalization scores. However, trait thin internalization did moderate the scores of the self-compassion condition compared to the control, resulting in greater self-compassion in participants who viewed the self-compassion images compared to those who viewed interior design photos (Slater, Varsani, & Diedrichs, 2017). Participants in the self-compassion and Fitspiration condition reported less negative mood than the Fitspiration only and control conditions, though there was no significant difference in negative mood between the control and Fitspiration only conditions (Slater, Varsani, & Diedrichs, 2017). While trait thin internalization did not moderate the impact of exposure to the Fitspiration condition compared to other experimental groups, it did moderate the impact that viewing self-compassion images had on improved body satisfaction, self-compassion, and mood
among women with average or high internalization scores. This finding is important to consider, as it illustrates that self-compassion imagery may be especially helpful to populations most at risk for the negative effects of thin-ideal exposure such as those with high thin-ideal internalization. However, what should be further considered are the significantly different findings of this study regarding the impact of Fitspiration imagery on body satisfaction, body appearance, and mood compared to previous studies. Thus, the conflicting results demonstrate a definite need for future research to examine these effects with similar or replicated methods to solidify the current study’s findings. If these results can be replicated, they may offer promising results to illustrate that self-compassion, as part of Body Positivity, may help attenuate the negative impacts that other studies have observed regarding the impact of viewing Fitspiration content on Instagram.

**BODY POSITIVE MEDIA: THE REAL ANTIDOTE?**

Over the last decade, body image research has shifted from focus on body disturbance to examining concepts related to positive body image (Halliwell, 2015). Body Positivity seeks to “undo” the impact negative body image such as disordered eating and unhealthy appearance-motivated behaviors (Tylka & Wood-Barcalow, 2015). To better define positive body image, Tylka & Wood-Barcalow (2015) conducted a mixed-methods study of qualitative and quantitative research. Researchers first utilized the Multidimensional Body-Self Relations Questionnaire and asked individuals whether they feel they have a positive body image. Tylka & Wood-Barcalow (2015) then conducted in-depth interviews with these women to further understand how they encompassed having a positive body image. Authors argue the importance of considering
that positive and negative body image lie on two different continuums, and high amounts of one does not necessarily mean low amounts of the other.

Within the literature, the concept of Body Positivity is holistic (Tylka & Wood-Barcalow, 2015) and defined by six major themes (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). The first and most common concept of Body Positivity studied within the literature is body appreciation, which encompasses valuing one’s body beyond just appearance to appreciate functionality, health, and special feature (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). Body Positivity also encompasses the concept of body acceptance and love, which involves having love for one’s body even when it does not align with sociocultural beauty standards (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). The third concept, conceptualizing beauty broadly, involves viewing beauty as encompassing a wide variety of appearances and acceptance of this range of appearances (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). Adaptive body care and investment involves behaviors and habits that care for the body’s needs to function healthfully (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). The concept of inner positivity involves manifesting beauty from within, allowing positive thoughts to translate into positive behaviors such as kindness, confidence and radiate outward (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a). Finally, protective filtering of information involves individual’s ability to reject ideas that threaten body image, while accepting ideas that promote positivity towards the body (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019a).

In order to appreciate how body positive media may be protective is important to understand how Body Positivity is represented on social media. Cohen et al. (2017a)
conducted a content analysis of body positive imagery on Instagram. To collect their sample of 640 Instagram images, researchers first searched the for top body positive Instagram accounts on three major search engines, and selected links that included individual account names, were more recent than December 2016, had at least 50,000 followers, at least 100 Instagram posts, and posted body positive content. The final sample included 32 accounts, from which 20 posts were randomly selected for analysis from each. As this research is relatively new, authors created their own codebook for this content analysis. Categories of the codebook were based on Tylka’s (2011) six core concepts of Body Positivity mentioned above. One coder was responsible for coding all 640 images, and another researcher coded a randomly selected 10% of the sample to establish inter-coder reliability with 94.23% agreement between coders (Cohen et al., 2017a). Coding included categorizing the imagery of each photo, including cartoons, text, videos, human figures, or videos. If human subjects were present they were coded for demographics, body related attributes, activities they were involved in, and if they were objectified. Finally, media was coded and categorized according to their alignment with the core concepts of Body Positivity. Results of this study indicated that overall, posts were mostly motivational with 41% of media being categorized as such, and 25% were considered educational (Cohen et al., 2017a). An overwhelming 95% of subject pictures within this content analysis included females, of which the majority were white, followed by black, and Asian (Cohen et al., 2017a). Thus, while attempting to conceptualize beauty broadly, beauty was mostly represented by white females. Researchers also noted that body sizes ranged from underweight to obese III, however, less than 2% of subjects were underweight (Cohen et al., 2017a). Similar percentages of bodies were considered
normal weight, overweight, and a slight majority of photos (35%) considered obese individuals (Cohen et al., 2017a). Flaws such as cellulite, stomach roles, and acne were depicted in almost 40% of the sample images (Cohen et al., 2017a). Researchers also noted that a portion of photos, approximately 34% of such, featured images of individuals promoting aspects of objectification (Cohen et al., 2017a). Much of the body positive movement promotes challenging society’s acceptance and definition of beauty standards. Thus, a number of these individuals may be promoting flaws, or objectifying themselves in an effort to disturb the narrow beauty standard definitions, and to encourage embracing their uniqueness rather than adapting to such. Further, approximately 41% of photos were appearance themed, though less than 2% of such promoted weight loss, exercise, or dieting for appearance purposes (Cohen et al., 2017a). Thus adding to the possibility that body positive influencers seek to promote love and acceptance of appearances that vary from traditional beauty standards, but do not promote behaviors that seek to modify appearance. While Thinspiration and Fitspiration promote a narrow and unattainable body standard confounded by the thin-ideal, this content analysis seems to suggest that body positive social media promotes just the opposite. Results of this content analysis illustrate that a number of different body types are represented within the media, that relatable flaws are not only shown but embraced, and that the majority messages promoted by the analyzed sites promote at least one of the six core concepts of positive body image. One caveat of body positive imagery is the finding that a number of popular Body Positivity influencers on Instagram also used the platform to promote themselves or commercial products, potentially as a way to turn their account into a profitable brand.
(Cohen et al., 2017a). However, researchers note that the overwhelming majority of this subgroup still promoted body positive concepts.

Many of the protective components of Body Positivity have been supported by the previously discussed literature. For example, Slater, Varsani, & Diedrichs’ (2017) findings related to self-compassion quotes increasing body satisfaction and mood may fall under the concept of self-love and body acceptance, and exposure to such quotes were shown to increase body satisfaction and mood of participants. Alleva et al. (2015) found that focus on body functionality increased women’s body image, decreased self-objectification, and increased body appreciation. Further, Homan (2012) illustrated an increase in body dissatisfaction when women viewed images of fit and thin subjects, but not when participants viewed images of average weight and fit models. Thus suggesting that Body Positivity may present a way to promote healthy behaviors intended by Fitspiration, but in a more protective manner by avoiding promotion of appearance-based outcomes.

As one of the first studies seeking to better understand how Body Positivity may be protective, Halliwell (2013) aimed to examine if body appreciation as a component of Body Positivity was protective against the negative influences of thin-ideal media on body satisfaction. Halliwell notes a concept similar to Tylka & Wood-Barcalow (2015), in that body appreciation is not the absence of body dissatisfaction, but rather a separate construct. As such, it may be protective against body dissatisfaction. Halliwell (2013) also notes that a key component of body positive is protective filtering of information, which may benefit individuals with high levels of thin-internalism when exposed to thin-ideal media. A sample of 112 female psychology students were randomly assigned to
view either five print media images of ultra-thin models taken from popular women’s magazines, or five print advertisements of products taken from popular magazines as part of the control condition. Participants were then directed to an online questionnaire where they completed measures of body appreciation using the Body Appreciation Scale and thin-ideal internalization using the Sociocultural Attitudes Towards Appearance Questionnaire. Demographic information and questions that masked the study’s true purpose were also included. One week after completing the online questionnaire, subjects participated in a lab intervention where they viewed and rated the five advertisements at their leisure, and then complete post-test measures of state body image using the Self-Discrepancy Index. This allows researchers to code self-discrepancies into categories, such as appearance related self-discrepancy (Halliwell, 2013). Researchers chose to use this scale instead of the commonly Visual Analogue Scales as they note that this provided a more detailed measure of body image, while still allowing researchers to mask the purpose of such study (Halliwell, 2013). Thus, researchers used a post-test only design to avoid repeated or biased results. While this helps avoid some potential confounders, it does not necessarily allow researchers to say that viewing either advertisement type caused the observed post-test measures, as there is no indication of how much those observations changed from pre to post exposure. Results illustrated that baseline measures from the online questionnaire indicate no significant differences between the experimental groups. Researchers then created high and low thin internalization and body appreciation groups to compare results (Halliwell, 2013). Results illustrated that women with high thin-ideal internalism had larger appearance discrepancies when viewing images of thin-ideal models than participants that viewed the control images (Halliwell,
Further, researchers noted that body appreciation moderated the impact of media exposure dependent upon their degree of thin-ideal internalism (Halliwell, 2013). Thus, women with high thin-ideal internalism and low body appreciation had greater appearance discrepancies when viewing thin-ideal models. Further, researchers observed significant interactions between women with high thin-ideal internalization and low body appreciation had more significant appearance discrepancies (Halliwell, 2013), meaning greater differences between their ideal appearance and actual appearance (Andrews, Tiggemann, & Clark, 2015). Women with high ideal internalization and high body appreciation had less salient appearance discrepancies when viewing thin-ideal models (Halliwell, 2013). These findings provide two major ideas to consider. The first supporting the notion that body satisfaction and body appreciation are separate constructs. The second being the potential for body appreciation to act as a protective mechanism against thin-ideal internalization, as the differing factor between high or low appearance discrepancies among women with high thin-ideal internalization was level of body appreciation (Halliwell, 2013). Thus, this research further suggests that body appreciation may be protective when observed as a moderator.

As noted previously, body function is a mechanism often studied to operationalize body appreciation within research. In a more recent study, Williamson & Karazsia (2017) sought to extend the literature related to women’s state body appreciation when viewing individuals who either do or do not fit the thin-ideal. This research is important to consider in future positive body image research, as it helps to illustrate whether promotion of more realistic beauty standards has any impact on women’s health. If findings do not illustrate increases in positive health outcomes such as body appreciation
or satisfaction, then the suggestion to promote imagery that aligns with Body Positivity would be virtually ineffective. With this in mind, the current study consisted of 347 U.S. women between the ages of 18-29 years old who were exposed to one of five experimental conditions. These included: appearance focused images of models that aligned with the thin-ideal, appearance focused images of models who did not align with the thin-ideal, functionality focused images of models aligned with the thin-ideal, functionality focused images of models who did not align with the thin-ideal, and a control group exposed to images of nature. Appearance focused images were highly posed and sexualized whereas functionality focused images where women were performing physical activity (Williamson & Karazsia, 2017). Images were sourced from stock photography on Shutterstock.com. At baseline, participants completed measures of state body appreciation using the State Body Appreciation Scale-2 and body ideal internalism using the Sociocultural Attitudes Towards Appearance Questionnaire-4. Participants were then exposed to a series of 10 images on a slideshow, with manipulation checkpoints between each photo asking participants to assess the degree to which they desired to look like the photo subject or to travel to the destination shown dependent on experimental condition. Participants then completed post-test measures of state body appreciation. While manipulation checkpoints are often used within experimental research to ensure that participants are attentive to each image, inquiring about the degree to which participants desire to look like photo subject may elicit appearance comparisons that may not align with the participants thought process when scrolling through social media in more ecological settings. Results of the current study illustrated that significant changes in state body satisfaction occurred dependent upon the
type of model within participants’ exposure condition (Williamson & Karazsia, 2017). Inconsistent with previous research, the functionality on the model did not have significant impact on state body appreciation (Williamson & Karazsia, 2017). In previous studies, ideal effects of functionality occurred when participants were asked to reflect on their own body functionality, as observed by Alleva et al (2016), resulting in increased body function appreciation and body appreciation. However, Prichard et al. (2018) found that viewing either functional or posed photos did have impact on body satisfaction. Thus, it may be that simply observing imagery of individual performing functional activity has less impact on state body appreciation than asking participants to consider their own functionality. Further, this may support those aspects which impact body appreciation may not impact body satisfaction, justifying observation of each as separate constructs. The finding that women who were exposed to full-figured models had significant increases in state body appreciation (Williamson & Karazsia, 2017) further supports the potential benefits to challenging the current narrow sociocultural beauty standards. Researchers also emphasized considering body appreciation and body satisfaction as two separate constructs, noting that exposure to thin-models had little impact on body appreciation, whereas exposure to full-figured models increase body appreciation (Williamson & Karazsia, 2017). As a common observation of exposure to thin-ideal media is a decreased body satisfaction, these results further support viewing such as two separate components.

While much of the body positive research has focused on body appreciation, Swami et al. (2018) sought to understand the impact of Body Positivity on mental health and overall well-being. While mental health is often associated with declared happiness,
the current study sought to understand wellbeing as eudemonic, equating mental health with happiness that results in function or personal potential (Swami et al., 2018). Participants were 1,148 British men and women that ranged from age 18 to 81 years old. Individuals were recruited via a Crowdsourcing website for a 10 minute study. The online survey included measures of body appreciation using the Body Appreciation Scale-2, wellbeing using the Short Form of the Mental Health Continuum, as well as body acceptance, body pride, body image flexibility, BMI, and demographic characteristics. Results illustrated sex differences between men and women, where women had significantly lower body appreciation, pride, image flexibility, and well-being scores than men (Swami et al., 2018). Overall, outcomes of this study suggested that body appreciation was the strongest predictor of emotional, psychological, and social wellbeing (Swami et al., 2018). This finding supports the aforementioned studies in emphasizing the importance that body appreciation as a component of Body Positivity may play in improving not only body image but mental and emotional health.

Within the Body Positivity research discussed, measures of body appreciation are most often operationalized to represent Body Positivity research. While body positive literature continues to argue that dissatisfaction and appreciation are dichotomous, very few studies have attempted to examine the relationship between body positive media and body dissatisfaction, a common measure of body image within fit and thin-ideal. Even fewer studies have looked at Body Positivity in the context of social networking sites. Cohen et al. (2019b) recently performed a study comparing body positive content to Thinspiration and neutral images sourced from Instagram. A sample of 195 women between 18 and 30 years were randomly assigned to view body positive Instagram media,
thin-ideal Instagram media, or appearance-neutral Instagram media. Before exposure, measures of state mood and body satisfaction were collected using Visual Analogue Scales that assessed depression, anxiety, confidence, happiness, satisfaction with overall appearance, satisfaction with body shape, and a series of lifestyle satisfaction questions to mask the true aim of the study. Researchers conducted a pilot study to ensure images properly represented Body Positivity asking participants to rate the representativeness of each photo according to its’ proposed theme. Researchers sourced body positive these images from largely popular body positive Instagram accounts including @bodyposipanda, @omgkenzieee, @beautyredefined, and @nolatrees and contained subjects in differing clothing, fitness attire, and accompanying quotes. Thin-ideal images came from four popular thin-ideal accounts, and control images were of nature. This study also removed comments and likes to decrease the number of confounders. A total of 20 images sourced from public Instagram accounts were presented to each experimental group for a timed 10 seconds. After exposure, participants completed measures of trait body appreciation, Visual Analogue Scales related to state body appreciation, state body dissatisfaction, and state mood, and overall evaluation of their feelings towards body positive content. The total intervention lasted between 15-20 minutes. Researchers also included measures of state self-objectification measured using the Twenty Statements Test, state body appreciation was measured using Visual Analogue Scales with modified body appreciation questions from the State Body Appreciation Scale-2 (Cohen et al., 2019b). Finally, individuals were asked to evaluate their attitude towards body positive accounts. Mood was separated into a state positive, and state negative mood score with researcher noting that emotions are multidimensional
(Cohen et al., 2019b). Compared to participants who viewed Thinspiration images, those that were exposed to body positive images illustrated a significant increase in positive mood and body satisfaction (Cohen et al. 2019b). As expected, participants that viewed Thinspiration content experienced a significant decrease in mood and body satisfaction (Cohen et al, 2019b). These results held true even when researchers controlled for trait body appreciation (Cohen et al, 2019b). State body appreciation scores were also significantly higher for participants in the body positive group compared to the thin-ideal (Cohen et al., 2019b). Such results are promising and provide a potential means for mitigating the detrimental effects of viewing Fitspiration or Thinspiration images on social media. There was no significant difference between the body positive and control group regarding state body appreciation. Surprisingly, state self-objectification scores were not significantly different between the body positive and the thin-ideal condition, but both were significantly higher than the control condition (Cohen et al., 2019b). Researchers suggested that this may be due to the fact that, regardless of whether appearance criticism is positive or negative, there is still a degree of comparison that occurs between the individual and exposed imagery. Further, researchers noted that those in the body positive condition offered more positive comments about their appearance compared to the thin-ideal, potentially indicating that not all self-objectification may be negative. The greatest finding of the current study is the positive associations between exposure to body positive Instagram content and increases in mood and body satisfaction. These results offer a strong foundation for future body image research, and further contribute to the notion that body positive social media content may truly be an antidote to constant exposure to thin and fit-ideal imagery.
DIRECTIONS FOR FUTURE RESEARCH

Instagram is a largely popular platform where the thin-ideal is still pervasively disseminated within “Fitspiration” social media. As the social networking site’s popularity among young adult women remains constant, suggestions to decrease usage or exposure to this detrimental media are unrealistic. However, body positive accounts are equally as accessible as Fitspiration media. The handful of studies that have examined body positive concepts and social media exposure have seen promising outcomes related to body image and mood. Body positive content often portrays body image in ways that defy cultural norms, often challenging the appearance focused nature of body image as a whole (Cohen et al, 2019b). Rather, Body Positivity focuses on valuing one’s body for its' uniqueness and capabilities, promoting healthy behaviors such as intuitive eating and physical activity for non-appearance reasons (Cohen et al., 2017a). If Body Positivity does illicit improved mood, body appreciation, and body satisfaction, recommendations to increase exposure to such images may be a realistic and feasible way to attenuate the negative effects of viewing thin-idealized Instagram content. To date, there are no known studies comparing the impact of exposure to Fitspiration, which is intended to promote healthy behaviors and well-being, to Body Positivity, which is intended to do the same. While it may not be feasible to suggest that individuals use Instagram less frequently, suggesting that individuals exposed to Fitspiration media also seek body positive media may be a more realistic strategy to attenuate the negative effects of exposure to thin-ideal media. Alternative means of moderating or attenuating the observed detrimental effects

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of exposure body image trends are necessary. Future research examining the
effectiveness of body positive Instagram exposure versus fit-ideal Instagram exposure
will be necessary to determine if this strategy is both feasible and effective.
CHAPTER 3

STUDY DESIGN

The purpose of this study was to examine the acute effects of an exposure to social media content via Instagram (i.e. Fitspiration and body positive images) on state body satisfaction, body appreciation, and mood of female undergraduate students at from a large southwestern university. This study employed a parallel group’s randomized control trial with pre-test and post-test assessments of body satisfaction, body appreciation and mood. In addition, thin-ideal internalization and social comparison were measured as potential effect modifiers during baseline, as consistent with previous studies. Female undergraduate students were randomly assigned to one of three groups (Fitspiration, Body Positive, or Control). The Fitspiration and Body Positive groups were exposed to a series of 15 Fitspiration or Body Positive images sourced from Instagram while the control group viewed 15 interior design images sourced from Instagram. To mask the true intention of the current research, this study was presented to participants as a study exploring social media’s impact on lifestyle satisfaction. Participants were randomized to their experimental group assignments using the simple randomization tool on Qualtrics upon opening the intervention survey.

PARTICIPANTS

Participants were 98 female undergraduate students who were currently attending Arizona State University. To be included in the study, participants were required to be female, between the ages of 18-29, enrolled as a full or part-time student at Arizona University, have access to a computer and internet, and able to read and understand
English. Additionally, the participants had to be able to provide informed consent, and must have been willing to be randomized into one of three treatment groups. Participants were excluded if they had a history of a clinical diagnosis or treatment for body dysmorphic disorder, disordered eating, anorexia, bulimia or clinical depression or if they failed to meet any of the inclusion criteria.

**SAMPLE SIZE**

Participants were female undergraduate students between the ages of 18-29 recruited from a large southwestern university in the United States. To help ensure visible between group differences, the current study contained a sample size of 98 participants (Fitspiration N=33, Body Positive Content N=34, Control N=31) where between-group outcomes of body satisfaction, body appreciation, mood, and Instagram content exposure were examined.

**RECRUITMENT**

Participants were recruited from a large southwestern university using a variety of approaches. Instructors of large classes that included students from multiple disciplines (e.g., Fitness for Life, ASU 101 courses, EXW 342 Behavioral Change, etc.) were contacted and asked to advertise the study via an announcement in their Canvas shells. Additional recruitment methods included advertisements on social media platforms (e.g., Facebook and Instagram). All students were provided a link or QR code to an information letter describing the purpose and requirements of the study and a survey assessing eligibility criteria.

**Recruitment Protocol.** To screen for eligibility, all interested women were provided with a Qualtrics link to complete a brief, 5-10 minute, Initial Eligibility Survey.
The eligibility survey included questions that assessed inclusion criteria. Those deemed ineligible based on their responses to the survey were thanked for their time and notified of their ineligibility on Qualtrics. We also provided participants with contact information for the research team so that they could further discuss their ineligibility with a research team member, if desired. No participants contacted the research team. Individuals deemed eligible based on their survey responses were then presented with the Informed Consent for the online study. Upon consenting to participate, eligible participants were presented with one last opportunity to decline participation before starting in the study. In consenting to participate, eligible subjects were randomized into one of three arms via the Qualtrics randomization feature: Fitspiration, Body Positive, or the control.

**IRB Approval Statement.** The Institutional Review Board at Arizona State University approved this study prior to the initiation of any study-related activities. All participants provided their Informed Consent prior to participating in the study.

**VARIABLES**

**Dependent Variables.** The primary dependent variables of this study were state body satisfaction, state body appreciation, and state mood. State body satisfaction, state body appreciation, and state mood were assessed at both pre- and post-intervention using replicated Visual Analogue Scales.

**Independent Variables.** The independent variable of this study was participant’s group assignment. Participants were randomly assigned to one of three intervention groups which determined the type of Instagram image they viewed: Fitspiration, Body Positive or Interior Design images. All images were sourced from public Instagram
accounts and participants in each group were asked to view a series of 15 images in their respective category.

**Demographics.** Demographic data collected included age, gender, ethnicity, race, academic year, major, enrollment status, sorority status, pregnancy status, history of social media use, Instagram use, and body mass index.

**INTERVENTION DESCRIPTION**

**Fitspiration Group.** Fitspiration is a term used on Instagram to represent images of extremely lean and toned individuals with the intention of promoting positive health habits such as participation in exercise or consuming a healthy diet. Fitspiration stimulus content was sourced from public Instagram profiles that use the name or hashtag “Fitspiration,” and included 15 images of racially diverse individuals. All images contained pictures of Fitspiration models sourced from public Instagram accounts, and included, the Instagram subject’s username, and the Instagram frame. Images in the Fitspiration group were matched as best as possible to the body positive postures (i.e. a photo of a body positive model in a swimsuit had a corresponding photo of a Fitspiration model sitting in the Fitspiration intervention photo set). It was estimated that participants would spend approximately 45 minutes completing the entire survey.

**Body Positive Group.** Body Positivity is defined by six major themes that include: body appreciation, body acceptance and love, conceptualizing beauty broadly, adaptive body care and investment, inner positivity and protective filtering of information (Tylka & Wood-Barcalow, 2015, Cohen et al., 2019b). Body Positive stimulus content was sourced from public Instagram profiles whose Instagram Handles or image hashtags included variations of the phrases ‘body positive or Body Positivity.’ As with the
Fitspiration intervention group, the stimulus materials contained 15 images with women in comparable stances and activities as the Fitspiration images selected. It was estimated that participants would spend approximately 45 minutes completing the entire survey.

**Control Group.** Participants in the control group were exposed to a series of appearance-neutral pictures of interior design. These images were sourced from public Instagram profiles using #interiordesign or from top interior design accounts and did not contain any images of human beings. Similar to the Fitspiration and Body Positive groups, there were a total of 15 images included in the stimulus material. Despite viewing appearance neutral images, participants in the control condition followed an identical protocol to both experimental groups. It was estimated that participants would spend approximately 45 minutes completing the entire survey.

**DATA COLLECTION MEASUREMENT AND INSTRUMENTS**

**Demographics.** After providing informed consent and baseline measures of state mood, body satisfaction, and body appreciation, demographic information was collected. Data regarding age, sex, BMI (self-reported height and weight), ethnicity, academic year, academic area of study, chronic conditions, including the presence of any eating disorders or clinical depression, pregnancy, and current medications were included.

**Social Media Use.** As part of the pretest question set, participants’ normal social media use was assessed. Building from Tiggemann & Zaccardo’s (2015) questionnaire, social media questions included: ‘Do you use any of the following? Please select all that apply’ with options of Facebook, Instagram, Twitter, Tumblr, and Snapchat. Participants were also asked to provide how many minutes per week, and days per week they spend on each of the social media mediums selected. Questions assessing general social media
usage were also asked and included: ‘How many minutes per day do you spend on all social media accounts?’ with options of less than 10 minutes, 10-30 minutes, 31-60 minutes, or more than one hour. Additionally, participants were asked ‘How many days per week do you use any form of social media (i.e. Facebook, Instagram, Snapchat, Twitter, Tumblr, etc.)?’ To specifically assess Instagram use, one question was included that stated: ‘Do you have an Instagram Account’ with options of yes or no. This question was followed by: ‘If yes, how many minutes do you spend on Instagram per day’ with options of less than 10 minutes, 10-30 minutes, 31-60 minutes, or more than one hour. To understand what participants most often used Instagram for, participants were asked: ‘When using Instagram, which content topics do you most often browse? Please select the top THREE topics you most often look at’ with options of: Diet/weight loss, exercise, food, interior design, shopping, celebrity news, fashion, travel, nature, inspiration, health, art, and other.’ After collecting responses, frequencies were run to determine what percentage of the sample used each social media site. Controlling for participants who answered yes to using each site, frequencies were again run to determine how many minutes per day and days per week participants used each social networking site.

**Body Mass Index.** BMI was assessed using self-reported standardized height and weight measurements requested on the Baseline Questionnaire. Participants were asked to provide their weight in pounds, and their height in inches. These measurements were then converted to a kg/m² to find the final self-reported BMI scores. Participants were only be asked to report height and weight at pre-test.

**Trait Thin-Ideal Internalization.** Trait thin-ideal internalization was measured only at pretest using the Sociocultural Attitudes Towards Appearance Questionnaire-4.
This was included to assess this measure as an effect modifier at baseline. The SATAQ-4 subscales have previously demonstrated good reliability and construct validity among college women (Schaefer et al., 2015).

**Trait Social Comparison.** Trait social comparison was measured only at pretest as part of using the Physical Appearance Comparison Scale-Revised (PACS-R). This was included to assess this measure as an effect modifier at baseline. Robinson et al. (2017) noted that this scale has good inter-item reliability and convergent validity. PACS-R scores have previously illustrated strong reliability in a sample of college women, and was noted as a reliable and valid tool to assess appearance comparisons in women (Schaefer & Thompson, 2014). Previous studies have also correlated these measures with body satisfaction, disordered eating, and self-esteem (Schaefer & Thompson, 2014).

**State Body Satisfaction:** State body satisfaction was measured using Visual Analogue Scales. Subjects were asked to indicate their responses by marking a position on the scale between ‘0’ to ‘100’. The three body satisfaction questions were: ‘At this moment, I am satisfied with my weight,’ ‘At this moment, I am satisfied with my overall appearance,’ and ‘At this moment, I am satisfied with my body shape.’ A series of statements related to lifestyle satisfaction (i.e. relationship satisfaction, household living satisfaction, fiscal satisfaction) were also incorporated into this scale to uphold the cover story of this study being the effects of social media on Lifestyle Satisfaction. Visual analogue scales have been used in previous research related to body satisfaction and social media exposure, have has had consistent internal reliability (Cohen et al., 2019, Prichard et al., 2018, Fardouly et al., 2015, Tiggemann & Zaccardo, 2015, Slater, Varsani & Diedrichs, 2017). Visual Analogue scales require participants to reflect on how
satisfied they are with each statement “right now” by marking along a 100mm scale where ‘0’ represents ‘not at all’ and ‘100’ represents ‘very much.’ Previous studies have found that this scale is sensitive to small changes in mood and body satisfaction among college women (Cohen et al., 2019, Fardouly et al., 2015 Prichard et al., 2018, Tiggemann & Zaccardo, 2015), easy to complete quickly, and that large scale from 0 to 100 makes it harder to recall previous scores (Tiggemann & Zaccardo, 2015), which is advantageous to avoid participants reporting the same score from pretest to post test. Participants completed pre-test measures of body satisfaction directly after completing measures of state mood during the pre-intervention question set. Participants completed the same post-test visual analogue scales immediately following post-test mood VAS after exposure to their condition. Following Tiggemann & Zaccardo (2015) and Slater, Varsani, & Diedrichs (2017) body satisfaction scores at pre- and post-test were determined by averaging the scores of the three body satisfaction Visual Analogue Scale questions (At this moment, I am satisfied with my weight, at this moment, I am satisfied with my overall appearance, and at this moment, I am satisfied with my body shape). Slater, Varsani, & Diedrichs noted that higher averaged scores may suggest greater body satisfaction. Previous studies have suggested this measure presents high internal reliability (Slater, Varsani, & Diedrichs, 2017).

State Body Appreciation. Following methods reported in previous studies (Slater, Varsani, & Diedrichs, 2017), state body appreciation was measured using three Visual Analogue Scales. These questions were adapted from the Body Appreciation Scale (Avalos, Tylka, & Wood-Barcalow, 2005) into state measures and were found to have high internal reliability within the previous study (Slater, Varsani, & Diedrichs, 2017).
Subjects were asked to indicate their responses by marking a position on the scale between ‘0’ to ‘100’. The three body satisfaction questions were: ‘Right now, despite my flaws, I accept my body for what it is’ ‘right now, my feelings towards my body are positive for the most part,’ and ‘right now, my self-worth is independent of my body weight or shape’ (Slater, Varsani, and Diedrichs, 2017). These questions were included in the same lifestyle questionnaire as noted above. Participants completed the same post-test visual analogue scales immediately following post-test mood VAS after exposure to their experimental condition. Following Slater, Varsani, & Diedrichs (2017), and Cohen et al. (2019a), state body appreciation scores at pre and post-test were determined by averaging the scores of the three body appreciation VAS questions.

**Subjective Mood.** Subjective mood was measured at both pre-intervention and post-intervention in the laboratory using Visual Analogue Scales. These scales asked participants to indicate how they felt ‘at that moment’ with regards to the following emotions: anxiety, anger, confidence, happiness, and depression (Tiggemann & Zaccardo, 2015). Participants completed the mood Visual Analogue Scales at pre-test immediately before exposure to the intervention. Participants then completed the same post-test mood visual analogue scale immediately following exposure to their intervention condition. Mood was analyzed by separating this outcome into positive and negative mood scores. This decision was made based on previous literature noting that emotions are multi-dimensional, and may be autonomous of one another (Cohen et al., 2019b). To evaluate changes in positive mood, VAS scores of two positive mood variables ‘happiness’ and ‘confidence’ were averaged to create a positive mood score at pre-test and post-test. Higher scores were considered indicative of greater positive mood,
as modeled after Cohen et al. (2019b). To analyze changes in state negative mood, VAS scores of three negative mood variables ‘angry,’ ‘anxious,’ and ‘depressed,’ were averaged to create a negative mood score at pre-test and post-test. Higher scores were considered indicative of greater negative mood, again modeled after Cohen et al. (2019b).

**Qualitative Emotion.** In order to contextualize the conclusions of our findings, four different open-ended, short answer questions were included at the end of the study. These questions were ‘1) What did you see in these pictures? 2) How relatable are these pictures to you in your life? 3) How do those pictures make you feel about yourself? 4) What is it about them that make you feel this way?’ Contextualizing the responses observed on the Visual Analogue scales may have contributed to filling a void the literature regarding what it is specifically about these social media topics that influence the observed body dissatisfaction, body appreciation, and mood scores. The same four questions were included for all three conditions. While researchers chose not to analyze the control condition’s responses, data was collected as a quality check to confirm that qualitative responses indicated that participants had viewed control images. Most comments expressed the desire to have a home space related to the pictures that they saw, but no further in depth analysis was conducted for the control condition. To analyze qualitative responses of the experimental conditions, researchers first reviewed responses each question to find major themes in answers. Questions were then categorized as containing each major theme with either “yes” or “no.” Data was then separated by condition and “yes” responses were analyzed as frequencies. Responses may have been included in more than one category for Question 1, Question 3, and Question 4.
**Question 1:** The first question asked participants “What did you see in these pictures?” Responses were analyzed based on the following major themes observed within responses: 1) Apparel (comments relate to what models were wearing); (2) Beauty (comments noting that models appeared beautiful or pretty); (3) Body Positivity (comments considered fall under one of six sub categories composing Body Positivity such as body appreciation, body acceptance and love, conceptualizing beauty broadly, adaptive investment in body care, inner positivity, and protective filtering of information (Cohen et al, 2019b)). Following Cohen et al (2019a), this encompassed themes such as accepting one’s body for its functionality, health, and uniqueness, comments that encourage self care and positive health behaviors out of respect for one’s body, acceptance of an array of appearances, comments about caring for the body through health behaviors, comments that promote inner positivity and confidence, and comments that encourage compassion towards one’s body. Following Cohen et al (2019a), comments that noted weight loss or eating behaviors to achieve a certain appearance were considered appearance focused comments and not included as body positivity within this study; (4) Confidence (comments noting that models appeared confident); (5) Fit (comments noting that models appeared aesthetically fit or athletic; (6) Happy (comments noting that models appeared happy); (7) Healthy (comments noting that models appeared healthy); (8) Normal (comments noting that models looked to be normal) or (9) Thin (comments noting that models appeared thin, skinny, or lean).
**Question 2:** The second question “how relatable were there pictures to your life?” was coded as either ‘relatable’, ‘somewhat relatable’, ‘not relatable,’ or ‘unable to categorize.’ Only those answers that used some form of the phrase ‘relatable’ or ‘similar’ were categorized.

**Question 3:** The third question “how do these photos make you feel about yourself?” were coded based off of the following major themes: (1) Be more like model (have confidence, aesthetics, apparel like models did); (2) Change the way they look (be more fit, look like model, dress like model, lose weight); (3) Health behavior change (motivated to increase exercise, diet, eat healthier); (4) Negative (sad, bad, mad, not good, insecure, unconfident, self-conscious, envious); (5) No different (normal, neutral, do not impact feelings about self); and (6) Positive (empowered, happy, confident, accepting, comfortable).

**Question 4:** The final question asked participants “What is it about them that makes you feel this way?” referencing their response to question three. These questions were categorized by: (1) Aesthetics of models (models look fit, model were pretty, models look healthy, models look skinny); (2) Attitude (models look happy, models look confident, comfortable in own skin, self-love); (3) Comparing self to model (desire to be more like model, look like model, have attitude of model); (4) Inspired by model (self-acceptance, change health behaviors, love self, can do what models do); (5) Nature of Social Media (toxic false reality, editing images, strangers in pictures); and (6) Relatability of Model (look similar to models, hold similar attitudes as models, feel models relate to self).
DATA COLLECTION, PROCEDURES, AND PROTOCOL

Protocol. Participants completed measures of state mood, state body dissatisfaction and state body appreciation directly after consenting to participate on the Informed Consent. After completing state measures of the dependent variables, covariates, and completing all demographic questions, participants were randomly allocated to one of three experimental conditions (Fitspiration, body positive, or control) using the Qualtrics Randomization tool. Participants were exposed to a series of 15 images determined by their group allocation. Once participants finished viewing their condition images, they were immediately presented with post-test measures of mood, body dissatisfaction, and body appreciation using Visual Analogue Scales. After completing the post-test assessments, subjects were asked to answer four brief, short answer questions to qualitatively assess the impact of exposure to their experimental condition.

Intervention. The intervention itself consisted of exposure to 15 different images sourced from public Instagram accounts, with image themes dependent upon the participants’ assigned intervention group. The Qualtrics link led participants to a series of images, where they were be exposed to each individual image for an unlimited amount of time. Once participants felt they were finished viewing an image they hit the “next” button, which led them to either another image or a manipulation checkpoint question. Manipulation checkpoints occurred after every two images, and asked questions relevant to characteristics of the last photo they viewed.
DATA ANALYSIS

All data was assessed form normality using the Kolmogorov-Smirnov test, skewness and kurtosis parameters and data visualization prior to data analyses. Outcome variables that were not normally distributed were transformed prior to analyses. Specifically, the natural log of negative mood was taken prior to analyses because it was not normally distributed. Descriptive statistics including means, standard deviations, medians, interquartile range and frequencies were performed to describe participant and study-related characteristics. One-way analysis of variance (ANOVA) were used to compare between group differences in means at baseline for BMI, social comparison, thin internalization and social media use. To examine between-groups differences in post-test scores of state body satisfaction, body appreciation, positive mood and negative mood, a univariate analysis of covariance (ANCOVA) was used. All ANCOVA analyses controlled for the baseline value of the outcome variable. For state body satisfaction and body appreciation, the covariates of trait-thin-ideal internalization, trait social comparison, and BMI were also included in the model. If the omnibus ANCOVA was significant, post-hoc between group comparisons were assessed using the Bonferroni Correction to adjust for multiple comparisons. All ANCOVA assumptions were evaluated prior to analyses. For positive mood, the assumption of equal variances was violated so the data were transformed prior to analyses. All data analysis occurred in SPSS version 26 (IBM). A p-value of <0.05 was considered significant for all analysis.
 CHAPTER 4

PARTICIPANTS

Figure 1 details participant flow through the study. Participants were recruited from February 4th, 2020 to February 24th, 2020. A total of 224 individuals expressed an interest in participating in the study, of which 89 were deemed ineligible. The primary reason for ineligibility was a clinical diagnosis of an eating disorder, depression or anxiety (n=42 or 47.2%). One hundred twenty-five students enrolled in the study and a total of 98 female undergraduate students completed the study.

Figure 1: Participant Eligibility Flow

<table>
<thead>
<tr>
<th>Assessed for Eligibility (N=214)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ineligible (N=89)</td>
</tr>
<tr>
<td>1. Academic Status (n=14)</td>
</tr>
<tr>
<td>2. Age (n=3)</td>
</tr>
<tr>
<td>3. Clinical Diagnosis (n=42)</td>
</tr>
<tr>
<td>4. Duplicate Response (n=1)</td>
</tr>
<tr>
<td>5. Gender (n=10)</td>
</tr>
<tr>
<td>6. Not ASU Student (n=10)</td>
</tr>
<tr>
<td>7. Pregnant (n=4)</td>
</tr>
<tr>
<td>8. Unwilling to be Randomized (n=5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eligible (N=125)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomized (N=98)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Randomized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Positive N=34</td>
</tr>
<tr>
<td>Control N=31</td>
</tr>
<tr>
<td>Fitspiration N=33</td>
</tr>
</tbody>
</table>

| Enrolled but Incomplete (N=27) |

80
The majority of participants identified as White or Caucasian (67.0%), although the sample was quite diverse and included Black or African American participants (10.6%), Asian (7%), American Indian or Alaskan Native (1.1%), Pacific Islander (2%) and participants identifying as Other (11.7%). Nearly 30% of the participants identified as Hispanic. The mean age of the participants was 21.74 (SD=2.647), and the majority (64.9%) were between the ages of 18-21 years of age. Nearly 78% of participants identified their academic status as Junior or Senior year. Similarly the majority of students (68.9%) had a BMI in the normal range (18.5 – 24.9 kg/m²) based on self-reported data. A detailed overview of participant demographics is illustrated in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Participant Sociodemographic and Baseline Psychosocial Characteristics</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic</td>
<td>Value</td>
</tr>
<tr>
<td>Sex</td>
<td>Female</td>
</tr>
<tr>
<td>Academic Status</td>
<td>First Year</td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
</tr>
<tr>
<td>Hispanic (%)</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Race</td>
<td>White or Caucasian</td>
</tr>
<tr>
<td></td>
<td>Black or African American</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
</tr>
<tr>
<td></td>
<td>American Indian or Alaskan Native</td>
</tr>
<tr>
<td></td>
<td>Pacific Islander</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Age (years)</td>
<td>18-21</td>
</tr>
<tr>
<td></td>
<td>22-25</td>
</tr>
<tr>
<td></td>
<td>26-29</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>Underweight (&lt;18.5)</td>
</tr>
<tr>
<td></td>
<td>Normal (18.5-24.9)</td>
</tr>
<tr>
<td></td>
<td>Overweight (25-29.9)</td>
</tr>
<tr>
<td></td>
<td>Obese (30-34.9)</td>
</tr>
<tr>
<td></td>
<td>Severely Obese (&gt;35)</td>
</tr>
</tbody>
</table>

SOCIAL MEDIA USAGE
A detailed overview of participants’ social network use by platform type is available in Table 2. Nearly 97% of the participants reported having an Instagram account. Instagram was the most used social networking site within our sample, with 91.8% of participants reporting general use on 3.47 days per week for an average of nearly 56 minutes per day. In descending order, self-reported usage of social networking platforms was as follows: Snapchat (80.60%), Facebook (69.4%), Twitter (55.10%), Reddit (12.20%) Other (7.1%) and Tumblr (2%). Two participants reported no social media use of any form.

**Table 2**

<table>
<thead>
<tr>
<th>Social Network</th>
<th>% That Report Use n (%)</th>
<th>Average Days Per Week [SD]</th>
<th>Average Min per day [SD]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>68 (69.4)</td>
<td>2.46 [1.24]</td>
<td>30.99 [35.75]</td>
</tr>
<tr>
<td>Instagram</td>
<td>90 (91.8)</td>
<td>3.47 [0.88]</td>
<td>55.96 [39.38]</td>
</tr>
<tr>
<td>Reddit</td>
<td>12 (12.20)</td>
<td>2.33 [1.07]</td>
<td>33.75 [38.15]</td>
</tr>
<tr>
<td>Snapchat</td>
<td>79 (80.60)</td>
<td>3.42 [1.00]</td>
<td>60.40 [63.65]</td>
</tr>
<tr>
<td>Twitter</td>
<td>54 (55.10)</td>
<td>2.88 [1.17]</td>
<td>46.71 [53.40]</td>
</tr>
<tr>
<td>Tumblr</td>
<td>2 (2)</td>
<td>2.00 [0.00]</td>
<td>20.00 [14.14]</td>
</tr>
<tr>
<td>Other</td>
<td>7 (7.1)</td>
<td>2.86 [1.20]</td>
<td>58.29 [42.67]</td>
</tr>
<tr>
<td>Do Not Use</td>
<td>2 (2)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Note.** Participants were able to report using more than one social networking platform resulting in percentages that add up to more than 100%.

**OUTCOME MEASURES**

The means and standard deviations for body satisfaction and body appreciation outcomes per study condition are illustrated in Table 3. Means, standard deviations, baseline medians, and interquartile ranges for mood outcomes are presented in table 4.

**Table 3**

*Means[SD] for Body Appreciation and Satisfaction by condition.*
### Table 4

**Means [SD] and Medians [IR] for Positive and Negative Mood by condition.**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Variable</th>
<th>Baseline Mean [SD]</th>
<th>Baseline Median [IR]</th>
<th>Posttest Meana [SD]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fitspiration</td>
<td>15.66 [17.26]</td>
<td>10.17 [24.71]</td>
<td>17.90 [27.01]</td>
</tr>
</tbody>
</table>

*a The post-test means presented are back transformed means after adjusting for baseline scores

### STATE BODY SATISFACTION

Table 5 provides results of the ANCOVA analysis and Table 6 provides results from the post-hoc analysis of between group differences for all outcome variables. After controlling for thin-ideal internalization, trait social comparison, BMI and baseline level of state body satisfaction, there were significant differences in post-test scores of state body satisfaction by condition (F=16.268, p=<.001). Thin ideal-internalization, trait social comparison and BMI were not independently associated with post-test scores of state body satisfaction. The adjusted R-Squared for the model was .813. Post-hoc analyses of between-group differences indicated the mean post-test body satisfaction...
scores within the Fitspiration condition were significantly lower than the mean post-test scores of Body Positive condition (MD=13.414, SE=4.816, p=.020). There were no significant differences between the Fitspiration group and control group. Results also indicated that the Body Positive condition has significantly higher post-test body satisfaction scores than both the control (MD= 11.134, SE=3.093, p=.002) and the Fitspiration condition (MD=17.312, SE=3.092, p= <.001).

**Table 5**

*ANCOVA Results*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Covariates</th>
<th>dF</th>
<th>MS</th>
<th>F</th>
<th>P-Value</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Appreciation</td>
<td>Thin-Ideal Internalization</td>
<td>1</td>
<td>485.43</td>
<td>2.546</td>
<td>0.114</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td>Social Comparison</td>
<td>1</td>
<td>507.558</td>
<td>2.662</td>
<td>0.106</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>BMI</td>
<td>1</td>
<td>56.065</td>
<td>0.294</td>
<td>0.589</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Baseline Body Appreciation</td>
<td>1</td>
<td>37522.579</td>
<td>196.797</td>
<td>&lt;.001</td>
<td>0.691</td>
</tr>
<tr>
<td></td>
<td>Condition</td>
<td>2</td>
<td>882.081</td>
<td>4.626</td>
<td>0.012</td>
<td>0.095</td>
</tr>
<tr>
<td>Body Satisfaction</td>
<td>Thin-Ideal Internalization</td>
<td>1</td>
<td>17.131</td>
<td>0.116</td>
<td>0.734</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Social Comparison</td>
<td>1</td>
<td>98.384</td>
<td>0.666</td>
<td>0.417</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>BMI</td>
<td>1</td>
<td>28.607</td>
<td>0.194</td>
<td>0.661</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>Baseline Body Satisfaction</td>
<td>1</td>
<td>45967.983</td>
<td>311.256</td>
<td>&lt;.001</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>Condition</td>
<td>2</td>
<td>2402.508</td>
<td>16.268</td>
<td>&lt;.001</td>
<td>0.27</td>
</tr>
<tr>
<td>Negative Mood</td>
<td>Baseline Negative Mood</td>
<td>1</td>
<td>61.238</td>
<td>66.179</td>
<td>&lt;.001</td>
<td>0.416</td>
</tr>
<tr>
<td></td>
<td>Condition</td>
<td>2</td>
<td>1.218</td>
<td>1.316</td>
<td>0.273</td>
<td>0.028</td>
</tr>
<tr>
<td>Positive Mood</td>
<td>Baseline Positive Mood</td>
<td>1</td>
<td>27.024</td>
<td>89.549</td>
<td>&lt;.001</td>
<td>0.491</td>
</tr>
<tr>
<td></td>
<td>Condition</td>
<td>2</td>
<td>1.239</td>
<td>4.104</td>
<td>0.02</td>
<td>0.081</td>
</tr>
</tbody>
</table>

**Table 6**

*Post-Hoc Analyses of Between-Group Differences on Outcomes*
The mean differences presented are for the transformed data (natural log) due to the non-normal distribution of the data.

**STATE BODY APPRECIATION**

After controlling for thin-ideal internalization, trait social comparison, BMI and baseline levels of state body appreciation, there were significant differences in post-test scores of state body satisfaction by condition ($F=4.626$, $p=0.012$). Thin ideal-internalization, trait social comparison and BMI were not independently associated with post-test scores of state body satisfaction. The adjusted $R^2$ for the model was .740. Post-hoc analyses of between-group differences indicated the mean post-test body appreciation scores within the Fitspiration condition were significantly lower than the mean post-test scores of the Control (MD= 9.818, SE=3.743, $p=.031$) and the Body Positive condition (MD=9.372, SE=3.492, $p=0.26$). There were no significant differences in post-test body appreciation scores between the Body Positive and Control condition.

**STATE POSITIVE MOOD**
After controlling for baseline levels of state positive mood, significant differences were observed in post-test scores of state positive mood by condition (F=4.104, p=0.02). The adjusted R-Squared for the model was .491. Post-hoc analyses of between-group differences indicated the mean post-test positive mood scores within the Fitspiration group were significantly lower than the mean post test scores of the Body Positive condition (MD=-0.378, SE=.135 ,p=.019). There were no significant differences in post-test positive mood scores between the Body Positive and Control condition. No significant differences in post-test positive mood scores were observed between the Control and Fitspiration condition.

**STATE NEGATIVE MOOD**

After controlling for baseline levels of state negative mood, there were no significant differences in post-test scores of state negative mood by condition (F=1.1316, p=0.273). The adjusted R-Squared for the model was .411. Post-hoc analyses of between-group differences indicated no significant differences in negative mood scores between the Body Appreciation, Body Satisfaction, and Control conditions.

**QUALITATIVE EMOTION**

Table 7 provides a summary of short answer questions, major themes, and frequency of themes in participant responses for the Fitspiration and Body Positive condition.
Fitspiration and Body Positive Qualitative Data Frequencies

<table>
<thead>
<tr>
<th>Question</th>
<th>Variable</th>
<th>Fitspiration n(%)</th>
<th>Body Positive n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did you see in these pictures?</td>
<td>Apparel</td>
<td>8 (25%)</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td></td>
<td>Beauty</td>
<td>7 (21%)</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td></td>
<td>Body positive characteristic</td>
<td>0 (0%)</td>
<td>24 (70.6%)</td>
</tr>
<tr>
<td></td>
<td>Confident</td>
<td>6 (18.2%)</td>
<td>13 (38.2%)</td>
</tr>
<tr>
<td></td>
<td>Fit</td>
<td>24 (75%)</td>
<td>1 (3%)</td>
</tr>
<tr>
<td></td>
<td>Happy</td>
<td>5 (15.2%)</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td></td>
<td>Healthy</td>
<td>4 (12.1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>0 (0%)</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td></td>
<td>Thin</td>
<td>4 (12.1%)</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>How relatable are these pictures to you in your life?</td>
<td>Relatable</td>
<td>7 (21.2%)</td>
<td>11 (32.4%)</td>
</tr>
<tr>
<td></td>
<td>Somewhat relatable</td>
<td>3 (9.1%)</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td></td>
<td>Not relatable</td>
<td>12 (39.4%)</td>
<td>8 (23.5%)</td>
</tr>
<tr>
<td></td>
<td>Unable to categorize</td>
<td>2 (6.1%)</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td>How do these pictures make you feel about yourself?</td>
<td>Be more like model</td>
<td>7 (21.2%)</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td></td>
<td>Change the way they look</td>
<td>5 (15.2%)</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td></td>
<td>Change health behavior</td>
<td>7 (21.2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>15 (45.5%)</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>8 (24.2%)</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
<td>2 (6.1%)</td>
<td>22 (64.7%)</td>
</tr>
<tr>
<td>What is it about them that makes you feel this way?</td>
<td>Aesthetics of model</td>
<td>24 (72.7%)</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td></td>
<td>Attitude of model</td>
<td>8 (24.2%)</td>
<td>12 (35.3%)</td>
</tr>
<tr>
<td></td>
<td>Comparing self to model</td>
<td>12 (36.4%)</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td></td>
<td>Inspired by model</td>
<td>2 (6.1%)</td>
<td>6 (17.6%)</td>
</tr>
<tr>
<td></td>
<td>Relatability of model</td>
<td>4 (12.1%)</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td></td>
<td>Social media Influence</td>
<td>2 (6.1%)</td>
<td>2 (5.9%)</td>
</tr>
</tbody>
</table>

In response to the question, “What did you see in the pictures?” there were nine major characteristics observed within participant responses. Of such, the most common characteristic for the Fitspiration condition was “fit” with 75.0% of participants within the Fitspiration group commenting that the images they viewed were of models who appeared aesthetically fit or athletic. This characteristic was followed by apparel (25.0%), beauty (21.0%), confident (18.2%), happy (15.2%), healthy (4.0%) and thin (40%).

Within the Body Positive condition, the most common characteristic noted were those
falling under “body positive characteristics” with 70.6% of condition participants noting such. These were followed by confident (38.2%), happy (14.7%), apparel (11.8%), Beauty (8.8%), thin (5.9%), fit (3%), and normal (2.9%).

In response to “How relatable are these photos?” participants commented on the relatability of the condition photos. Overall, 21.2% of the Fitspiration group found the condition images relatable, 9.1% found them somewhat relatable, and 39.4% noted that images were not relatable for a variety of reasons. Within the Body Positive group, 32.4% viewed the images as relatable, 8.8% reported being somewhat relatable, 23.5% reported not relatable, and 20.6% of responses were unable to categorize.

Responses for Question 3 attempted to qualify how viewing condition images influenced the way participants felt about themselves. Within the Fitspiration condition, the most common response was negative (45.5%) followed by neutral (24.2%) and want to be more like model (21.2%). A full overview of variables and frequencies is available in Table 8. For the body positive condition, the most common response was positive (64.7%) followed by neutral (20.6%) and negative (8.8%). A detailed overview of variables and frequencies is available in Table 9.

Responses for Question 4 sought to understand what about the images led to the responses noted in question 3. For the Fitspiration condition, the most common responses included the aesthetics of the models within their condition (72.7%), comparing themselves to characteristics of the condition models (36.4%) and the attitude characteristics of the model (24.2%). Responses related to aesthetics of models included those that commented on the physical attributes of the models within their exposure condition, such as the models appeared to look fit, healthy, thin, or comments related to
physical beauty. Attitudes of models included responses related to the attitudes or emotions being portrayed by the model within condition images. Comments were related to models appearing happy, confident, comfortable in their own skin, or expressing self-love. Within the body positive condition, the most common response was the attitude characteristics of the model (35.3%). This was followed by the aesthetics of the condition models (20.6%) and the relatability of the model within their condition imagery (20.6%).
The purpose of the current study was to experimentally examine the impact of acute exposure to body positive and Fitspiration Instagram content on the body satisfaction, body appreciation, and mood of undergraduate women at Arizona State University. The first aim of this study was to experimentally investigate the impact of viewing “Fitspiration” and “body positive” content from Instagram on undergraduate women’s state body satisfaction compared to exposure to appearance neutral content. We hypothesized that viewing body positive content from Instagram would result in greater state body satisfaction compared to participants exposed to Fitspiration and appearance neutral content (H2). Our findings were in support of our second hypothesis. In the present study participants in the Body Positive condition had significantly higher post-intervention body satisfaction scores than both the control and Fitspiration condition. Results also indicated that body satisfaction scores within the Fitspiration condition were significantly lower than scores of Body Positive condition, but were not significantly different than the control condition. These findings suggest that viewing body positive social media may improve individual’s state body satisfaction, whereas viewing Fitspiration social media may decrease individual’s state body satisfaction.

The second aim of this study was to experimentally investigate the impact of viewing “Fitspiration” and “body positive” content from Instagram on undergraduate women’s state body appreciation compared to exposure to appearance neutral content. We hypothesized that viewing body positive content from Instagram would result in greater state body appreciation compared to participants exposed to Fitspiration and appearance neutral content (H4). We also hypothesized that viewing Fitspiration content from Instagram will result in decreased state body appreciation compared to participants
exposed to body positive and appearance neutral content (H5). There were no significant differences in body appreciation scores between the Body Positive and Control condition, but the Body Positive condition had significantly greater body appreciation scores than the Fitspiration condition, partially supporting Hypothesis 4. However, in support of Hypothesis 5, results indicated that participants within the Fitspiration group had significantly lower body appreciation scores than the Control and the Body Positive condition. These findings suggest that body positive social media may also instigate higher levels of body appreciation, whereas viewing Fitspiration content may lead to decreased body appreciation.

The final major aim of this study was to experimentally investigate the impact of viewing “Fitspiration” and “body positive” content from Instagram on undergraduate women’s state mood compared to appearance neutral content. We hypothesized that viewing body positive content from Instagram would result in greater state positive mood compared to participants exposed to Fitspiration and appearance neutral content (H7). Similarly, we hypothesized that viewing Fitspiration content from Instagram would result in greater state negative mood compared to participants exposed to body positive and appearance neutral content (H8). While no significant differences were observed between the three conditions regarding negative mood scores, positive mood scores suggested otherwise. Partially supporting Hypothesis 7, the Body Positive condition reported significantly greater positive mood scores than the Fitspiration group, but showed no significant difference in relation to the control group. These findings suggest that exposure body positive content may lead to more positive mood outcomes, whereas viewing Fitspiration content may lead to decreased positive mood.
The current study found that participants within the body positive condition reported significantly greater body satisfaction, positive mood, and body appreciation scores. These observations are consistent with those observed by Cohen et al. (2019b) comparing Thinspiration Instagram content to Body Positive Instagram content. A sample of 195 women between 18 and 30 years were randomly assigned to view 20 body positive Instagram images, thin-ideal Instagram images, or appearance-neutral Instagram images. The major outcomes assessed were state body satisfaction, state body appreciation, and state mood. Similar to the present study, mood was separated into a positive and negative mood score. Compared to participants who viewed Thinspiration images, those exposed to body positive images illustrated a significant increase in positive mood and body satisfaction (Cohen et al. 2019b). Further, state body appreciation scores were also significantly higher for participants in the body positive group compared to the thin-ideal, as was observed between the body positive and Fitspiration group within the current study (Cohen et al., 2019b). Consistent with the current study’s findings, Cohen and colleagues (2019b) reported no significant difference between the body positive and control group regarding state body appreciation. These results further contribute to the notion that body positive social media content may truly be an antidote to constant exposure to thin and fit-ideal imagery.

The differences we observed in body satisfaction scores between the Fitspiration condition and control condition are consistent with the findings of Tiggemann & Zaccardo (2015). In one of the first studies examining the impact of Fitspiration Instagram images on body satisfaction, the researchers sought to explore how exposure to Fitspiration on Instagram influences body satisfaction and mood. Tiggemann & Zaccardo
randomized 130 Australian undergraduate women to view either Fitspiration images or travel images sourced from Instagram. Results of this study demonstrated that participants who were exposed to Fitspiration images had a significant increase in negative mood and body dissatisfaction compared to the control group (Tiggemann & Zaccardo, 2015). The current study observed similar findings related to body dissatisfaction scores between the Fitspiration and the control group.

Contrary to previous findings (Tiggemann & Zaccardo, 2015; Coehn et al., 2019b), the current study did not observe significant difference in post-test negative mood scores between groups. Pre-test mood scores illustrated that participants were not incredibly depressed, angry, or anxious at pretest. Thus, a lack of significant observations for posttest negative mood between groups is likely attributed to the lack of variability for negative mood scores. It is also possible that this discrepancy could be attributed to the way mood was analyzed. In the current study, researchers chose to examine mood as both state positive, and state negative mood due to the multidimensional nature of emotion (Cohen et al., 2019b). In the study performed by Tiggemann & Zaccardo (2015), mood scores were determined by reverse coding positive mood items before averaging all five mood VAS scores.

Based on current literature, researchers of the current study chose to control for the impact that social comparison and thin-ideal internalization may have on outcome scores. Previous research (Cohen et al., 2019b) has asserted much of women’s body image dissatisfaction may be based on their internalization of the media’s unrealistic appearance ideals, causing appearance comparisons and body dissatisfaction related outcomes. Despite suggestions that these may influence the relationship between
exposure to Instagram media and body image outcomes, when included as covariates, neither thin-ideal internalization nor social comparison were significantly associated with body satisfaction or body appreciation scores. Based off of the findings of Homan et al. (2012) that BMI illustrated a stronger correlation as a moderator than both athletic and thin internalization to body dissatisfaction, the current study also included BMI as a covariate. Despite previous findings, in the current study BMI was not significantly associated with scores when included as a covariate. Though the current study included social comparison, trait thin internalization and BMI as covariates, current findings seem to align with previous literature. In a study examining the impact of thin-ideal, athletic ideal, and muscular ideal image exposure on body dissatisfaction, exercise motivation, and social comparison, Robinson et al. (2017) found that trait social comparison did not moderate body dissatisfaction scores. Similarly, Slater, Varsani, & Diedrichs found that trait-thin ideal internalization did not moderate observed differences scores between their Fitspiration, Fitspiration and Self-Compassion, Self-Compassion only, and Control outcome scores (2017).

As an exploratory aim, the current study sought to better understand the conscious thoughts of participants when viewing Instagram body image trends. This study was one of the first to include a qualitative examination of exposure to beauty trends on Instagram. Within the Fitspiration group, the most commonly cited characteristics of condition image were were fitness, apparel, beauty, and confidence. Conversely, the majority of participants within the body positive group mentioned characteristics of body positivity and confidence within their responses, aligning with the aims of body positive social media. Qualitative analysis indicated that 70% of participants exposed to the Body
Positive condition noted viewing body positive characteristics, whereas the fitspiration group noted no components of body positivity within their responses. Contrarily, the 75% of the Fitspiration condition mentioned viewing images of fit or athletics individuals, whereas only 3% of the Body Positive group reported this observation within their short answer. This theme should be considered both in terms of the types of images used within each exposure condition, and in terms of perceptions of beauty norms that represent fitness. Body Positivity generally focuses on health in terms of mental, emotional, and physical wellbeing, whereas Fitspiration is grounded in practicing health behaviors to achieve a certain aesthetic appearance. In a content analysis of body positive imagery on Instagram, authors noted only 15.15% of all images containing humans featured models that were exercising or in action movement poses (Cohen et al., 2019a). Rather, the majority were in non-action poses. Fitness, especially within the fit-ideal, is generally represented by a tone and lean figure. Thus, many participants who viewed fit-ideal models may have associated viewing images of lean and toned women with fitness. On the contrary, the majority of body positive photos were addressing other aspects of health such as self-compassion, body love and acceptance, or embracing unique attributes that go against beauty standards such as the fit-ideal. Fitness, exercise, and healthy eating were not explicitly emphasized within the Body Positive Imagery, which may have caused participants to focus more on the mental and emotional aspects of health rather than aspects of physical health. This may explain the lack of comments related to fitness by from the Body Positive condition. Content analyses of Fitspiration websites support the observation that most women pictured in Fitspiration media are thin, toned, highly sexualized, and objectified (Carrotte, Prichard, & Lim, 2017, Boapple et al., 2016, Slater,
The major characteristics observed when participants were asked to reflect on what they observed in the photos, came as little surprise based on previous literature. When participants were asked to indicate how relatable the images they viewed were, researchers noted that participants reported they resonated with the images they viewed for a number of reasons. Participants’ perceptions about the relatability of photos were primarily based on perceived similarities or differences between the look of their bodies in comparison to the models in the pictures. Additionally participants were able to relate to the attitudes portrayed by the models within their condition. Others noted that they found the images they viewed to be relatable because models had an apparel style, body type or attitude that participant were aspiring towards. Participants also noted that these photos were or were not relatable because of what the models were wearing, or their inability to relate to taking and posting pictures that looked like the models on social media. Most commonly, participants within the Fitspiration group reported images as not relatable, largely due to their bodies looking different than those in the images. Those who did report images being relatable mainly noted they aspire to obtain a body type like the ones shown within their condition, and thus they related to these images as a goal. Within the body positive condition, participants most commonly reported images being relatable, though a large portion also noted the opposite. Participants commonly cited relating to the body positive imagery because they felt that, like the models in their condition images, they had bodies that did not fit traditional beauty standards. However, many participants also noted that these images were less relatable because they did not
have the same bodies or confidence about their bodies, as the models in their exposure images.

While many responses aligned with the body satisfaction, body appreciation, and mood scores observed within the current study, an interesting finding was that related to how the images made participants feel. Though our main effect outcomes indicated no significant differences in negative mood scores between the Fitspiration and Body Positive conditions post-intervention, qualitative results provide different insight. The most common characteristics of the Fitspiration condition’s responses to the question of how these images made participants feel about themselves was “negative.” Negative statements included statements such as “sad, bad, mad, not good, insecure, unconfident, self-conscious, or envious.” Interestingly, the most common characteristic expressed by the body positive group was “positive.” Positive statements included “empowered, happy, confident, accepting, or comfortable.” These qualitative observations support both findings of previous literature related to Fitspiration and negative mood (Tiggemann & Zaccardo, 2015, Prichard et al., 2018), as well as the current study’s findings related to increased positive mood after viewing body positive imagery.

The last qualitative question examined the specific characteristics of condition imagery that influenced participant’s feelings of self. Within the Fitspiration condition, the majority of participants noted their reasoning for their reported responses included that the aesthetics of the model, characterized as the models’ physical appearances, the attitudes the models portrayed and comparing themselves to the model. As many participants noted characteristics of fit, beauty, and confidence when viewing Fitspiration photos, it seems plausible that they might compare those characteristics to aspect of
themselves. Further, participant’s inability to relate to many of the Fitspiration images should also be considered to help understand how comparing their appearance to that of the models may have led to greater negative feelings within the Qualitative analysis. It may also be of importance to note that only the Fitspiration condition reported wanting to change health behaviors after viewing condition images in the previous question. This was noted through comments stating that Fitspiration images made participants want to work harder, work out more, or consume a more strict diet. Thus, despite more common feelings of negativity and inability to relate to Fitspiration images, these responses do provide some merit for the potential benefits that may come from viewing Fitspiration media. Given how the results of data analysis seem to show more negative than positive effects of viewing fitspiration imagery, more in-depth methods for collecting qualitative data are warranted. Within the body positive condition, participants reported that the attitudes of the models, their ability to relate to the models pictures, and the aesthetic appearance of the models most commonly fueled the way images made them feel. As many individuals reported viewing confidence and body positive characteristics within the Body Positive condition, findings that the attitude of the models, their ability to relate to the models (via looks or attitudes), and the aesthetics of the models may help explain how these images may make participants feel positive.

**STRENGTHS AND LIMITATIONS:**

This is the first known study to compare body image and mood outcomes between two popular Instagram trends: Body Positivity and Fitspiration. The experimental pre-posttest design of the current study adds strength to the observed significant acute changes from brief exposure to Instagram images. Further, findings of the current study
are consistent with much of the previous literature related to Fitspiration and body image. In addition to observing significant differences between groups, this study successfully addressed a void in the literature comparing Body Positive social media to Fitspiration. This included qualitative data that addressed the specific characteristics of Instagram images that may drive the observed outcomes. The online nature of this study may also support the ecological validity of our findings. Instagram is accessible anywhere individuals can connect to the Internet. Thus, using real Instagram imagery from the social networking site, the decision to allow the sample to participate in a setting of their choice, and to view each image for a length of their choice may better replicate the normal interactions they would have when using Instagram. This ultimately adds strength to the ecological validity of the current study. This survey was also convenient for gathering real-time information, as the study generally took participants less than one hour, and could be completed at participant’s own convenience.

This study is not without limitations. The current study took place completely online, and relied solely on self-reported data. Though a less controlled experimental environment may have potential confounders, it is more closely related to the actual settings in which viewing Instagram would occur. While inclusion criteria was specific in assessing eligibility, the nature of online interventions does not allow for verification that individuals were truthful in reporting their demographic outcomes, as with all online-only assessments. Further, the current study only examined a one-time exposure to the images. Thus, the results of the current study are limited to a single exposure, warranting the need for longer term studies that examine how exposure over time impacts body satisfaction, body appreciation, and mood outcomes. Additionally, while the current study found their
sample to be racially diverse, there was a lack of first-year student responses. As only Arizona State University female undergraduate students were eligible to participate in this study, the current findings may not represent all undergraduate females. However, results of this study are strongly supported by previous literature exploring body image social media in women around the world, and thus provide great insight towards filling much needed gaps within the literature related to the impact of exposure to beauty trends on social media.

An additional limitation of the current study may be the use of a convenience sample. Though previous studies have recruited samples from specific universities, the current sample mainly recruited participants from health related majors. This should be considered for numerous reasons. Those studying health related concepts may prioritize a certain body image, healthy eating, and exercise more often that the average student in other majors. This may cause individuals to criticize their own appearance or habits more harshly, leading to greater internalization of these concepts. However, results of our ANCOVA illustrated that neither trait social comparison, trait thin-ideal internalization, or BMI acted as significant covariates between groups. Further, it could also be assumed that most students studying health related concepts would not define health as one specific body type or “one size fits all.” Rather, we would expect that this population might conceptualize health in terms of performance health behaviors for risks of chronic disease and mortality rather than appearance, biomarkers, and an understanding that fitness is represented by an array of body shapes and sizes. The fact that despite previous health knowledge, participants within this population still illustrated significantly lower body appreciation, body satisfaction, and positive mood scores may also be seen as a
strength of the current study as it indicates just how powerful social comparisons on social media may be. However, the generalizability of this study may be limited in representing all female undergraduate students given the overall lack of variability in student majors.

Finally, qualitative data was obtained through open-ended questions via an online survey. While qualitative data successfully added to a void in the literature, the short-answer format of this data may also be considered a limitation as answers were relatively short and lacked substantive details. We used an inductive coding approach, allowing the themes to emerge from the data. However, the short responses of the participants were not always clear nor did they provide an in-depth examination of how the pictures made people feel and why. Only one coder determined interpretations of qualitative answers. Future studies may address this limitation by including in person or telephone interviews where dialogue may add richness to participant’s responses. Additionally, including multiple coders may support the reliability of qualitative interpretations.

IMPLICATIONS OF FINDINGS

The findings of the current study further support the justification for social media research, specifically on Instagram. While previous research has reported that Facebook remains the most popular social networking site (Fardouly & Vartanian, 2019) this study found that Instagram was the most used social networking site by the current sample, followed by Snapchat, Facebook, Twitter, Reddit, and Tumblr in descending order. Further supporting the notion that women, especially those between 18-29 years of age, may be particularly vulnerable to the impacts of beauty trends like Fitspiration and Body Positivity on Instagram.
The findings that even brief exposure to body image trends on Instagram led to significant differences in body satisfaction, body appreciation, and mood scores between groups supports prior research related to the impact of social media use. Previous studies have demonstrated that it may be time spent interacting with appearance related social media, rather than overall time spent on social media that contributes to more detrimental body image and mood outcomes. Fardouly & Vartanian (2014) found that specific interaction with appearance related photos and videos, rather than actual time spent on Facebook, caused decreases in body dissatisfaction and mood (Fardouly & Vartanian, 2014). Similar research suggests that greater exposure to appearance related media on Facebook, rather than the amount of Facebook usage itself, is associated with greater body dissatisfaction (Meier & Grey, 2014). In the study by Meier & Grey (2014) researchers found that the relationship between Facebook usage and body image concerns was mediated by appearance comparisons. Though participants in the current study spent a relatively short amount of time interacting with condition image, researchers observed significant differences in body satisfaction, body appreciation, and mood scores from relatively brief exposure. As the current sample reported spending approximately 55.96 [SD= 39.38] minutes on Instagram daily, the implications of these findings may be worrisome when considering how consistent exposure to these beauty trends over time may influence state, and even trait measures of body satisfaction, body appreciation, and mood. Future studies examining more long term impacts of regular exposure to Fitspiration and body positive Instagram social media may be warranted to better understand the impact of consistent exposure.
Broader implications of the current study’s findings should also be considered as support for the potential threat that the thin-ideal continues to play in beauty standard norms on social media. The observation that detrimental outcomes such as decreased body dissatisfaction, decreased body appreciation, and decreased negative mood only occurred within the Fitspiration group may support the notion that only conditions exposed to the thin ideal illustrated lowered body image and positive mood scores. All images included within the Fitspiration condition contained a lean and toned female, often in underwear, swimwear, and sexually objectified positions. The body positive condition attempted to match these image characteristics, though using a more diverse array of body shapes and sizes. However, the same sexual objectification and clothing had no significant negative impact on body appreciation and satisfaction scores in the Body Positive satisfaction condition. The underlying detriment of the thin-ideal has been explored by previous literature. Homan et al. (2012) found that when compared to the control group, body dissatisfaction increased in those exposed to thin and fit models, but did not increase in those exposed to normal weight models (Homan et al., 2012). Thus, those exposed to fit but normal weight individuals did not express significant decreases in body dissatisfaction. Robinson et al. (2017) observed that fit-ideal and thin-ideal images led to greater body dissatisfaction than the hyper muscular-ideal condition (Robinson et al., 2017). Further, their results suggested that women exposed to Fitspiration images had even greater body dissatisfaction than women exposed to thin-ideal images (Robinson et al., 2017). Within the current study, Body Positivity was defined as images that promote body appreciation, body acceptance and love, conceptualizing beauty broadly, adaptive investment in body care, inner positivity, and protective filtering of information (Cohen
et al, 2019b). The images selected for the body positive condition contained an array of body types and models, whereas the Fitspiration all contained a lean and toned individual, ultimately continuing to promote the thin-ideal. Thus, current findings may continue to support the negative impact previously observed related to continued promotion of the thin-idea.

**DIRECTIONS FOR FUTURE RESEARCH**

Research is necessary to determine if exposure to body positive social media may in fact attenuate the impact of exposure to trends like Fitspiration. Due to the nature of Instagram, users are likely to interact with multiple beauty trends despite their best efforts to avoid one another. Thus, future research is necessary to determine if exposure to Body Positive social media may in fact attenuate the impact of exposure to trends like Fitspiration on Instagram. Future research might build off of the current study by including an experimental condition that is exposed to both Body Positive and Fitspiration images. Filling this gap in the literature related to how viewing multiple beauty trends, as opposed to just one, impacts the observed outcomes will be necessary to find the right “dose” of exposure to body image social media. The current study suggest there may be great potential for women to take control over the influence that body image social media may have on their body dissatisfaction, body appreciation, and mood. Instagram’s features expose users to content similar to that which they regularly view on the explore page. Thus, it is plausible that individuals who expose themselves to Body Positivity will see body positive content more regularly. Based on findings of the current study, viewing body positive social media improved women’s state positive mood, body appreciation, and body satisfaction. To explore such, future research might build upon the
current study by including a condition that is exposed to images of both Body Positivity and Fitspiration to determine if exposure to both produces any significant differences than either condition alone.

Future research is necessary to examine the long-term impacts of consistent exposure to beauty image trends on social media. Participants of the current study generally spent no more than an hour completing the intervention. From this brief exposure, researchers were able to observe significant acute effects of exposure to body image trends on body image and mood outcomes. When considered with the average time participants spend on Instagram daily (55.96 minutes), the long-term impacts of consistent exposure may be worrisome. The nature of Instagram allows for rapid and regular exposure to appearance related media that lends unlimited opportunity to make appearance comparisons. Thus, the impacts of brief and regular exposure may become increasingly detrimental over time. Future research is needed to examine the impact of consistent, long-term exposure to beauty image trends on Instagram to understand the impact that this may have on state, and even trait variables of body image and mood.

CONCLUSION

When considered with previous literature, the current study has demonstrated that short-term exposure to body positive social media may improve body appreciation, Body Positivity, and positive mood among undergraduate females. Results of the current study illustrated higher body satisfaction, body appreciation, and positive mood scores were observed within those exposed to the Body Positive condition. Significantly lower body satisfaction, body appreciation, and positive mood scores were observed within the Fitspiration condition. Researchers have consistently observed decreases in body
satisfaction after exposure to the thin-ideal on social media like Fitspiration (Cohen et al. 2019b, Uhlmann et al., 2018, Robinson et al., 2017, Boapple & Thompson, 2016, Tiggemann & Zaccardo, 2015, Grabe, Ward, & Hyde, 2008). Given the known literature (Fiske et al., 2014, Fallon, Harris, and Johnson, 2014, Uhlmann et al, 2018, Karrazsia, Muren, & Tylka, 2017) stating body dissatisfaction as a major determinant of disordered eating and mental health risks, the potential for body positive social media to displace potentially detrimental impacts may be promising.

REFERENCES


APPENDIX A

IRB APPROVAL NOTICE
On 1/15/2020 the ASU IRB reviewed the following protocol:

<table>
<thead>
<tr>
<th>Type of Review</th>
<th>Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Effects of Exposure to Body Positive and Fitspiration Instagram Content on Undergraduate Women’s State Body Satisfaction, State Body Appreciation, and Mood</td>
</tr>
<tr>
<td>Investigator</td>
<td>Cheryl Der Ananian</td>
</tr>
<tr>
<td>IRB ID</td>
<td>STUDY00011211</td>
</tr>
<tr>
<td>Category of review</td>
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<tr>
<td>Funding</td>
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<tr>
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<td>None</td>
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Documents Reviewed:
- Baseline Questionnaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
- Body Positive Experimental Group Images, Category: Other;
- Control Images, Category: Other;
- Eligibility Survey, Category: Screening forms;
- Fitspiration Experimental Group Images, Category: Other;
- Informed Consent, Category: Consent Form;
- Instructor Recruitment Email, Category: Recruitment Materials;
- IRB Protocol, Category: IRB Protocol;
- Lifestyle Satisfaction Visual Analogue Scale, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
The IRB approved the protocol from 1/15/2020 to 1/14/2021 inclusive. Three weeks before 1/14/2021 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 1/14/2021 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Danielle Serlin
Jack Chisum
Danielle Serlin
Cheryl Der Ananian
APPENDIX B

RESEARCH GRANT AWARD NOTICE
February 10th, 2020

Dear Danielle-

Thank you for submitting an application to the GPSA and ASU Graduate College Graduate Research and Support Program (GRSP). We appreciate your passion for graduate research and your commitment to academics at ASU.

Congratulations! We are pleased to inform you that your project titled Danielle Serlin has been selected for funding in the amount of $2,000. The reviewer committee is confident your outstanding project demonstrates the high caliber of graduate student research that we have come to expect at Arizona State University.

The Graduate Research Support program is administered by the GPSA and the Graduate College. Over the next week, we will be preparing the paperwork for your grant, during which time we will transfer your information to the Graduate College who will administer your grant funds.

A copy of your itemized budget will be on file with the Graduate College. You can either save all your receipts and invoices for your requested funds and request a reimbursement every 30 days or work directly with the Graduate College Business Office to make purchases. More information regarding the purchasing and reimbursement process can be found in the attached powerpoint.

REIMBURSEMENT
You may request reimbursement for expenses beginning January 1st 2020 through May 1st 2020. Although you have been selected for funding, reimbursement is contingent upon Graduate College approval of eligible expenses. Any questions about allowable expenses should be emailed to the Graduate College staff at (grad-gpsa@asu.edu) for approval prior to purchasing. Please include a copy of your award letter when requesting funds. Final reimbursement decisions are made by Graduate College. The Graduate Research Support Program will NOT reimburse the following:
1. Equipment purchase (no laptops, no camera, etc.)
2. Any single transaction greater than or equal to $1,000
3. Tuition or remuneration of time spent on project
4. Conference travel (although travel for data collection is allowed)
5. Terminal publication charges (e.g., binding/printing of thesis or dissertation)
6. Dissertation expenses (i.e., printing, editing, translation of dissertation, etc.)
7. Salaries and wages for research assistants, ASU affiliates or employees

IMPORTANT: HOW TO ACCEPT YOUR AWARD
In order to access the funds you have been awarded, you must email gpsa.research@gmail.com and state that you 1) Accept the award and 2) Agree to the awardee responsibilities listed below. Failure to do so will result in forfeiture of your award.

AWARDEE’S RESPONSIBILITIES
Funded grant recipients will:
1. Be responsible for bringing the project to completion within the stated time period.
2. Ensure appropriate expenditure of funds.

PLEASE NOTE: Expenses need to be turned in to Graduate College within 30 days of expenditure. You do not need to spend all of the award at once. But for each purchase, you need to turn in your receipt and appropriate paperwork within thirty days.
3. Acknowledge in any public presentation and publication of the results, the support provided by GPSA and the Graduate College.

PROGRESS REPORT
As a condition of the Graduate Research Support Program award, all grant recipients are required to submit an electronic copy of a progress report which is due no later than April 24th, 2020. This report should not be a copy of the thesis or dissertation, but rather, a summary of the research that clearly states the justifications and significance of the project's outcome or progress. The copy of this final report must be three (3) pages and turned in electronically to gpsa.research@gmail.com.

AWARD RECOGNITION
We will be honoring you at the Graduate Student Symposium before the Change the World event on April 2nd 2020. We will email you with more details in the coming months. You are also invited to present the results of your research as a part of the GPSA section at Change the World.

OTHER AWARD INFORMATION
Please review the attached PowerPoint for more detailed information about your award. The PowerPoint includes information on allowable expenses, processes for purchasing different items, and the reimbursement process. The reimbursement form is also attached.

PLEASE NOTE: It is YOUR responsibility to review the funding rules, processes, and reimbursement requirements. Failure to follow Graduate College, Graduate & Professional Student Association, and Arizona State University policies could result in failure to receive any funds/reimbursement. To ensure that you understand the rules and processes associated with this award, please carefully review the attached powerpoint AND attend Office Hours with Graduate College (see details below).

FUNDING QUESTIONS?
Please contact the graduate college (grad-gpsa@asu.edu), if you have questions about the funding process, or to verify the eligibility of any imminent purchases.

We look forward to seeing the results of your research.

Sincerely,

Sierra Ferguson  
Vice President of Internal Affairs  
Graduate and Professional Student Association (GPSA)
APPENDIX C

STUDY RECRUITMENT FLYER
SOCIAL MEDIA AND LIFESTYLE SATISFACTION STUDY

PARTICIPANTS NEEDED! Female undergraduate students (aged 18-29) currently attending Arizona State University are needed to participate in a brief study examining the impact of social media on lifestyle satisfaction. This study is completely online and will take approximately 45 minutes.

Your participation is completely voluntary. To learn more and check your eligibility, please visit the following link:


The first 90 participants will receive a $15 amazon e-gift card for their participation!

FOR QUESTIONS OR MORE INFORMATION, PLEASE CONTACT:
SMandLifestyle@gmail.com

chs.asu.edu
APPENDIX D

RECRUITMENT EMAIL TO INSTRUCTORS
Hello INSTRUCTOR,

My name is Danielle Serlin and I am currently working on my Master’s Thesis within the College of Health Solutions at Arizona State University. My thesis will examine the impact of social media on undergraduate women’s lifestyle satisfaction. I am currently in need of 90 female undergraduate students currently attending Arizona State University, and was wondering if you might be able to pass this opportunity along to your students? Below is a brief advertisement for the study. I have also included the study poster. Would you be willing to post this within your Canvas Shell or email this opportunity to your students? I would also be more than happy to come in and briefly present this opportunity (2-3 minutes) if you would prefer.

I appreciate your consideration and have included the study announcement and poster within this email!

PARTICIPANTS NEEDED! Female undergraduate students (aged 18-29) currently attending Arizona State University are needed to participate in a brief online study examining the impact of social media on lifestyle satisfaction. Participation within this study will involve answering a series of questions and viewing various social media content. Subjects can expect their entire participation to require 45 minutes to one hour total. The first 90 participants to complete this study will receive a $15 amazon e-gift card for their participation! Your participation is completely voluntary. To learn more and check your eligibility, please visit the following link:


ASU IRB IRB # STUDY00011211 | Approval Period 1/28/2020 – 1/14/2021

*Please make sure the ASU IRB study number and approval period (statement above) is included in any announcements or emails you send to your students.
PARTICIPANTS NEEDED! Female undergraduate students (aged 18-29) currently attending Arizona State University are needed to participate in a brief online study examining the impact of social media on lifestyle satisfaction. Participation within this study will involve answering a series of questions and viewing various social media content. Subjects can expect their entire participation to require 45 minutes to one hour total. The first 90 participants to complete this study will receive a $15 amazon e-gift card for their participation! Your participation is completely voluntary. To learn more and check your eligibility, please visit the following link:

INFORMED CONSENT

Title of research study: The effects of exposure to Instagram content on undergraduate women’s life satisfaction

Investigator: Cheryl Der Ananian, Associate Professor, College of Health Solutions

Why am I being invited to take part in a research study? We invite you to take part in a research study because you are a female, undergraduate student at Arizona State University and are between the ages of 18-29. Why is this research being done? The purpose of this study is to examine the effects of Instagram exposure on lifestyle satisfaction including 1) fiscal satisfaction 2) relationship satisfaction 3) self-image satisfaction 4) emotional satisfaction 5) satisfaction with housing situation 6) satisfaction with occupation. Social media use has been negatively associated with increased lifestyle dissatisfaction, as well as depression and anxiety. To date, almost all research has focused on Facebook use because it is the most commonly used social media platform. Use of Instagram is rapidly growing but there have been very few studies examining its impact on lifestyle satisfaction.

How long will the research last? We expect that individuals will spend no more than 45 minutes completing this online intervention.

How many people will be studied? We expect about 90 people will participate in this research study.

What happens if I say yes, I want to be in this research? This research will require you to complete a series of questionnaires. If you decide to participate in this study, you will be randomly assigned to view one of three different Instagram themes. You will be asked to complete this intervention within one sitting, and to complete such in a space with as few distractions as possible. During the intervention, you will be shown a series of Instagram photos via Qualtrics. After viewing these images, you will be asked to complete a short survey including four brief, short answer questions. Data pertaining to Lifestyle Satisfaction, mood and emotion will be collected using Visual Analogue Scales.

You are free to decide whether you wish to participate in this study. Participants will be provided a $15 Amazon egift-certificate after completing the study as an honorarium funded by the ASU Graduate College Graduate Research and Support Program. Participants in the EXW 342 Behavior Change course will also receive extra credit for their participation: To receive class credit, you will need to include your name and class section in a separate survey link provided at the end of this study.
What happens if I say yes, but I change my mind later?
You can leave the research at any time it will not be held against you.

Is there any way being in this study could be bad for me?
There is no more than minimal risk for participation in this research study. Participation is voluntary and participants may decline to participate or withdraw from the study at any time.

What happens to the information collected for the research?
Efforts will be made to limit the use and disclosure of your personal information, including research study records, to people who have a need to review this information. More specifically, only the research team members involved with this study will have access to the data. We cannot promise complete secrecy or confidentiality. The results of this study may be used in reports, presentations or publications but your name will not be used.

Who can I talk to?
If you have questions, concerns, or complaints, talk to the study research team, Cheryl Der Ananian at Cheryl.DerAnanian@asu.edu or 602-827-2290.

This research has been reviewed and approved by the Social Behavioral IRB. You may talk to them at (480) 965-6788 or by email at research.integrity@asu.edu if: Your questions, concerns, or complaints are not being answered by the research team. You cannot reach the research team. You want to talk to someone besides the research team. You have questions about your rights as a research participant. You want to get information or provide input about this research.

Q176 Do you consent to participate in this research study? Please select YES to continue. If you do not wish to proceed with participating, please select NO to terminate your session.

1. Yes (1)
2. No (2)

Q177 By electronically signing you are consenting to participate in this study:

Q178 Please enter your first and last name:
Q179 Please enter today's date (MM/DD/YYYY):

________________________________________________________________

Q183
By clicking next, you will begin your participation in this study. **This study should take no more than 45 minutes of your time, and must be completed within one sitting.**

If you are unable to complete the survey right now, please email **SMandLifestyleASU@gmail.com** to schedule a time to complete this intervention.

Thank you!

*End of Block: Informed Consent*
APPENDIX G

ELIGIBILITY SURVEY
Lifestyle Satisfaction: A brief in-person intervention assessing the effects of social media on lifestyle satisfaction of undergraduate female students at Arizona State University

You are invited to take the following questionnaire to determine if you are eligible to participate in a brief intervention examining social media use and lifestyle satisfaction of undergraduate female students at Arizona State University.

If you are a female between the ages of 18-29 years old, attend Arizona State University full time, are willing to be randomized, and participate in a recorded interview as part this intervention, you may be eligible to participate in the study. Questions on this eligibility screener will involve answering questions concerning your demographic information and health history. This survey will take approximately 5-10 minutes.

You have the right not to answer any question, or to stop answering the survey questions at any time. Your participation in the eligibility screener is completely voluntary. There is no penalty should you choose not to participate in this study. There are no foreseeable risks to participating in the eligibility survey.

Your confidentiality will be upheld, and your contact information will be stored separately from your survey responses. If determined ineligible you will be informed via email, and we will discard the information you provide for us in the eligibility screener.

If you have any questions concerning the eligibility screener, please contact the research team at: SMandLifestyleASU@gmail.com. If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

By clicking next and completing the eligibility screener, you are providing your consent for our use of your information.

Page Break

Q156 Please enter your date of birth (MM/DD/YYYY):

Q157 Are you between 18-29 years of age?
1. Yes (1)
2. No (0)

Q159 Do you currently reside in the United States of America?
1. Yes (1)
2. No (0)

Q160 Are you able to read/speak/understand English?
3. Yes (1)  
4. No (0)

Q161 Are you willing to be randomized (i.e. randomly assigned) into a group in this study?
5. Yes (1)  
6. No (0)

Q164 Please describe your gender identification:
7. Identify as female (1)  
8. Identify as male (2)  
9. Other identification (please specify): (3)

Q165 What is your academic class status?
10. Freshman (1)  
11. Sophomore (2)  
12. Junior (3)  
13. Senior (4)  
14. Graduate Student (5)  
15. Professional Student (6)

Q166 Are you a student at Arizona State University? If yes, please enter your credit hours below:
16. Yes: (1)  
17. No (0)

Q167 What is your college major? Please specify:

Q168 The following questions are in regard to your mental and physical health:

Q169 Are you currently taking any medications for your mood or mental health (i.e., depression, anxiety, etc.)?
18. Yes (please list): (1)  
19. No (0)

Q170 Have you ever been clinically diagnosed with the following:
20. Anorexia (1)
21. Binge eating disorder (2)
22. Bulimia (3)
23. Body Dysmorphic Disorder (4)
24. Depression (5)
25. I have never been clinically diagnosed with any of the above (0)

Q171 Are you currently pregnant?
26. Yes (1)
27. No (0)

If eligible:
Q172 Thank you for your interest in participating in the Social Media Use and Lifestyle Satisfaction Study at Arizona State University. We are pleased to inform you that you are eligible to participate in this study! The next step of enrolling in this study will be to complete the informed consent. To proceed to the informed consent, please hit the arrow below.

Please SMandLifestyleASU@gmail.com with any questions or concerns.

If ineligible:
Q173 Thank you so much for your interest in our online research study. We appreciate you taking the time to fill out our eligibility survey. Unfortunately, at this time you are not eligible for this particular study as our criteria for the study requires specific variables to be met. If you would like to discuss your ineligibility with a study team member, please contact us at SMandLifestyleASU@gmail.com. Thank you again and have a wonderful day.
APPENDIX G

MOOD VISUAL ANALOGUE SCALE
The following questions will ask you to reflect on how you are feeling at this moment. Please indicate how you feel **right now** by choosing a place on the line that best represents this feeling.

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Not at all</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right now, I feel anxious</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right now, I feel angry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right now, I feel happy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right now, I feel depressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right now, I feel confident</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX I

LIFESTYLE SATISFACTION VISUAL ANALOGUE SCALE
Directions: The following questions will ask you to reflect on your lifestyle satisfaction. Please indicate how you feel right now by choosing a place on the line that best represents this feeling.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right now I am satisfied with my college classes ()</td>
<td></td>
</tr>
<tr>
<td>Right now I am satisfied with my roommates ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my weight. ()</td>
<td></td>
</tr>
<tr>
<td>Right now I am satisfied with my friends ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with ability to manage my self-care (dressing, hygiene, stress, etc.) ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my overall appearance ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my sleep patterns ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with the conditions of my living place ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with the amount of money I have to meet my needs ()</td>
<td></td>
</tr>
<tr>
<td>Right now I am satisfied with my body shape ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my relationship status ()</td>
<td></td>
</tr>
<tr>
<td>Right now, my feelings towards my body are positive for the most part ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my employment situation ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my income level ()</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my chosen undergraduate major ()</td>
<td></td>
</tr>
<tr>
<td>Right now, despite my flaws, I accept my body for what it is ()</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Rating</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Right now, I am satisfied with my ability to travel</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my ability to participate in leisure activities</td>
<td></td>
</tr>
<tr>
<td>Right now, my self-worth is independent of my body weight or shape</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with the lifestyle I am able to afford</td>
<td></td>
</tr>
<tr>
<td>Right now, I am satisfied with my ability to manage my stress</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX J

PHYSICAL APPEARANCE COMPARISON SCALE-REVISED (PACS-R)
Directions: People sometimes compare their physical appearance to the physical appearance of others. This can be a comparison of their weight, body size, body shape, body fat or overall appearance. Thinking about how you generally compare yourself to others, please use the following scale to rate how often you make these kinds of comparisons.

<table>
<thead>
<tr>
<th></th>
<th>Neve (0)</th>
<th>Seldom (1)</th>
<th>Sometimes (2)</th>
<th>Often (3)</th>
<th>Alway (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I'm out in public, I compare my physical appearance to the appearance of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. When I meet a new person (same sex), I compare my body size to his/her body size.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. When I'm at work or school, I compare my body shape to the body shape of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. When I'm out in public, I compare my body fat to the body fat of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. When I'm shopping for clothes, I compare my weight to the weight of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. When I'm at a party, I compare my body shape to the body shape of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. When I'm with a group of friends, I compare my weight to the weight of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. When I'm out in public, I compare my body size to the body size of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. When I'm with a group of friends, I compare my body size to the body size of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10. When I'm eating in a restaurant, I compare my body fat to the body fat of others.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
11. When I'm at the gym, I compare my physical appearance to the appearance of others.
APPENDIX K

SOCIOCULTURAL ATTITUDES TOWARDS APPEARANCE SCALE-4 (SATAQ-4)
Directions: Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.
<table>
<thead>
<tr>
<th>Definitely Disagree (1)</th>
<th>Mostly Disagree (2)</th>
<th>Neither Agree Nor Disagree (3)</th>
<th>Mostly Agree (4)</th>
<th>Definitely Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is important for me to look athletic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. I think a lot about looking muscular</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. I want my body to look very thin</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. I want my body to look like it has little fat</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. I think a lot about looking thin</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. I spend a lot of time doing things to look more athletic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. I think a lot about looking athletic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. I want my body to look very lean</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. I think a lot about having very little body fat</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10. I spend a lot of time doing things to look more muscular</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

APPENDIX L
SOCIAL MEDIA USAGE QUESTIONS
Q202 The following questions will ask for information regarding your social media usage:

Q203 Do you use any of the following? Please select all that apply:
1. Facebook (1)
2. Instagram (2)
3. Reddit (3)
4. Snapchat (4)
5. Twitter (5)
6. Tumblr (6)
7. Other (please specify): (7)

8. I do not use any form of social media (8)

If yes to any of the above:

Q204 How many minutes per day do you typically spend on Facebook?

Q205 How many days per week do you use Facebook?
1. 1-2 days per week (1)
2. 3-4 days per week (2)
3. 5-6 days per week (3)
4. days per week (4)

Q206 How many minutes per day do you typically spend on Instagram?

Q207 How many days per week do you use Instagram?
5. 1-2 days per week (1)
6. 3-4 days per week (2)
7. 5-6 days per week (3)
8. days per week (4)

Q208 How many minutes per day do you typically spend on Reddit?

Q209 How many days per week do you use Reddit?
9. 1-2 days per week (1)
10. 3-4 days per week (2)
11. 5-6 days per week (3)
12. days per week (4)

Q210 How many minutes per day do you typically spend on Snapchat?

Q211 How many days per week do you use Snapchat?
13. 1-2 days per week (1)
14. 3-4 days per week (2)
15. 5-6 days per week (3)
16. days per week (4)

Q212 How many minutes per day do you typically spend on Twitter?

Q213 How many days per week do you use Twitter?
17. 1-2 days per week (1)
18. 3-4 days per week (2)
19. 5-6 days per week (3)
20. days per week (4)

Q214 How many minutes per day do you typically spend on Tumblr?

Q215 How many days per week do you use Tumblr?
21. 1-2 days per week (1)
22. 3-4 days per week (2)
23. 5-6 days per week (3)
24. days per week (4)

Q216 How many minutes per day do you typically spend on your "Other" social media?

Q217 How many days per week do you use your "Other" social media?
25. 1-2 days per week (1)
26. 3-4 days per week (2)
27. 5-6 days per week (3)
28. days per week (4)

Q218 How many minutes per day do you spend on all social media accounts?
29. Less than 10 minutes (1)
30. 10-30 minutes (2)
31. 31-60 minutes (3)
32. more than one hour (4)

Q219 How many days per week do you use any form of social media (i.e. Facebook, Instagram, Snapchat, Twitter, Tumblr, etc.)?
33. 1-2 days per week (1)
34. 3-4 days per week (2)
35. 5-6 days per week (3)
36. days per week (4)

Q220 Do you have an Instagram account?
1. Yes (1)
2. No (0)

Q221 When using Instagram, which content topics do you most often browse? Please select the top THREE topics you most often look at.
1. Diet/Weight Loss (1)
2. Exercise (2)
3. Food (3)
4. Interior Design (4)
5. Shopping (5)
6. Celebrity News (6)
7. Fashion (7)
8. Travel (8)
9. Nature (9)
10. Inspiration (10)
11. Health (11)
12. Art (12)
13. Other (please specify): (13)
14. I do not use Instagram (14)
APPENDIX M

BMI
Q197 Please enter your height (in feet and inches):
1. Feet: (1)
2. Inches: (2)
Q225 What did you see in these pictures?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Q226 How relatable are these pictures to you in your life?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Q227 How do those pictures make you feel about yourself?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Q228 What is it about them that make you feel this way?

________________________________________________________________
________________________________________________________________
________________________________________________________________