Original Research

Do Body Positive Images Improve Our Body Perception?
The Role of Social Comparison on Body Perception and Moods

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ABSTRACT

Body positive movement has emerged to challenge the prevalent media depictions of thin-ideal bodies. Yet, there is not enough empirical evidence to evaluate the effectiveness of body positive content on social media. Based on social comparison theory, this study examines the psychological and affective outcomes of body positive images on Instagram, along with the moderating role of social comparison. A 3 (body image type: thin ideal vs. neutral vs. body positive images) × 2 (state social comparison: high vs. low) online experiment was conducted. Results revealed that body positive images led to greater positive mood. Higher social comparison was related to lower body perceptions, less positive mood, and more negative mood while showing moderating effects between image type and positive mood. Findings suggest that body positive images on social media contribute to positive affective responses, where social comparison can be a key to understanding the underlying mechanism.

KEYWORDS

body positivity; body image; social comparison; body perception; mood

Body positive movement was prominently sensationalized by a pop star, Lady Gaga, in 2012 when she declared a "body revolution" by posting raw pictures of her barely clothed body with captions of her prior sufferings from bulimia and anorexia on her private website (Garibaldi, 2012). Her intention was to instigate bravery and catharsis for people to reveal the perceived flaws in their own bodies and acknowledge them as they truly are. Many people claimed that she successfully elevated the public's attention toward pursuing body positivity, challenging the prevalence of thin, toned body images in the online environment. Since then, more online websites, such as *My Body Gallery*, and *Stop Hating Your Body*, have come to the rise of public awareness that confronted the normalization of thin ideal body images in media (Darwin & Miller, 2021). As Sastre (2014) emphasized,

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enacting body positivity is not simply about the body itself; rather, it is communicating and sharing the "digital image record of its display" (p. 935) that matters to encourage participation.

Body positivity has been defined as a comprehensive appreciation and respect for one's body (Tylka & Wood-Barcalow, 2015). Correspondingly, it has also been described as "positive body connection and comfort, embodied agency and passion, and attuned self-care" (Piran, 2016, p. 47). Body positive image posts on media generally encompass a variety of body sizes and appearances that are often marginalized in mainstream depictions (Cohen et al., 2021). Social media platforms have come to play a critical role in advance of the body positivity movement. Given the extremely high reliance on visual images as a means to exchange information, social media serves as an important platform for looking at the media effects of body images (Perloff, 2014).

Several scholars have noted the unique contextual features of social media and examined how thin-ideal images on social media can significantly contribute to negative body and self-perceptions (Andsager, 2014; Perloff, 2014). Drawn from Festinger's (1954) social comparison theory, social comparison has been an important mechanism for unraveling the negative impact of thin-ideal images on social media (Holland & Tiggemann, 2016; Scully et al., 2023). Social comparison is even more intensified in social media settings where the users constantly rely on the interactive, reciprocal environment. Most prior research focused on how thin and fit body images can cause social comparison and the internationalization of thin ideals among social media users. For instance, Instagram is a heavily visual-focused social media platform where people communicate primarily through uploading, sharing, and discussing images rather than texts. Instagram users often present idealized versions of their lives and appearances, which can distort perceptions of normality and thus exacerbate negative consequences (Fardouly &

Holland, 2018; McLean et al., 2015).

This study aimed to better understand the impacts of body positive images on social media by examining the moderating role of social comparison. The specific goals of this study were twofold. First, we sought to examine the direct influence of body positive images on body-relevant perceptions and moods in the context of social media. Second, given the central role social comparison may play in the process, we aimed to investigate both the direct and moderating effects of social comparison on the outcome variables (i.e., body satisfaction, body appreciation, and positive and negative moods).

Influence of Body Positive Images

The psychological effects of exposure to the thin ideal figures in traditional media have been thoroughly discussed in prior literature. For instance, negative body perceptions have been investigated as one of the key impacts of thin-ideal images on media (e.g., Bessenoff, 2006; Holland & Tiggemann, 2016). Much of the detrimental impact of viewing thin-ideal media images has been attributed to the internalization of the thin-ideal (Grabe et al., 2008). Viewing thin ideal body images in media affects people the way they evaluate themselves, whereby more exposure to ideal body images often leads to more negative evaluations of their own bodies (Brown & Tiggemann, 2020; Shaw, 1995; Stice & Shaw, 1994). Furthermore, exposure to thin-ideal media images has been linked to negative mood (e.g., Brown & Tiggemann, 2016; Grabe et al., 2008). In an experimental study, Munsch et al. (2021) demonstrated that thin ideal exposure significantly increased negative mood, compared to neutral (e.g., landscape) images.

Despite the prevalence of the thin ideal in media, the past few years have seen more representations of different body types as well as promoting positive body images. This phenomenon, pronounced as the body positive movement,

entails accepting one's own body and challenging the notion that only thin or fit bodies are beautiful and sexually desirable (Lupton, 2017). As opposed to the thin ideal images prevalent in media, the body positive movement emphasizes inclusivity, displaying and praising bodies of all shapes and sizes (Sastre, 2014). Exposure to body positive images could help orient the cognitive processing of media messages in a self-protective way. Of the positive body perceptions, body appreciation and body satisfaction are critically weighted among researchers who aim to unpack the concept of body image (Fardouly & Vartanian, 2016; Linardon et al., 2022). Body appreciation refers to respecting the body while rejecting media-promoted thin ideals as the only form of human beauty (Tylka & Wood-Barcalow, 2015). Along with body appreciation, body satisfaction— positive beliefs and feelings about one's weight and shape (Myers & Crowther, 2009) — has also been recognized as a predictor of positive psychological consequences (e.g., Corning et al., 2006). Furthermore, affective evaluations following exposure to body image content— operationalized as self-reported moods in the current study—are critical outcomes that capture the immediate and direct effects of media exposure (Ridgway, 2018). One's affective experiences can convey the holistic valence of their psychological state (Guerrero et al., 1996). This study examined body-related cognitions (e.g., body satisfaction and body appreciation) and affective states (e.g., positive and negative moods) to explore the comprehensive psychological impact of body image exposure. Our goal was to better understand what promotes mentally supportive and healthy environments to counteract the adverse effects of unrealistic appearance ideals prevalent on social media.

Social media platforms like Instagram have facilitated an increase in the visibility of those who have for a long time been denied representation in traditional media for not fitting the thin-ideal standard (Lupton, 2017; Sastre, 2014). Given research evidence on the negative consequences surrounding exposure to thin-ideal images, it is not surprising that an increasing number of researchers have noted the potential of body-positive images to mitigate the influence of thin ideal images (Rodgers et al., 2022; Tiggemann & Zaccardo, 2015). According to Vandenbosch et al.'s (2022) review of current trends in social media and body image studies, body-positive images are related to the potential benefits of positive body perceptions. Cohen et al. (2019) demonstrated that exposure to body positive image posts on Instagram was related to immediate improvements in body appreciation, body satisfaction, and positive moods, compared to posts that presented thin-ideal body images. Another study also confirmed that body-positive social media messages increased body appreciation and body satisfaction in adult women than thin-ideal and neutral Instagram content, implying its protective function against the detrimental effects of social media (Nelson et al., 2022). Considering the above-mentioned empirical evidence, the influence of body positive image messages on body perceptions and moods is certainly not novel. Recognizing that the influence of body positive image messages is already well established, we proposed H1 to replicate this relationship. H1 serves to lay the foundation for our primary focus on the role of state social comparison in the following section.

H1: Exposure to body positive image messages (compared to neutral or thin ideal image messages) will lead to (a) higher body appreciation, (b) higher body satisfaction, (c) higher positive mood, and (d) lower negative mood.

Role of Social Comparison

In studies on the influence of body images, researchers have noted social comparison as the key mechanism. Social comparison theory states

that people evaluate themselves by comparing oneself to others (Festinger, 1954). Previous research has demonstrated that there are two major types of social comparison, each of which leads to different consequences. When people perceive others as inferior to themselves (i.e., downward social comparison), such comparison tends to enhance self-worth and positive mood (e.g., Tiggemann & Polivy, 2010). Conversely, when others are seen as superior, it tends to generate negative self-evaluation or negative mood (e.g., Alfasi, 2019). Social comparison has been widely studied and acknowledged as one of the fundamental psychological mechanisms that affect our attitudes, behaviors, and experiences (Corcoran et al., 2011; De Vries & Kühne, 2015; Gerber et al., 2018; Suls et al., 2002).

Social comparison takes place in various spheres of our everyday life, and physical appearance is not an exception. Appearance-related social comparison typically first occurs in early adolescence, though it tends to be more salient for women than men (Lewallen & Behm-Morawitz, 2016). Specifically, upward social comparison occurs when women compare their own appearance with cultural ideals of beauty and thinness, leading to destructive outcomes such as negative body perceptions and negative mood (Fardouly & Vartanian, 2015; Fardouly et al., 2017; Fuller-Tyszkiewicz et al., 2019; Modica, 2019; Tiggemann & McGill, 2004). For example, social comparison has often been noted as an inherent individual trait characterized by variations in the propensity and frequency of comparing oneself to specific dimensions, such as body perceptions (e.g., Alfasi, 2019; Fisher et al., 2002). In several studies, individuals' inclination toward social comparison was measured by asking people how often they compare themselves with others. Notably, O'Brien et al. (2009) theorized upward and downward social comparison as two separate processes with distinct consequences. O'Brien et al. proposed and validated measures designed to respectively capture one's tendency

for upward and downward physical appearance comparisons, thereby enabling the assessment of individuals' variability on each construct.

Social comparison can also be understood as a transient mental state or temporary condition (i.e., state social comparison) that may vary over time and in response to situational influences (Betz et al., 2019; Tiggemann & Zaccardo, 2015). Liu et al. (2016) manipulated the upward vs. downward social comparison by asking participants to browse a total of 10 social media posts from their chosen friends and rating the valence of each post (from -3 to +3). Liu et al. suggested that the likelihood of engaging in upward social comparison increases with the higher average valence of posts, while downward social comparison becomes more probable with the lower average valence of posts. Liu and the colleagues then compared how the direction of social comparison (i.e., valence) affects the outcomes of interest such as emotional responses.

In several other studies, researchers measured state social comparison by assessing the extent to which people compared themselves with others when exposed to thin-ideal images (e.g., Bessenoff, 2006; Tiggemann & Zaccardo, 2015). Multiple studies have reported negative consequences of engaging in social comparison while reading media messages. Tiggemann and McGill (2004), for instance, reported that activating upward social comparison after viewing thin-ideal models made women vulnerable to perceiving their bodies negatively and having a depressing mood. More recently, Jiotsa et al. (2021) found that social media users who actively compare their physical appearance to that of the people they follow online are more likely to experience higher body dissatisfaction and a greater drive for thinness.

Given the varied operationalizations of social comparison in previous research, we aimed to test whether the predictions for outcome variables hold true for state social comparison. Social comparison is one of the key processes through

which individuals assess their own physical attractiveness (Myers & Crowther, 2009). When such comparisons are unfavorable, individuals tend to experience body misappreciation and dissatisfaction (Burke & Rains, 2019; Taniguchi & Ebesu Hubbard, 2020). We also predict that unfavorable outcomes following social comparison can involve affective dimensions, leading individuals to experience decreased positive moods, such as happiness and confidence, and increased negative moods, including anxiety and depression (Lee, 2022; Powell et al., 2018). Therefore, we posit the following hypothesis:

H2: Stronger state social comparison is related to (a) lower body appreciation, (b) lower body satisfaction, (c) lower positive mood, and (d) higher negative mood.

To further identify the conditions under which different body images would be more influential on body-relevant perceptions and mood, we examine possible moderating effects of state social comparison. Although there has been ample research that posed social comparison has often been theorized as the mediator to explain the effects of body images on social media (Carter & Vartanian, 2022; Tiggemann & McGill, 2004; Tiggemann & Zaccardo, 2015), more recent research has presented different results. For instance, McComb and Mills (2022) showed that state social comparison was not a significant mediator between exposure to body images and participants' dissatisfaction with their appearance and body images. Instead, they found a consistent level of state social comparison across various message conditions that showed thin-ideal and body-positive images. If people generally experience state social comparison when exposed to body images, it might shape the conditions in which body images influence one's body perceptions.

Moderators influence the strength or direction of an effect of the predictor variable (Baron & Kenny, 1986). Proposing the role of state social comparison as a moderator allows us to examine the boundary conditions under which the damaging effects of thin-ideal images can be attenuated, and the beneficial effects of body-positive images can be strengthened. Prior research has highlighted how social comparison tendencies contribute to negative body image outcomes, such as body dissatisfaction and misappreciation (e.g., Hargreaves & Tiggemann, 2009; Ho et al., 2016). Frequent exposure to idealized body types in media often triggers low body satisfaction, which can be particularly exacerbated among individuals who engage in harsh self-evaluation and comparison with others (Fardouly & Vartanian, 2016). However, a critical gap in our knowledge remains regarding the moderating role of social comparison in this process. Given the negative impact of state social comparison on body perceptions and mood (Kleemans et al., 2018; Yang, 2016), we hypothesize that stronger state social comparison will amplify the influence of body image type on individuals' body perceptions and emotional states.

H3: State social comparison moderates the influence of exposure to body images (i.e., thin ideal, neutral, and body positive images) on (a) body appreciation, (b) body satisfaction, (c) positive mood, and (d) negative mood.

METHOD

Overview and Participants

An online experiment with three different message conditions was conducted to examine the proposed hypotheses. Since this study investigates the effect exposure to body positive images has on women, a total of 145 female participants were recruited from Amazon Mechanical Turk to

complete an online survey in exchange for 1.20 USD. Only regular users of social media and, in particular, Instagram were asked to participate. Those who failed either attention ($n = 4$) or quality check ($n = 13$) were excluded from the sample before analyzing the results.[1]

The final sample included 128 females aged between 18 and 28 ($M = 23.79$, $SD = 1.85$). All participants were located in the United States. One hundred three (80.5%) participants identified themselves as White/Caucasian, fourteen (10.9%) as Black or African American, seven (5.5%) as Asian/Pacific Islander, two (1.6%) as American Indian/Alaskan Native, eight (6.3%) as Hispanic or Latino. Six participants (4.7%) identified with more than one ethnicity. Participants also came from different educational backgrounds: 49 (38.3%) received a bachelor's degree, 36 (28.1%) claimed to have attended college with no degree, 18 (14.1%) received an associate degree, 13 (10.2%) received only high school degree, nine (7.0%) master's degree, one (0.8%) person received a professional degree, and one (0.8%) doctorate.

Statistical Power

Assuming $N = 128$ and $\alpha = .05$ (two-tailed) our study possessed power of .16, .86, and .99. for small ($r = .10$), medium ($r = .30$), and large ($r = .50$) effects, respectively. Cohen's (1992) recommended level of power (i.e., .80) was achieved for $r = .28$. The study was well-powered to detect medium or larger effects, but less likely to find small effects.

Procedure

University Institutional Review Board approved this study prior to collecting the data. The experiment was conducted with the help of Amazon Mturk (a platform used to find participants for the study) and SurveyMonkey (an online survey tool used for collecting responses). Women were recruited to participate in a study on how Instagram use influences attitudes and behaviors. Three conditions for the online experiment were created and published on Amazon Mturk. Approximately a third of all participants ($n = 40$) were exposed to body positive images, 44 were shown images of very thin models, and 44 saw images with no people in them. Participants were then presented with a link to an Instagram account with nine photos and asked to spend at least 5-10 minutes viewing the images and reading post descriptions. After the exposure, participants responded to measures assessing state social comparison, body satisfaction, body appreciation, positive mood, and negative mood. Finally, participants were asked to provide information about their age, ethnicity, and level of education.

Manipulation and Stimuli

Three Instagram accounts were created, corresponding to the three conditions in the study, each containing nine images taken from public Instagram accounts. The body-positive condition included nine photos, each depicting a total of nine average or plus-sized females. In contrast, the thin-ideal condition presented nine photos of very thin female models. All females in both conditions were in their 20s and 30s, which matched the age of the expected target population in this study. In

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[1] The attention check was adapted from Hall and Raimi (2018), put among other survey questions and read, "If you are reading this question, please leave it blank." Those who selected an answer were excluded from the results. The quality check was adapted from the same source, placed after all measures and demographic questions and read, "As researchers, the quality of our data is very important to us, so we want to make sure that your responses are valid and authentic. In your honest opinion, should we use your data?" Participants were excluded if they chose "No" as the answer.

both conditions, images of smiling, happy-looking female models were presented. Lastly, there was the appearance-neutral image condition that did not feature any human characters. It presented the nine photos of familiar objects that we can easily see in our daily lives, such as plants, coffee, cats, scarves, and more (see Appendix).

Measures

Body Appreciation
Three items adapted from the Body Appreciation Scale (BAS; Avalos et al., 2005) measured participants' body appreciation: "I feel good about my body," "Despite its flaws, I accept my body for what it is," and "I take a positive attitude toward my body." Responses were averaged into a composite score, with higher scores indicating stronger body appreciation ($a = .94$, $M = 3.92$, $SD = 1.81$).

Body Image Satisfaction
The Body Image State Scale (BISS; Cash et al., 2002) was used to measure participants' body satisfaction: physical attractiveness and how the individual feels about their looks when compared to an average person (e.g., "Right now I feel extremely satisfied with my physical appearance"; "Right now I feel that I look much better than the average person looks"). Responses to six items were averaged into a composite score, with higher scores indicating stronger body satisfaction ($a = .95$, $M = 4.82$, $SD = 2.71$).

Negative and Positive Moods
Using four items adapted from Slater et al. (2017), the participants were asked to report how "happy," "confident," "anxious," and "depressed" they are feeling "at the moment." Responses were marked on a seven-point Likert-type scale (0 = "Do not agree at all"; 7 = "Completely agree"). Responses to happy and confident were combined into a composite score, with higher scores indicating stronger positive mood ($a = .91$, $M = 4.58$, $SD = 1.69$). Responses to anxious and depressed were combined into a composite score, with higher scores indicating stronger negative mood ($a = .90$, $M = 2.77$, $SD = 1.83$).

State Social Comparison
Four items were adapted from Bessenoff (2006) to measure state social comparison. Participants were asked to respond on four items, such as "To what extent were your thoughts related to comparing yourself to something or someone in the images?" or "To what extent did you think about thoughts related to aspects of body weight?". Responses were marked on a seven-point Likert-type scale with answers ranging from 1 ("Not at all") to 7 ("To an extreme degree"). Similar to Bessenoff's study, an additional question was asked to help cover up the story and later removed from the analysis ("To what extent did you think of the people, activities, or things in the images?"). Responses were averaged into a composite score, with higher scores indicating stronger state social comparison ($a = .84$, $M = 3.58$, $SD = 1.78$).

Demographics
Among demographic variables, participants' ethnicity, age, and education were measured.

RESULTS

Hypothesis 1 predicted that body positive image messages, compared to neutral or thin ideal image messages, lead to (a) higher body appreciation, (b) higher body satisfaction, (c) higher positive mood, and (d) lower negative mood. To test H1, we conducted a series of one-way ANOVA with Bonferroni post-hoc comparisons (See Table 1). The analysis showed that body image type did not have a statistically significant effect on body appreciation, $F(2, 125) = 2.015$, $p = .138$, partial $\eta^2 = .03$, body satisfaction, $F(2, 125) = 1.89$, $p = .155$, partial $\eta^2 = .03$, and negative mood, $F(2, 125) = 2.61$, $p = .08$, partial $\eta^2 = .04$. Body

image type had a significant influence on positive mood. Participants who were exposed to thin-ideal images ($M = 3.84$, $SD = 1.80$) reported significantly lower positive mood than those who were exposed to body positive ($M = 4.90$, $SD = 1.69$, $p < .05$) or neutral images ($M = 5.03$, $SD = 1.37$, $p < .01$), $F(2, 125) = 7.11$, $p < .001$, partial $\eta^2 = .10$. H1 was partially supported.

Hypothesis 2 predicted that stronger state social comparison is related to (a) lower body appreciation, (b) lower body satisfaction, (c) lower positive mood, and (d) higher negative mood. To test H2, we ran a series of regression analyses. Results showed that stronger state social comparison was significantly associated with lower body appreciation, $\beta = -.45$, $p < .001$, 95% CI [-0.61, -0.29], lower body satisfaction, $\beta = -.37$, $p < .001$, 95% CI [-0.82, -0.32], lower positive mood, $\beta = -.25$, $p < .01$, 95% CI [-0.40, -0.08], and higher negative mood, $\beta = .25$, $p < .01$, 95% CI [0.08, 0.43] (Figure 1). H2 was supported.

Hypothesis 3 predicted that state social

Table 1. *The Effects of Body Image Exposure on Body Appreciation, Body Satisfaction, and Moods*

| Variable	Body Positive		Thin-Ideal		Neutral		F	df	p	Partial η^2
	M	SD	M	SD	M	SD				
Body Appreciation	4.17	1.77	3.48	1.85	4.14	1.76	2.015	125	.138	.03
Body Satisfaction	5.13	2.50	4.18	2.96	5.19	2.59	1.891	125	.155	.03
Positive Mood	4.90	1.69	3.84	1.80	5.03	1.37	7.107	125	.001	.10
Negative Mood	2.58	1.92	3.27	1.83	2.45	1.67	2.608	125	.078	.04

Figure 1. *Effects of State Social Comparison on the Four Dependent Variables*
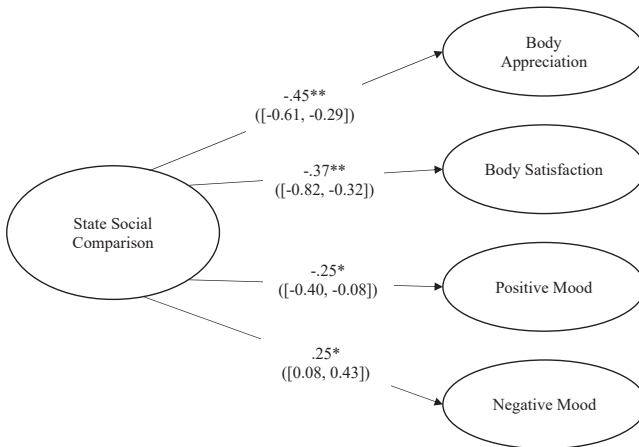
Note. Unstandardized coefficients with confidence intervals (in paratheses) are reported.

*$p < .01$, **$p < .001$.

Figure 2. *Relationship Between Body Image Type and Positive Mood by State Social Comparison*
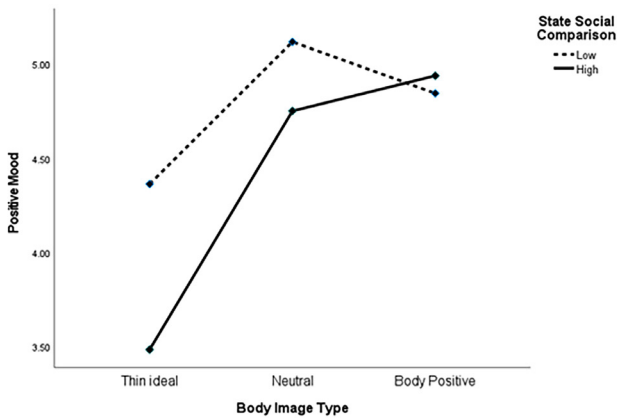
comparison moderates the influence of exposure to body image type on (a) body appreciation, (b) body satisfaction, (c) positive mood, and (d) negative mood. To test H3, we conducted a series of hierarchical regression analyses. In the first step, each of the four dependent variables was regressed on body image type and state social comparison. In the second step of the analysis, a term computed as the product of body image type and state social comparison was entered to assess the interaction between the two independent variables. Results from the first step of the analyses showed that body image type and state social comparison accounted for 21 percent of the variance in body appreciation, 15 percent of the variance in body satisfaction, 12 percent of the variance in positive mood, and 8 percent of the variance in negative mood. H3 was tested by results from the second step of the regression models, in which we assessed whether state social comparison moderates the association of body image type and outcome variables. We did not observe a significant interaction effect when body appreciation, $\beta = -.05$, $p = .815$, 95% CI [-0.24, 0.19], body satisfaction, $\beta = .12$, $p = .586$, 95% CI [-0.24, 0.43], or negative mood

was the dependent variable, $\beta = -.21$, $p = .363$, 95% CI [-0.34, 0.13]. Yet, we found a significant interaction effect of state social comparison when positive mood was the dependent variable, $\beta = .56$, $p = .012$, 95% CI [0.06, 0.47]. H3 was partially supported.

To visualize the relationship between body image type and positive mood for low versus high state social comparison groups, we created two groups for state social comparison using the mean split. As shown in Figure 2, the difference in positive mood after being exposed to neutral, thin ideal, and body-positive images was more pronounced among those in a higher (than lower) state social comparison group. Additionally, the difference in positive mood between people with low and high state social comparison was more pronounced when they were exposed to the thin ideal messages compared to neutral or body positive image messages.

DISCUSSION

There have been numerous findings that reported the detrimental effects of thin-ideal media images

from psychological perspectives. Women, in particular, have a greater tendency to experience lower body satisfaction and appreciation, and instant negative moods such as anxiety and depression after exposure to fit, thin models in the media (Clayton et al., 2017; Slater et al., 2017). More recently, research on the effects of body positive content on social media has emerged as a countermeasure to the extensive evidence demonstrating the negative impact of thin-ideal media portrayals (Cohen et al., 2021; Cwynar-Horta, 2016; Ladwig et al., 2024). Such shift sheds light on the positive influence of body image media content, emphasizing the potential benefits of diverse representations in promoting a healthier self-perception (Lazuka et al., 2020). However, questions still remain regarding the extent and nature of body positive content's ability to mitigate the detrimental effects of thin-ideal messages. We posed social comparison as a moderating factor that affects the relationship between exposure to body images and body-relevant perceptions as well as moods.

First, we found a significant relationship between body positive content and positive mood. Although there were some concerns about body positive content in media regarding its non-existing or backfiring effects on body perceptions in previous studies (e.g., Brathwaite & DeAndrea, 2022; Vendemia et al., 2021), we observed that exposure to body positive images on Instagram would actually bring positive affective responses. Second, we observed significant direct effects of social comparison on all dependent variables examined, whereby higher state social comparison led to one's lower body satisfaction, body appreciation, and positive mood, but higher negative mood. Findings confirmed that the extent to which a person engages in social comparison would have a strongly detrimental impact on how one perceives one's own body and feels in the social media setting. Finally, we were able to detect a moderating effect of social comparison with different types of body images

on moods. Young female adults with higher state social comparison reported significantly lower positive mood when exposed to thin-ideal images than when they were exposed to messages with neutral or body positive images. This confirms the powerful role of state social comparison on social media, canceling the positive affective reactions when one is exposed to a specific situation where social comparison is hard to resist. Interestingly, although those who were more likely to compare themselves to body images were more likely to be negatively affected by the messages than those with low state social comparison, their moods were also more prone to be swayed by the body positive contents, resulting in greater positive moods.

The findings of this study have the following theoretical and practical implications. First, our findings regarding the relationship between body image exposure and positive mood provide opportunities for future studies to comprehend the benefits of body positive media content. Even when body positive images on social media might fail to instantly influence one's body satisfaction and appreciation, as we have observed, they can effectively improve one's mood. This implies that investigating the short- and long-term effects of body positive media content on social media could be valuable. Self-reported moods are one of the immediate and measurable effects of body positive images, serving as an effective assessment of a communication phenomenon. Therefore, it is essential to explore the underlying mechanisms through which body positive media content influences individuals' moods in future research.

Unlike our prediction, exposure to body positive image messages (compared to neutral or thin ideal image messages) did not have a significant influence on other outcome variables, such as body appreciation, body satisfaction, and negative mood. This finding is not uncommon as shown in recent research that tested the influence of body positive images on various outcomes (Brown & Tiggemann, 2020; Tiggemann et al., 2020).

Our study focused on social comparison because it is one of the central processes that uniquely influence how individuals perceive and react to body images. Yet, there are numerous factors such as appearance-ideal internalization, body surveillance, sociocultural pressures, self-esteem, and self-compassion, that could impact one's body appreciation and satisfaction that were not accounted for in our study (Linardon et al., 2022). Future research should aim to identify theoretical mechanisms through which variables other than state social comparison might interact with the effect of body positive images.

Moreover, this study contributes to understanding the boundary conditions of the influence of body positive (vs. thin ideal) media contents by highlighting the role of social comparison as a moderator. Specifically, our findings went beyond observing the direct effects of social comparison on body perceptions and moods. We provided empirical support that social comparison can intensify the relationship between particular body image messages and moods, contributing more room to examine the role of social comparison in a related study domain. In future studies, the amount or frequency of social comparison can be operationalized and measured to suggest a clearer understanding of underlying mechanisms.

The findings of this study provide practical implications for the potential of body positive images in attenuating the negative psychological impact of prevalent thin ideal contents on social media. People are more susceptible to media influence when engaging in a higher degree of social comparison (Jiotsa et al., 2021; Tiggemann & McGill, 2004). Our study generally confirmed this, demonstrating that the detrimental effects of thin ideal images were more pronounced when people engaged in a greater social comparison process. Notably, the current study also showed that a higher degree of state social comparisons can lead individuals to experience a greater improvement in positive mood when exposed to body positive images. Drawing from our findings,

we suggest that the act of social comparison is not inherently negative; rather, we would like to underscore the importance of promoting body positive images and content to mitigate the negative psychological consequences associated with pervasive thin ideal representations on social media platforms.

Another interesting finding from a practical standpoint is that positive mood was the highest for those exposed to neither thin-ideal nor body positive images. Although this finding should be interpreted with caution, it suggests a possibility that exposure to any body-related contents might automatically activate one's body perceptions, possibly diminishing positive moods. Health interventions incorporating body-positive images should be mindful of the potential for body positive images to produce unintended effects, which might counteract their intended positive impact.

This study has several limitations worth noting. Although we found a meaningful relationship between body positive contents and moods, we relied on a couple of affective states for each positive and negative mood. Using additional items to measure moods in future studies could enhance the reliability of the scales. Second, this study only measured participants' body perceptions, such as body appreciation and satisfaction after exposure to media content, which could have blurred the instant effects of exposure. In a future follow-up study, we plan to add a pre-test before message exposure and compare the outcomes for a more rigorous study design. Third, we wonder whether the non-significant findings in our study are partially due to our experimental design of briefly exposing participants to body image messages. For example, Fioravanti et al. (2023) attended to the effects of repeated exposure to body positive contents and observed that daily exposure to body positive images over a period of 28 consecutive days yielded high rates of growth in positive mood and body satisfaction. Moreover, we note that the

frequency and amount of time participants spend on Instagram might have a potential influence on the study outcomes. Future research should examine the impact of repeated exposure to body positive messages along with the effects of frequent social media engagement.

In conclusion, our study provided additional empirical evidence that body positive images can bring positive outcomes on women's body evaluations, compared to thin-ideal model images. We also suggest the powerful role of social comparison in understanding the underlying mechanism of body image messages on social media, which directly affects and strengthens the influence of body image exposure. The findings of the current study can encourage more research to validate the effectiveness of body positive images on social media, together with the role social comparison plays in its users' healthy body perceptions and moods.

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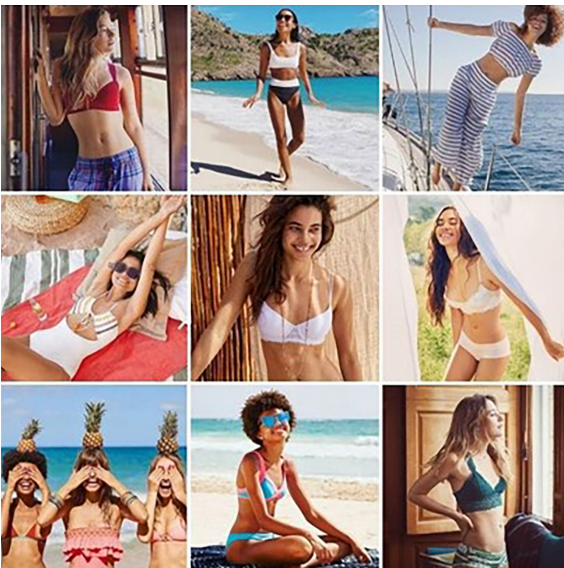
Appendix

Experimental Stimuli

1. Body positive images

2. Thin-ideal message

3. Neutral message