#Loveyourbody: The effect of body positive Instagram captions on women’s body image

Marika Tiggemann,

Isabella Anderberg,

and

Zoe Brown

Flinders University

Please address correspondence to Marika Tiggemann, College of Education, Psychology and Social Work, Flinders University, GPO Box 2100, Adelaide, South Australia, 5001
Email: Marika.Tiggemann@flinders.edu.au

Author note: This research was partially funded by an Australian Research Council Discovery Project Grant (No: DP150101295) awarded to M. Tiggemann
Abstract

One increasing trend on social media is the posting of body positive content that aims to challenge narrow beauty ideals and instead promote acceptance and appreciation of all bodies. The aim of the present study was to experimentally investigate the effect of body positive captions attached to Instagram images on young women’s body image. Participants were 384 women aged 18-30 years randomly assigned to view Instagram images of thin or average-sized women containing either body positive captions or no captions. In contrast to prediction, the body positive captions had no effect on body dissatisfaction or body appreciation. There was a significant effect of image type, whereby the average images resulted in less body dissatisfaction and greater body appreciation than the thin images. A significant three-way interaction indicated that for women high on thin-ideal internalisation, body positive captions on average images led to greater body appreciation, but lower body appreciation when attached to thin images. The results suggest that the visual imagery of an Instagram post is a more potent contributor to body image than any accompanying text. Presenting a more diverse array of women’s bodies on social media is likely a more effective way to foster body satisfaction and appreciation.

Key words: Body image; social media; Instagram; body positive; captions; body appreciation; body dissatisfaction
1. Introduction

An extensive body of research has documented the negative impact on women’s body image of exposure to idealized images in fashion magazines and on television (for meta-analyses, see Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2001; Want, 2009). With the rise of the Internet, however, research attention has shifted focus from these traditional media formats to social media. A systematic review of this newer literature concluded that social media use (at the time largely Facebook) is also linked to body image concerns and disordered eating (Holland & Tiggemann, 2016). Activities surrounding the posting and viewing of photos were identified as particularly problematic (Cohen, Newton-John, & Slater, 2018; Holland & Tiggemann, 2016; Meier & Gray, 2014).

Instagram is an extremely popular social networking platform devoted purely to the posting and sharing of photographs with friends or the wider public. As of June 2018, Instagram hit one billion active users globally (Statista, 2019). In Australia, the major demographic group are young adults aged 18-29 years (Sensis, 2018). Users are able to both actively create their own content and passively consume content posted by others. Overall Instagram use has been linked in correlational studies to a number of body image concerns, including body dissatisfaction and body surveillance (Cohen, Newton-John, & Slater, 2017; Fardouly, Willburger, & Vartanian, 2017; Feltman & Szymanski, 2018; Frison & Eggermont, 2017; Hendrickse, Arpan, Clayton, & Ridgway, 2017; Lup, Trub, & Rosenthal, 2015; Sherlock & Wagstaff, 2019). A small but growing body of experimental research has also shown that acute exposure to Instagram images of idealized bodies has a detrimental impact on women’s body satisfaction (Brown & Tiggemann, 2016; Casale, Gemelli, Calosi, Giangrasso, & Fioravanti, 2019; Cohen, Fardouly, Newton-John, & Slater, 2019a; Tiggemann & Barbato, 2018; Tiggemann, Hayden, Brown, & Veldhuis, 2018; Tiggemann & Zaccardo, 2015).
As is the case for traditional media (Levine & Murnen, 2009; Want, 2009), the negative impact of social media has most commonly been attributed to the process of social comparison. Indeed, the ease and accessibility of social media provide much greater opportunity for frequent, multiple and rapid social comparisons (Tiggemann & Miller, 2010). In support, young women and girls report that they do compare their appearance to both close friends and distant peers on social media (Chua & Chang, 2016; Fardouly, Diedrichs, Vartanian, & Halliwell, 2015; Fardouly & Vartanian, 2015). Importantly, even though these comparisons are made with peers, most often they are upward in direction (Fardouly, Pinkus, & Vartanian, 2017). This comes about because users tend to upload only their “best” photos: ones that have been carefully taken, selected, and often enhanced by filters or digital editing to maximize their attractiveness and appeal (Chua & Chang, 2016; Dumas, Maxwell-Smith, Davis, & Giulietti, 2017). The end result is an Instagram environment characterised by unrealistic and idealized expectations for women and girls.

In response to the growing recognition that so much of Instagram is unrealistic and potentially damaging, new forms of online social activism have arisen. In particular, the ‘body positive’ movement aims to challenge dominant narrow ideals of beauty, discourage appearance-based social comparison, and promote acceptance and celebration of bodies of any shape, size, or appearance (Cwynar-Horta, 2016; Sastre, 2014). Body positive content on Instagram includes photographs of a diverse range of often larger women in swimwear or fashionable clothes, natural unenhanced images of women happily displaying their stomach rolls or other supposed “flaws”, and inspirational memes or quotations (Cohen, Irwin, Newton-John, & Slater, 2019b). Often images are accompanied by captions (text) providing context and reinforcing the message (e.g., “love your curves”; “all bodies are beautiful”), as well as hashtags to enable searching. A search of the hashtag #bodypositive (as at 11/10/19)
yields 11.1 million posts; #loveyourbody 4.4 million posts, and #loveyourself 45.7 million posts.

Emerging research has begun to examine the potential positive effect of Instagram posts containing body positive content on women’s body image. A recent study by Cohen et al. (2019a) showed that brief exposure to a range of body positive Instagram posts (including photographs and captions) led to decreased body dissatisfaction. However, as posts were taken straight from Instagram, the content was ecologically valid but very heterogeneous in nature, making it difficult to determine which elements (alone or in combination) contributed to the positive effect. Some more circumscribed investigations have shown benefits in ameliorating facial dissatisfaction for make-up free selfies (Fardouly & Rapee, 2019) and for natural unedited images more generally (Tiggemann & Zinoviev, 2019). One study has also shown decreased body dissatisfaction in response to viewing “Instagram versus reality” images: side-by-side photographs of the same woman, one an ideal ‘Instagram’ version that is perfectly lit and posed, and the other a more natural and realistic version, e.g., with visible cellulite (Tiggemann & Anderberg, 2019). As yet, there has been no explicit investigation into the effect on body image of body positive captions, the focus of the present study. To the best of our knowledge, only one study has investigated any form of caption. Using a post-only design, Lewallen (2016) found that positive captions about the body (e.g., “A fit, healthy body. That is the best fashion statement”) [not the same as body positive captions] attached to Instagram fitness images resulted in less social comparison and higher self-esteem than negative captions (e.g., “I hate my body”).

Importantly, the body positive movement seeks to do more than ameliorate the body dissatisfaction arising from viewing or aspiring to conventional beauty ideals; more radically, it seeks to actively promote body acceptance and appreciation for all (Cwynar-Horta, 2016; Sastre, 2014). This corresponds to a shift within the body image literature toward an
increased interest in aspects of positive body image. Positive body image is defined as a multidimensional construct encompassing love, respect, and acceptance of one’s body and its functionality, including aspects inconsistent with sociocultural ideals (Tylka, 2011; Tylka & Wood-Barcalow, 2015a). It is conceptualized as something more than the mere absence of negative body image and has most commonly been operationalized as body appreciation (Avalos, Tylka, & Wood-Barcalow, 2005). A number of studies have now shown body appreciation to be uniquely associated with a range of positive outcomes, including optimism, self-esteem, adaptive eating, and self-care health behaviours (Avalos et al., 2005; Andrew, Tiggemann, & Clark, 2016a,b; Tylka & Wood-Barcalow, 2015b). Body appreciation has also been found to be protective of state body satisfaction against negative effects of media exposure in experimental studies (Andrew, Tiggemann, & Clark, 2015; Halliwell, 2013). Thus, as shown by Cohen et al. (2019a), we would expect body positive material to lead to increased body appreciation as well as to decreased body dissatisfaction.

Despite its positive potential, the positive body movement has not gone without criticism. In particular, it has been suggested that the movement has been appropriated by thin and attractive (and White) women (Cwynar-Horta, 2016; Sastre, 2014). For example, body positive activists have argued that posts showing that even thin people can have stomach rolls of fat are inherently anti-fat because they position fat as intrinsically bad (Weiss, 2018). Logically, while body positive captions on images of thin women may promote body appreciation, they certainly do not challenge the dominant thin ideal as the body positive movement aims to do. We chose therefore to investigate the effect of body positive captions on images of both non-thin (average) and thin women. We reasoned that body positive captions accompanying photographs of thin women might seem somewhat disingenuous, annoying, or less credible, and might set up some sort of negative reactance (e.g., “it’s easy for her to love her body!”) on the part of the viewer. Accordingly, we
tentatively predicted that body positive captions would have a greater beneficial effect when attached to images of average-sized than thin women.

One individual difference potentially salient to the reception of body positive material is the extent to which women have internalised the thin ideal for themselves. Thin-ideal internalisation refers to the process by which an individual incorporates societal beauty ideals into their own personal beliefs, values, and goals (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Previous research indicates that women high on internalisation are more negatively affected by exposure to thin-ideal media images (Dittmar & Howard, 2004; Halliwell, 2013; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005; Tiggemann, Brown, Zaccardo, & Thomas, 2017). In addition, Halliwell (2013) obtained an interaction between thin-ideal internalisation and body appreciation in her media exposure study, whereby those women with high internalisation and low body appreciation were particularly vulnerable to thin-ideal imagery. Here we reasoned that women who have strongly internalised the thin ideal might choose to ignore, dismiss, or actively resist body positive messages, and so we expected the captions to provide less benefit for them.

In sum, the present study aimed to experimentally investigate the effect of viewing body positive captions included on Instagram images of thin and average-sized women on body dissatisfaction and body appreciation. Based upon Cohen et al.’s (2019a) initial finding, and in accord with the rationale of the body positive movement, we predicted that images accompanied by body positive captions would result in less body dissatisfaction and appearance comparison and greater body appreciation than the same images without captions. Based on our own reasoning above, we predicted interactions with image type and thin-ideal internalisation, such that beneficial effects would be attenuated for thin (relative to average) images and for women high (relative to low) on thin-ideal internalisation.
2. Method

2.1. Design

The study employed a 2 (caption condition: present, none) × 2 (image condition: average, thin) between-subjects experimental design. The major dependent variables were state levels of body dissatisfaction and body appreciation (controlling for baseline scores). Thin-ideal internalisation was tested as a potential moderating variable.

2.2. Participants

Participants were 388 female students aged 17-30 years from Flinders University. Data from four participants were removed due to a large degree of incompleteness, resulting in a final sample of 384. Their mean age was 20.27 years (SD = 2.52). The majority of participants identified as Caucasian (68.8%), followed by Asian (19.1%), Indian (4.2%), Middle Eastern (1.3%), Aboriginal/Torres Strait Islander (0.8%), and African (0.5%) [other/unspecified (5.2%)].

2.3. Materials

2.3.1. Experimental manipulation: Image type. Stimuli consisted of the two sets of 15 Instagram images of thin-ideal or average-sized women constructed by Tiggemann et al. (2018). Images ranged from full body to head and upper body shots that were sourced from public Instagram profiles using the hashtags #fashion, #beach, and #plussize. All women depicted were Caucasian in appearance and experimental conditions were matched on type of clothing worn, which included swimsuits, shorts, dresses, and jeans.

These images had initially been selected from a larger pool of 120 Instagram images on the basis of ratings of thinness (1 = extremely thin, 5 = extremely overweight) made by five independent raters in the target age range. Images with a modal rating of ‘1’ or ‘2’ were considered as representative of the thin ideal, and images with a rating of ‘3’ or ‘4’ were considered average; any image rated ‘5’ by even a single rater was excluded. The final set of thin-ideal images were rated as significantly thinner \((M = 1.93, SD = 0.26)\) than the average
images ($M = 3.47, SD = 0.52$), $t(28) = 10.29, p < .001$. As would be expected, they were also rated as significantly more attractive ($1 = extremely attractive, 5 = extremely unattractive; M = 2.00, SD = 0.53$) than the average images ($M = 3.13, SD = 0.35$), $t(28) = 6.86, p < .001$.

**2.3.2. Experimental manipulation: Caption.** Each image was presented in the Instagram frame inside a border which imitated the shape of an iPhone. The Instagram logo, icons and a mock profile name (e.g., kate.t, Bree24) were presented at the top of the image. In the caption condition, each image was accompanied by a different body positive caption (e.g., “Love your body, even if the world is telling you not to #bodypositivity”). This was attributed to the profile owner and placed underneath the image consistent with the Instagram format. In the no caption condition, the space was left blank.

Body positive captions were sourced from the top followed accounts on Instagram and by the hashtag #bodypositivity. Captions needed to be positive in tone, and focused on sentiments such as loving your body, life is more important than your body, and everybody is unique. Captions were chosen to be of 8-12 words in length, i.e., long enough that they would be noticed, but short enough to fit into the space without requiring scrolling down or taxing cognitive resources. Ten of the 15 captions also contained common body positive hashtags. The complete list of captions can be viewed in the Supplemental Materials.

**2.3.3. Social networking usage.** Participants were provided with a list of social networking sites and asked to indicate how often they used them. For Instagram and Facebook, they were asked whether or not (no/yes) they had an account and how much time they spend on the sites per day (less than 10 minutes, 10-30 minutes, 30-60 minutes, 1-2 hours, 2+ hours). They were also asked how many Instagram followers and Facebook friends they have (0-10, 10-50, 50-100, 100-500, 500-1000, 1000-2000, 2000+). Finally, participants rated the importance they place on the visual quality of images on social networking sites ($1 = not at all important, 5 = very important$).
2.3.4. **State body dissatisfaction.** Following Heinberg and Thompson (1995), visual analogue scales (VAS) were used to obtain state measures of mood and body dissatisfaction before and after viewing the Instagram images. The five mood items (*anxiety, depression, happiness, anger, confidence*) were included to decrease the focus on appearance and were not analysed here. These were followed by the two body dissatisfaction items (*weight dissatisfaction, appearance dissatisfaction*). Participants were instructed to drag the marker along a line from 0 (*none*) to 100 (*very much*) to the appropriate position to indicate how they felt ‘right now’ for each item. Scores on the weight and appearance dissatisfaction items were averaged to produce an overall body dissatisfaction score ranging from 0 to 100. VAS are difficult to recall but sensitive to small changes, and are therefore particularly suitable for repeated measurement. They also have demonstrated reliability and validity as a measure of body dissatisfaction (Heinberg & Thompson, 1995). In the present sample, internal reliability for body dissatisfaction was acceptable at both pre-exposure (α = .88) and post-exposure (α = .92).

2.3.5. **State body appreciation.** State body appreciation was similarly measured before and after viewing the Instagram images with the visual analogue scales developed by Slater, Varsani, and Diedrichs (2017). Participants were asked their current feelings for three items (“Despite my flaws, I accept my body for what it is,” “My feelings towards my body are positive for the most part” and “My self-worth is independent of my body shape or weight”). These items had been adapted as state versions of items contained in the Body Appreciation Scale (Avalos et al., 2005). Scores on the three items were averaged to produce an index of state body appreciation ranging from 0 to 100. Slater et al. (2017) reported good internal reliability for the measure (α = .90, .92). In the present sample, internal reliability was acceptable at both pre-exposure (α = .78) and post-exposure (α = .82).
2.3.6. State appearance comparison. The degree to which participants engaged in appearance comparison while viewing the images was assessed by the State Appearance Comparison Scale (Tiggemann & McGill, 2004). The scale consists of three items that ask participants how much they thought about their appearance while viewing the Instagram images, and how much they compared their overall appearance and specific body parts, respectively, with the women in the images. Responses are made on 7-point Likert-type scales ranging from 1 (no thought/comparison) to 7 (a lot of thought/comparison). The overall score for state appearance comparison was calculated by averaging the three items, to produce a measure ranging from 1 to 7, with higher scores indicating greater appearance comparison processing. Tiggemann and McGill (2004) reported good internal reliability for the measure (α = .91). In the present sample, internal reliability was the same (α = .91).

2.3.7. Perceived characteristics of the images. In order to check the experimental assignment of images, participants were asked to rate how thin (1 = not at all thin, 7 = very thin) and how attractive (1 = not at all attractive, 7 = very attractive), on average, were the women in the images they had viewed. They were also asked to recall how many of the images had captions and how many had hashtags (none, about one quarter, half, about three quarters, all of them). The question about captions served as a manipulation check to ascertain whether those participants who viewed the images containing body positive captions had noticed them.

2.3.8. Thin-ideal internalisation. The extent to which participants had internalised the thin ideal was measured by the Thin/Low Body Fat subscale of the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ-4; Schaefer et al. 2015). The scale consists of 5 statements (e.g., “I want my body to look very thin”; “I think a lot about having very little body fat”) which are rated on 5-point Likert scales (1 = definitely disagree; to 5 = definitely agree). Scores for the five statements items were averaged to produce an overall
score ranging from 1 to 5, with higher scores indicating greater internalisation of thin ideals. Schaefer et al. (2015) reported good internal consistency for the scale (α = .87). In the present sample, internal reliability was acceptable (α = .80).

2.4. Procedure

Participants were recruited via the university’s online research participation system for a study simply entitled ‘Instagram study.’ Participants were asked to complete the study online via Qualtrics on a laptop or desktop computer. After reading the letter of introduction and providing consent, participants completed the social networking measure and pre-exposure VAS measures of mood, body dissatisfaction, and body appreciation. Next, they were randomly allocated via the Qualtrics software into one of the four experimental conditions (ns = 95-97) where they viewed 15 Instagram images of either thin or average women paired with either a body positive caption or no caption. Each image was displayed for 7 seconds, after which, to ensure attention, participants were asked to rate the visual quality of the image (1 = very poor, 5 = excellent). Additional attention checks in the form of a simple question (e.g., “What colour is the woman’s dress?”; “What is the main thing in the background?”) were also included after four of the images. Nearly all (98.2%) participants answered all four questions correctly, with the remaining 1.8% answering three out of the four correctly.

Following the image task, participants completed the post-exposure VAS, as well as measures of state appearance comparison and the manipulation checks. Finally, they completed the trait measure of thin-ideal internalisation and were asked to provide their age and ethnicity. The study took approximately 15-20 mins and participants received course credit or were reimbursed $5 for their participation.

3. Results

3.1. Sample Characteristics
The present sample were frequent users of social media. The majority had both an Instagram (91.9%) and Facebook account (96.1%). Modal use of Instagram was 1-2 hours per day and Facebook was 30-60 minutes per day. Modal number of Instagram ‘followers’ and Facebook ‘friends’ was 100-500.

A series of one-way ANOVAs showed that the four experimental conditions did not differ in age, $F(3, 378) = 0.27, p = .849$, or time spent on Instagram, $F(3, 380) = 1.63, p = .183$. Neither did they differ on initial levels of body dissatisfaction, $F(3, 379) = 0.87, p = .458$, or body appreciation, $F(3, 378) = 1.19, p = .313$. Finally, they did not differ on thin-ideal internalisation, $F(3, 378) = 0.36, p = .783$, indicating that the latter was not reactive to experimental manipulation, as befits a trait measure.

### 3.2. Manipulation Checks

Participants who viewed the images of thin women rated the women as significantly thinner ($M = 5.84, SD = 0.98$) than participants who viewed the images of average-sized women ($M = 3.44, SD = 0.95$), $t(382) = 24.40, p < .001$. The thin women in the images were also rated as significantly more attractive ($M = 5.72, SD = 1.08$) than the average-sized women ($M = 4.76, SD = 1.20$), $t(382) = 8.24, p < .001$.

In the caption conditions, the majority (85.9%) of participants correctly reported that all images had captions. The remaining 14.1% reported seeing at least some captions. Thus the experimental manipulation was deemed successful.

### 3.3. Effect of Caption on Body Dissatisfaction and Body Appreciation

To test the effect on body dissatisfaction of body positive captions accompanying Instagram images, a 2 (caption: present, none) × 2 (image type: average, thin) ANCOVA, with pre-exposure body dissatisfaction as the covariate, was conducted. The resulting adjusted means are displayed in Table 1. In contrast to prediction, the main effect of caption was not significant, $F(1, 378) = 0.33, p = .568, \eta_p^2 = .00$. Nor was there any significant
interaction with image type $F(1, 378) = 0.29, p = .593, \eta^2_p = .00$. Thus viewing images with body positive captions, whether attached to thin or average images, did not result in any reduced body dissatisfaction. There was, however, a significant main effect of image type, $F(1, 378) = 28.81, p < .001, \eta^2_p = .07$, whereby viewing thin images resulted in greater body dissatisfaction than viewing average images. From the pre- and post-exposure means, it can be seen that viewing thin images led to an increase in body dissatisfaction, whereas viewing average images led to a decrease.

The same pattern of results was obtained for body appreciation as the dependent variable. There was no main effect of caption, $F(1, 377) = 0.06, p = .809, \eta^2_p = .00$, or interaction between caption and image conditions, $F(1, 377) = 1.13, p = .288, \eta^2_p = .00$. The effect of image type was significant, $F(1, 377) = 14.43, p < .001, \eta^2_p = .04$, whereby the thin images elicited more appearance comparison than the average images.

**3.4. Effect of Caption on Appearance Comparison**

A 2 (caption: present, none) × 2 (image type: average, thin) ANOVA was conducted to examine effects on state appearance comparison. Although it appears that appearance comparison was the lowest in the average image with no caption condition (see Table 1), the interaction effect did not reach significance, $F(1, 380) = 3.04, p = .082, \eta^2_p = .01$. The main effect of caption was also not significant, $F(1, 380) = 1.17, p = .281, \eta^2_p = .00$. The main effect of image type was significant, $F(1, 380) = 6.07, p = .014, \eta^2_p = .02$, whereby the thin images elicited more appearance comparison than the average images.

**3.5. Moderating Role of Thin-Ideal Internalisation**

Two hierarchical regression analyses were conducted to determine whether thin-ideal internalisation moderated the effect of caption and/or image type on body dissatisfaction and body appreciation. Following the recommendation of Aiken and West (1991), thin-ideal internalisation scores were centred by subtracting the mean from each score to reduce
multicollinearity. The relevant pre-exposure score was entered in Step 1, the image type, caption condition, and centred moderator in Step 2 (main effects), the two-way product terms in Step 3, and the three-way product term in Step 4.

For body dissatisfaction, Step 2 was significant, $R^2_{\text{Change}} = .023$, $F_{\text{Change}}(3, 376) = 10.91, p < .001$, with thin-ideal internalisation a unique predictor, $\beta = .06, t(376) = 2.07, p = .039$. However, the addition of the product terms in Steps 3 and 4 did not account for any significant further variance, both $R^2_{\text{Change}} = .000, F_{\text{Change}} < 1, p > .780$.

For state body appreciation, Step 2 was significant, $R^2_{\text{Change}} = .009$, $F_{\text{Change}}(3, 375) = 5.90, p = .001$. Step 3 was non-significant, $R^2_{\text{Change}} = .001, F_{\text{Change}}(3, 372) = 0.66, p = .576$, but Step 4 was significant, $R^2_{\text{Change}} = .002, F_{\text{Change}}(1, 371) = 4.65, p = .032$. That is, there was a significant three-way interaction between image type, caption, and internalisation. To interpret the interaction, two separate ANCOVAs were conducted for low and high internalisation participants (on the basis of a median split). For the low internalisation group, as for the sample as a whole, there was a significant main effect of image type, $F(1, 184) = 8.79, p = .003, \eta_p^2 = .05$, but no significant effect of caption, $F(1, 184) = 0.32, p = .571, \eta_p^2 = 0.00$, or interaction, $F(1, 184) = 0.62, p = .432, \eta_p^2 = .00$. However, for the high internalisation group, in addition to the significant main effect of image type, $F(1, 186) = 4.81, p = .030, \eta_p^2 = .03$, there was also a significant interaction between caption and image type, $F(1, 186) = 4.82, p = .029, \eta_p^2 = .03$. As can be seen in Figure 1, for those women high on internalisation, viewing captions attached to average images led to greater body appreciation than viewing the same images with no captions. In contrast, viewing captions on thin images resulted in lower body appreciation than no captions. Thus the moderation predictions were partially supported.

4. Discussion
The major aim of the present study was to investigate the effect of body positive captions attached to Instagram images on women’s body dissatisfaction and body appreciation. In so doing, the study contributes to the emerging research trying to find ways in which social media can be used positively. The major finding was clear. There was no positive benefit of body positive captions for body dissatisfaction or body appreciation. This was the case for both thin and average images. However, effects on body appreciation (but not body dissatisfaction) were moderated by internalization of the thin ideal. For women high on internalization, as predicted, captions on average images led to greater body appreciation than captions on thin images. As a whole, the results extend existing research on Instagram use and body image to a focused examination of the role of captions, a common and integral feature of Instagram use in general, and of body positive posts in particular.

Although not the major purpose of the study, the finding that exposure to thin Instagram images (regardless of caption) led to greater body dissatisfaction and lower body appreciation relative to average images replicates with a different sample Tiggemann et al.’s (2018) earlier finding, and extends this to body appreciation. It is also consistent with a growing body of experimental research demonstrating the negative effects of viewing thin idealized images against other control images, such as travel or nature, using the Instagram platform (Brown & Tiggemann, 2016; Cohen et al. 2019a; Tiggemann & Zaccardo, 2015). As in a number of these studies, the size of effect on body dissatisfaction was at least moderate ($\eta_p^2 = 0.07$), in contrast to the small effects typically reported in the earlier literature involving traditional media (Grabe et al., 2008; Groesz et al., 2001; Want, 2009). It may be that the larger observed effect sizes stem from Instagram being an inherently photo-based platform that offers a particularly potent form of transmission of ideals (Tiggemann & Zaccardo, 2015).
The major finding here was that the addition of body positive captions made no difference. Based on Cohen et al.’s (2019a) initial finding with unselected body positive material, we had expected body positive captions to result in positive effects. However, in contrast to our prediction, viewing captions encouraging body acceptance, celebration, and appreciation did not lead to significant decreases in body dissatisfaction or increases in body appreciation. Nor did it lead to less social comparison. Further, this was equally the case for thin and average images. Future research might explicitly investigate how women receive and interpret such body positive messages. For example, it is possible that some forms of verbal text exhorting the viewer to “love your body” might be seen as didactic rather than positive. Taken together, the results (main effect of image size, but not caption) are consistent with the recent suggestion that the visual image itself, rather than any accompanying verbal text, will likely always be the most prominent and salient feature of any Instagram post (Tiggemann & Barbato, 2018).

One prediction received some support. The three-way interaction indicated that effects were moderated by internalisation of the thin ideal. For women high on internalisation, we did obtain the predicted two-way interaction between caption and image type for body appreciation (but not body dissatisfaction). For these women, the body positive captions led to increased body appreciation when attached to average figures, but lower body appreciation when attached to thin figures. In other words, the positive effect of body positive captions was attenuated, indeed reversed, when attached to thin images. It may be, as we initially reasoned, that body positive commentary made by thin and attractive women is perceived as disingenuous or not credible and therefore acts in a counterproductive way. It is perhaps not surprising that women who are themselves highly invested in thinness (those high on thin-ideal internalisation) are the most attuned to these complexities. Alternatively, body positive commentary made by thin women may be perceived as of little relevance to the
average viewer. Because the study was conducted online, we did not have any objective measure of weight or BMI. However, it seems plausible that body positive messages might be more effective when accompanying images of women who are at least as far, if not further, from the thin ideal than the woman viewing the images.

The findings have some implications for the body positive movement. The present null result obtained for captions, together with the previous positive results for body positive posts (Cohen et al., 2019a) as well as natural unedited images (Fardouly & Rapee, 2019; Tiggemann & Anderberg, 2019; Tiggemann & Zinoviev, 2019), suggest that the obtained positive effect of body positive posts is largely a function of the photos posted, rather than any accompanying educational text. As noted in the content analysis (Cohen et al., 2019b), body positive material often presents larger bodies. Here we showed that such bodies (in the present case, average bodies) decreased body dissatisfaction and increased body appreciation. Future research should seek to more systematically dismantle the components of body positive posts to find which aspects are driving the positive effect. Women can then be advised to both post and browse these kinds of posts.

The present results also offer the important caveat that body positive posts from thin and attractive women may not be helpful. Indeed, they may be counterproductive for some women, namely those high on thin-ideal internalisation. This provides an example of unintended consequences that can emerge from well-meaning acts (the posting of body positive captions). The finding offers concrete support to the contemporary critique of the body positive movement that a sizeable number of influential body positive accounts depict conventionally attractive and thin women (Cwynar-Horta, 2016; Sastre, 2014). The present results suggest that viewing such accounts may be harmful. Another potential criticism of the body positive movement is the maintenance of focus on appearance. Many of the images posted are of larger women wearing body-revealing attire, and although they may display
cellulite, scars, or stretch marks, most are in non-active and sometimes suggestive poses, looking directly at the viewer with a sexy and inviting stare (Cohen et al., 2019b; Cwynar-Horta, 2016). It has been argued that these presentations reflect dominant cultural norms of positioning the female body so as to invite the male or ‘panoptic’ gaze (Cwynar-Horta, 2016; Sastre, 2014). In this light, captions promoting “loving how your body looks” or “all bodies are beautiful, no matter what your size or shape” might be seen as reinforcing rather than undermining the current societal preoccupation with appearance (Webb, Vinoski, Bonar, Davies, & Etzel, 2017). In support, Cohen et al. (2019a) found that although exposure to body positive posts led to decreased body dissatisfaction and increased body appreciation, it also resulted in increased state self-objectification. It might be that body positive posts that showcase and emphasize the appreciation of functionality over appearance would fare better, in line with a growing body of evidence that focusing on the functional aspects of one’s own body promotes positive body image (Alleva, Martijn, Van Breukelen, Jansen, & Karos, 2015; Alleva et al., 2018; Mulgrew, McCulloch, Farren, Prichard, & Lim, 2018; Mulgrew, Stalley, & Tiggemann, 2017).

As in all studies, there are some limitations to be noted. First, the sample consisted of young adult women. Although these are some of the highest users of social media (Sensis, 2018), younger and older individuals of both genders also use social media. Older women, who become less invested in their body’s appearance as they age (Tiggemann, 2004), might be particularly responsive to body positive content, including captions. Second, we had no objective or self-report measure of BMI and so were unable to test whether women’s response to body positive content accompanying images of different body size might be influenced by their own body size. Third, although the experimental protocol was designed to have high ecological validity in that stimuli consisted of real Instagram images and real captions viewed on an iPad, the way they were viewed in the laboratory (with questions) was
different from how they might normally be viewed. In addition, captions and image type were manipulated independently for experimental control. Fourth, we tested only body positive captions of one or two clauses. Although this is a common length of caption, Instagram allows captions of up to 2200 characters and so some women write much lengthier body positive captions to accompany their images. It is also common to use multiple hashtags. Finally, we did not have any measure of the extent to which participants actually absorbed or engaged with the captions.

Despite the above limitations, the present study has made a novel contribution to the emerging literature on potentially positive aspects of social media. In particular, the findings suggest that body positive captions are not in themselves an effective way to ameliorate body dissatisfaction among viewers. Instead, it appears that body size and shape are critical components in Instagram posts and thus body positivity might best be promoted through offering a more diverse range of naturalistic images on Instagram. This would serve to make the Instagram environment both a more realistic and a more benign one.
References


https://doi.org/10.1016/j.bodyim.2015.06.003

https://doi.org/10.1016/j.bodyim.2019.09.004


https://doi.org/10.1016/j.bodyim.2015.04.001

https://doi.org/10.1016/j.bodyim.2014.09.006


https://doi.org/10.1016/j.bodyim.2017.05.003

https://doi.org/10.1016/j.bodyim.2004.11.001
Table 1

*Means (SD) and Adjusted Means (SE) for Body Dissatisfaction, Body Appreciation, and State Appearance Comparison by Image Type and Caption*

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th></th>
<th></th>
<th>Thin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No caption</td>
<td>Caption</td>
<td>No caption</td>
<td>Caption</td>
</tr>
<tr>
<td><strong>Body dissatisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre exposure</td>
<td>39.06 (28.69)</td>
<td>44.25 (31.72)</td>
<td>45.60 (29.68)</td>
<td>42.03 (30.34)</td>
</tr>
<tr>
<td>Post exposure</td>
<td>33.91 (28.35)</td>
<td>38.12 (29.35)</td>
<td>48.70 (28.68)</td>
<td>44.00 (30.62)</td>
</tr>
<tr>
<td>Adjusted means</td>
<td>36.92 (1.59)</td>
<td>36.86 (1.60)</td>
<td>46.34 (1.60)</td>
<td>44.57 (1.60)</td>
</tr>
<tr>
<td><strong>Body appreciation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre exposure</td>
<td>50.56 (24.29)</td>
<td>53.28 (26.18)</td>
<td>46.74 (25.55)</td>
<td>51.98 (25.38)</td>
</tr>
<tr>
<td>Post exposure</td>
<td>52.66 (25.29)</td>
<td>56.18 (26.07)</td>
<td>45.83 (26.29)</td>
<td>49.18 (27.95)</td>
</tr>
<tr>
<td>Adjusted means</td>
<td>52.73 (1.19)</td>
<td>53.71 (1.19)</td>
<td>49.47 (1.19)</td>
<td>47.92 (1.20)</td>
</tr>
<tr>
<td><strong>State appearance comparison</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre exposure</td>
<td>3.34 (1.63)</td>
<td>3.85 (1.61)</td>
<td>4.09 (1.79)</td>
<td>3.98 (1.94)</td>
</tr>
</tbody>
</table>
Figure 1. Three-way interaction between image type, caption, and thin-ideal internalisation on body appreciation.
Supplemental Materials

List of body positive captions:

1. We are all shaped in a way that is beautiful and unique #lovewhatyouhavebeengiven
2. You can be whatever size and be beautiful inside and out #bodypositivity
3. The things that make us different from one another make us beautiful
4. Who I am is more important than a nice figure #loveyourbody
5. It’s important to love yourself regardless of your size #everybodyisbeautiful
6. My life is so much more than my jean size #bodypositivity
7. I am so much more than my body, and so are you.
8. Be happy with your body. Don’t try to conform to a stereotype
9. Remember you are beautiful in your own body
10. When did being thin become more important than being healthy?
    #lovewhatyouhavebeengiven
11. Bodies change. It’s all love. Don’t let anyone tell you otherwise
12. Learning to love my body has been life changing #everybodyisbeautiful
13. Enjoy your body now. Don’t wait to wear that bikini #loveyourbody
14. Love your body, even if the world is telling you not to #bodypositivity
15. Nobody is perfect. Embrace your body. You are more than a number.
    #everybodyisbeautiful