Abstract

Body positive content on social media aims to challenge mainstream beauty ideals and encourage acceptance and appreciation of all body types. The present study aimed to investigate the effect of viewing body positive Instagram posts on young women's mood and body image. Participants were 195 young women (18-30-years old) who were randomly allocated to view either body positive, thin-ideal, or appearance-neutral Instagram posts. Results showed that brief exposure to body positive posts was associated with improvements in young women's positive mood, body satisfaction and body appreciation, relative to thin-ideal and appearance-neutral posts. Additionally, both thin-ideal and body positive posts were associated with increased self-objectification relative to appearance-neutral posts. Finally, participants showed favourable attitudes towards the body positive accounts with the majority being willing to follow them in the future. It was concluded that body positive content may offer a fruitful avenue for improving young women's body image, although further research is necessary to fully understand the effects on self-objectification.

#BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image

It is well recognised that the media play a dominant role in influencing perceived social norms and cultural appearance standards, particularly that of the ideal slim female body, commonly referred to as the 'thin-ideal' (Grabe, Ward, & Hyde, 2008). These appearance ideals have been found to pervade both traditional and social media content (e.g., Conlin & Bissell, 2014; Tiggemann & Zaccardo, 2018), and are generally unattainable for most women. A new trend on social media, 'body positivity' (or *BoPo*) aims to challenge these narrow societal prescriptions for female beauty in favour of a broader conceptualisation of beauty, body acceptance of all shapes and sizes, and body appreciation. The current study aimed to investigate the impact of viewing such 'body positive' content on Instagram on women's mood and body image.

Media and Body Image

According to the Tripartite Influence Model (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), women internalise the media's unrealistic appearance ideals and engage in appearance comparisons, resulting in dissatisfaction with their own bodies. Objectification theory (Fredrickson & Roberts, 1997) offers another framework for understanding the relationship between media images and body image concerns. According to objectification theory, the media's sexual objectification of women socialises women to view their own bodies as objects to be looked at and evaluated based on appearance (known as self-objectification). Both body dissatisfaction and self-objectification have been linked to negative consequences including disordered eating, depression, sexual dysfunction, and substance use (Moradi & Huang, 2008; Stice & Shaw, 2002). In support of these theories, a significant literature has shown that exposure to thin-ideal images of women in the media, such as in magazines and on television, can lead to increased thin-ideal internalisation, self-

objectification, body dissatisfaction, and disordered eating behaviours in women (Grabe et al., 2008; Groesz, Levine, & Murnen, 2002; Harper & Tiggemann, 2008).

Newer media sources, such as social media platforms like Facebook and Instagram, can offer a constant stream of carefully curated images and messages promoting the thin-ideal. Instagram, a photo-based social networking site with 800 million global users who share an average of 95 million photos and videos per day, is most popular amongst 18-29 year old women (Pew Research Center, 2018). A systematic review of the extant literature on social media and body image found that social media use is positively related to body image concerns and disordered eating (Holland & Tiggemann, 2016). More recent research has shown that it is specifically appearance-focused social media use that is related to body image outcomes, rather than overall time spent on social media (Cohen, Newton-John, & Slater, 2017, 2018; Meier & Gray, 2014). For example, correlational studies have shown that engaging in photo-based activities on Facebook (e.g., looking at photos posted by others, sharing one's own photos), following appearance-focused accounts on Instagram, and expending effort and concern in selecting and editing one's *selfies* before posting them online, are all related to body image concerns in young women (Cohen et al., 2017, 2018; McLean, Paxton, Wertheim, & Masters, 2015; Meier & Gray, 2014). Whilst there is less experimental research to date, some experimental studies have shown that exposure to idealised images of women on social media, whether the thin-ideal, *fitspiration* (lean and toned bodies), or curvy ideals (thin with large breasts and buttocks), led to increased negative mood, body dissatisfaction, and self-objectification in women (Betz & Ramsey, 2017; Brown & Tiggemann, 2016; Cohen & Blaszczynski, 2015; Robinson et al., 2017; Tiggemann & Zaccardo, 2015).

Body Positive Social Media

More recently, there has been a proliferation of 'body positive' content on social media (or '*BoPo*') which aims to challenge the aforementioned narrow appearance ideals and instead represent a diverse array of bodies of different shapes, sizes, colours, features, and abilities, with the presumed aim of fostering body acceptance and appreciation (Cwynar-Horta, 2016). Unlike traditional media, social media are unique in that their content is user-generated. This feature allows for bodies that are typically marginalised by society's dominant appearance standards to finally have a voice and be seen. Body positive content has become increasingly popular on social media platforms, particularly on Instagram. A recent search of the hashtag #bodypositive on Instagram elicited over 6,064,145 posts (Instagram, June 2018). Similar hashtags #bodypositivity and #bopo elicited 1,880,753 and 671,063 posts, respectively (Instagram, June 2018). These posts include a variety of quotes, images, and captions, ranging from selfies of women proudly displaying their larger bodies with captions like "it's possible to love your belly rolls, it's possible to have a favourite spot of cellulite", before and after photos of 'real' bodies encouraging awareness of the use of digital alteration in mainstream media, positive quotes like "you are more than a body, go show the world more", and images focusing on body functionality.

This pop-cultural emergence of body positivity on social media coincides with a theoretical shift in the body image literature from a focus on body image disturbance to an exploration of positive body image (Tylka, 2012). Positive body image is a multifaceted construct encompassing a love and respect of the body (Tylka & Wood-Barcalow, 2015b), and has been operationalised in research as body appreciation (Avalos, Tylka, & Wood-Barcalow, 2005). Body appreciation has been defined as appreciating the features, functionality, and health of the body rather than focusing solely on its appearance (Tylka & Wood-Barcalow, 2015b). Preliminary research shows that positive body image may

contribute to a host of psychological and physical health benefits. For example, Swami, Weis, Barron, and Furnham (2017) found that positive body image was linked to greater emotional, social, and psychological well-being. Similarly, Andrew, Tiggemann, and Clark (2016a, 2016b) found positive body image was positively associated with health-seeking behaviours, intuitive eating and physical activity, and negatively related to dieting, alcohol consumption, and cigarette use. Moreover, there is evidence that body appreciation may play a protective role against the negative impacts of media exposure (Andrew, Tiggemann, & Clark, 2015; Halliwell, 2013). Accordingly, body appreciation appears to be a fruitful target for interventions that aim to not only reduce women's vulnerability to body dissatisfaction, but also to promote positive body image and its associated positive psychological and physical health benefits (Halliwell, 2015).

Researchers have suggested that in order to improve body appreciation, it is important to provide women with broader conceptualisations of beauty and to encourage women to surround themselves with social networks that foster respect and appreciation for one's own body (Paraskeva, Lewis-Smith, & Diedrichs, 2017). Accordingly, it is plausible that engaging with body positive content on Instagram, which aims to foster an online community of acceptance and appreciation of all bodies, may be one avenue through which to promote positive body image in young women. A recent study found that women who were exposed to images of full-figured models that did not adhere to the sociocultural thin-ideal reported increases in state body appreciation, compared to those who viewed images of thin models (Williamson & Karazsia, 2018). Moreover, a recent content analysis of popular body positive accounts on Instagram found that the majority of content analysed depicted a broad range of larger body types, and contained messages that aligned with Tylka and Wood-Barcalow's (2015b) theoretical construct of positive body image (Cohen, Irwin, Newton-John, & Slater, submitted for publication). However, to date no research has explicitly investigated the

impact of viewing body positive content on Instagram on young women's body image.

The Present Study

The present study used an experimental design to investigate the effects of exposure to body positive Instagram content on young women's mood, body satisfaction, body appreciation, and self-objectification, in comparison to thin-ideal and appearance-neutral Instagram content. Since body positive content is designed to promote positive body image, and has been shown to align with theoretical definitions of positive body image (Cohen et al., submitted for publication), we hypothesised that viewing body positive content would result in greater positive mood, body satisfaction, and body appreciation, and reduced self-objectification and negative mood, compared to exposure to thin-ideal content and appearance-neutral content. Finally, given the potential for body positive content to be used as an intervention to improve body image, we were interested in women's attitudes towards these types of accounts, and whether viewing body positive content could have an effect even when controlling for trait levels of body appreciation.

Method

Participants

Participants were 195 women aged 18-30 years old (M = 21.69, SD = 3.49). Just over half of participants (52.8%) identified as Caucasian, with 34.9% Asian (including South East Asian), 5.6% Middle Eastern, 1% Aboriginal or Torres Strait Islander, 0.5% African, and 5.1% identifying as 'other' ethnicities. Mean self-reported body mass index (BMI) was 23.08 (SD = 3.90).

Procedure

Following institutional ethics approval, participants were recruited via fliers and social media pages advertising a study on "Instagram and memory". The study took place at

the University of Technology Sydney campus, and was open to staff and students to participate. Upon arrival at the research laboratory, participants were seated in front of a desktop computer and told "We are interested in how your attention and memory are affected when viewing imagery on social media. After you finish viewing the images you will be asked questions about what you have seen so please pay close attention to the images presented. How you feel can also influence your attention so we are also going to monitor your mood and how you feel throughout the study". After providing informed consent, participants completed measures of pre-exposure state mood and body satisfaction, among distractor items. They were then randomly allocated, via the random allocation function in the Qualtrics survey software, to one of three exposure conditions (body positive, thin-ideal, or appearance-neutral posts). In each condition, participants viewed 20 posts for at least 10 seconds each. Participants then completed post-exposure measures of state self-objectification, state mood and body satisfaction, and state body appreciation among distractor items and memory questions to bolster the cover story. Participants finally completed a measure of trait body appreciation, followed by attitudes towards body positive content. Participants were also asked to report their age, ethnicity, and height and weight (used to calculate BMI). Testing sessions lasted approximately 15-20 minutes, and participants received a coffee voucher (valued at AUD$3.20) for their participation. All participants were debriefed on completion of the study.

Measures and Materials

Experimental manipulation: Post type. Three sets of visual stimuli were used in the study (body positive, thin-ideal, and appearance neutral), each containing four individual Instagram accounts with five posts each (20 posts in total per condition). All posts were sourced from public Instagram accounts. The thin-ideal and body positive posts were selected from an initial pool of 50 body positive and 50 thin-ideal posts (five Instagram accounts per

condition with 10 posts each) to provide a reasonable coverage of currently disseminated posts in the designated categories. A pilot study was conducted with 13 independent female raters from the target age group (M = 22.45 years SD = 2.46). Raters were provided with a definition of 'body positive' *['body positive' refers to rejecting unrealistic body ideals and encouraging women to accept and love their bodies at any shape and size. Body positive Instagram posts tend to depict women proudly posting their unique bodies and quotes about body acceptance (e.g., @bodyposipanda, @Ashleygraham, @effyourbeautystandards etc.)*], and 'thin-ideal' [*'idealised images' refer to images of attractive women with thin and toned bodies. Instagram posts of idealised women tend to depict thin women either posing in bikinis, form-fitting or revealing fashion or in fitness attire (e.g., @victoriasecretangels, @kendalljenner, @gigihadid etc.)*], and asked to rate the extent to which each image was representative of its designated category using a visual analogue scale (VAS; 0 = *not at all*, 100 = *to a great extent*). The accounts and posts rated to be most representative of the conditions were selected for the study (body positive M = 72.31, SD = 11.86; thin-ideal M = 79.77, SD = 10.08).

The final thin-ideal stimuli consisted of posts from four popular accounts that were perceived as subscribing to the thin-ideal, and included full body shots of women with thin physiques either posing in bikinis, form-fitting fashion, or fitness attire, as these are typical posts found on Instagram accounts that depict the thin-ideal. The final body positive stimuli consisted of posts from four popular body positive accounts: 1) @bodyposipanda: images of a larger woman displaying her body with captions about body acceptance, 2) @omgkenzieee: side by side images of a 'real' woman challenging societal beauty ideals, 3) @beautyredefined: body positive quotes, and 4) @nolatrees: images of a 'fat' woman practicing yoga with captions focusing on appreciating what her body can do. This cross section of accounts was selected to represent the different types of posts typically found on

body positive accounts. Specifically, 15 of the 20 body positive posts contained women in bikinis, form-fitting fashion, or fitness attire (matching the 20 thin-ideal images except for body type), and five of the images consisted of quotes. The women in the thin-ideal and body positive posts were of similar age to the participants. The appearance-neutral posts consisted of nature photography typical of Instagram such as plants, marine life, skyscapes, and animals, with no human bodies present. All posts were presented with Instagram borders, names, and captions to enhance ecological validity. However, comments and likes were removed to avoid any confounding effects. Stimuli were presented to participants on a desktop computer screen in a randomised account order with each post displayed for a minimum of 10 seconds before giving participants the option to move to the next image. All images were counterbalanced to control for order effects.

State Mood and Body Satisfaction. Computer based visual analogue scales (VAS) were used to measure state mood and body satisfaction both before and immediately after viewing the experimental stimuli. Participants were asked to rate how they feel "right now" by moving a vertical marker to the appropriate point on each horizontal line with end points labelled 'not at all' (0) and 'very much' (100). Participants were asked to rate a series of mood dimensions: depressed, anxious, confident, and happy. Research has found that in low stress situations, positive and negative mood are experienced independently, and therefore should be measured as separate dimensions (Reich, Zautra, & Davis, 2003). Accordingly, ratings of 'happy' and 'confident' were combined to form a measure of state positive mood, and 'depressed' and 'anxious' combined to form a measure of state negative mood.

The body satisfaction dimensions included 'satisfied with my weight', 'satisfied with my overall appearance', and 'satisfied with my body shape', which were combined to form a measure of state body satisfaction. To further disguise the true purpose of the study, participants were also asked about their satisfaction with their romantic relationship, financial

status, housing situation, occupation/study, and social life. Previous research has shown VAS to be reliable and sensitive measures of changes in mood and body satisfaction among college women, and thus are ideal for pre-post-experimental designs (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015; Heinberg & Thompson, 1995; Prichard & Tiggemann, 2012). In the current study, the positive mood scale demonstrated acceptable internal consistency at pre-(α = .69), and post-exposure (α = .75), the negative mood scale demonstrated good internal consistency at pre- (α = .77), and post-exposure (α = .80), and the body satisfaction scale demonstrated good to excellent internal consistency at pre- (α = .84), and post-exposure (α = .92).

State Self-Objectification. A modified version of the Twenty Statements Test (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998) was used to measure state self-objectification following exposure to the experimental stimuli. Participants were asked to describe themselves by completing 10 sentences beginning with 'I am'. This implicit measure of state self-objectification has been successfully used in prior experimental research (Calogero, 2013; Harper & Tiggemann, 2008; Tiggemann & Boundy, 2008). As per Harper and Tiggemann (2008), two independent researchers who were blind to the hypotheses and experimental conditions coded the responses into one of six categories: 1) body shape and size (e.g., "I am overweight"), 2) other physical appearance (e.g., "I am blonde"), 3) physical competence (e.g, "I am strong"), 4) traits or abilities (e.g., "I am friendly"), 5) states or emotions (e.g., "I am tired"), and 6) miscellaneous or uncodable. State self-objectification was operationalised as the number of responses that fit into the first two categories. This produced a score ranging from 0 to 10, with higher scores indicating higher levels of self-objectification. There was substantial inter-rater agreement for appearance items in the first two categories (Cohen's κ = 0.75). The authors resolved the remaining discrepancies through discussion until consensus was reached.

State Body Appreciation. A modified version of the State Body Appreciation Scale-2 (SBAS-2; Homan, 2016) was used to assess state body appreciation following exposure to the experimental stimuli. The scale was presented as a VAS, requiring participants to rate how they feel "right now" by moving a vertical marker to the appropriate point on each horizontal line with end points labelled 'not at all' (0) and 'very much' (100). The four items include "At this moment, I feel good about my body", "At this moment, I feel love for my body", "Right now, I am comfortable in my body", and "Right now, I appreciate the different and unique characteristics of my body". Scores were averaged, with higher scores indicating higher levels of state body appreciation. Homan (2016) examined the factor structure and psychometric properties of the SBAS-2, and found it to be a valid, reliable, and sensitive measure of state body appreciation. For this study the scale showed excellent reliability (α =.94).

Trait Body Appreciation. The Body Appreciation Scale-2 (Tylka & Wood-Barcalow, 2015a) was used to measure trait body appreciation. Participants are asked to respond to 10 items on a 5-point scale ranging from 'never' (1) to 'always' (5). Example items include "I respect my body" and "I appreciate the different and unique characteristics of my body". Scores were averaged, with higher scores indicating a higher level of body appreciation. Tylka and Wood-Barcalow (2015a) reported good internal consistency, test-retest reliability, and construct validity with a sample of college women. For this study the scale showed excellent reliability (α =.94).

Attitudes towards Body Positive Accounts. All participants were given a definition of body positive accounts and asked how often they currently view body positive content on social media in their everyday lives on a 5-point scale ranging from 'never' (1) to 'always' (5), and how likely they would be to follow such accounts in the future 'very unlikely' (1) to 'very likely' (5). Finally, to ascertain attitudes towards the body positive accounts compared

to the thin-ideal accounts, participants in both conditions were presented with an image from each of the four Instagram accounts that they had viewed in their condition and asked to respond to three statements 1) "I like the person who this account belongs to", 2) "I would want to be friends with this person", and 3) "I would want to follow this account" on a 5-point scale ranging from 'strongly disagree' (1) to 'strongly agree' (5). Scores were averaged, with higher scores indicating more positive attitudes towards the Instagram accounts they viewed. For this study the scale showed good reliability (body positive accounts: α =.89; thin-ideal accounts α =.83).

Results

Preliminary Analyses

Available item analysis was used to handle missing data (<1% across all variables). A series of one-way ANOVAs were conducted to ensure that there were no initial differences across the three experimental conditions. There were no significant group differences in age, $F(2,192) = 0.47$, p =.63, partial η^2 = .01, racial background, $F(2,192) = 0.84$, p = .43, partial η^2 = .01, BMI, $F(2,191) = 0.76$, p = .47, partial η^2 = .01, pre-exposure positive mood, $F(2,191) = 3.02$, p = .05, partial η^2 = .03, pre-exposure negative mood, $F(2,192) = 0.01$, p > .99, partial η^2 < .01, and pre-exposure body satisfaction, $F(2,190) = 0.22$, p = .80, partial η^2 < .01. Nor did the conditions differ on trait body appreciation, $F(2,192) = 0.14$, p = .87, partial η^2 < .01 indicating that this measure had not been reactive to the experimental manipulation. Participants assigned to each condition did not significantly differ in their frequency of viewing body positive posts on social media in their everyday lives $F(2,192) = 1.88$, p = .16, partial η^2 = .02.

State Positive Mood

The means and standard deviations for each outcome measure per condition are presented in Table 1. A two-way mixed ANOVA was conducted to determine whether

changes in positive mood over time were different for those exposed to different types of Instagram posts. There was a statistically significant interaction between type of Instagram exposure and time on positive mood, $F(2, 191) = 12.34$, $p < .001$, partial $\eta^2 = .11$. As seen in Figure 1, an analysis of simple main effects showed that positive mood significantly increased from pre- to post-exposure for those exposed to body positive posts, $F(1, 64) = 4.23$, $p = .04$, partial $\eta^2 = .06$, and appearance-neutral posts, $F(1, 63) = 9.93$, $p = .002$, partial $\eta^2 = .14$, whereas for those exposed to thin-ideal Instagram posts, positive mood significantly decreased from pre- to post-exposure, $F(1, 64) = 9.82$, $p = .003$, partial $\eta^2 = .13$.

State Negative Mood

A two-way mixed ANOVA was conducted to determine whether changes in negative mood over time were different for those exposed to different types of Instagram posts. There was a statistically significant interaction between type of Instagram exposure and time on negative mood, $F(2, 192) = 3.37$, $p = .04$, partial $\eta^2 = .03$. Changes in negative mood over time were significantly different for the different types of exposure, with negative mood increasing following exposure to thin-ideal posts, and decreasing following exposure to both body positive and appearance-neutral posts (see Figure 2). However, simple main effects for each condition were not significant (ps > .05).

State Body Satisfaction

A two-way mixed ANOVA was conducted to determine whether changes in body satisfaction over time were different for those exposed to different types of Instagram posts. There was a statistically significant interaction between type of Instagram exposure and time on body satisfaction, $F(2, 190) = 31.59$, $p < .001$, partial $\eta^2 = .25$. As seen in Figure 3, simple main effect analysis showed that for those exposed to body positive posts, body satisfaction significantly improved from pre- to post-exposure, $F(1, 64) = 32.32$, $p < .001$, partial $\eta^2 = .34$, whereas for those exposed to thin-ideal Instagram posts, body satisfaction significantly

decreased from pre- to post-exposure, $F(1, 64) = 25.74$, $p < .001$, partial $\eta^2 = .29$. There were no significant differences between pre- and post-exposure body satisfaction for those exposed to appearance-neutral posts $F(1, 62) = 3.60$, $p = .06$, partial $\eta^2 = .06$.

State Body Appreciation

A one-way ANOVA was conducted to determine if state levels of body appreciation were different following exposure to the different types of Instagram posts. Body appreciation scores were significantly different following the different types of exposure $F(2,192) = 3.26$, $p = .04$, partial $\eta^2 = .03$. As seen in Figure 4, body appreciation scores were highest for those exposed to body positive posts, followed by appearance-neutral posts, with the lowest levels of body appreciation following exposure to thin-ideal posts. Tukey post hoc analysis revealed that body appreciation levels were significantly higher for those exposed to body positive posts compared to thin-ideal posts ($MD = 10.72$, $SE = 4.21$, $p = .03$), but no other group differences were statistically significant ($ps > .05$).

State Self-objectification

A one-way ANOVA was conducted to determine if state self-objectification scores differed across the three exposure conditions. State self-objectification scores were significantly different between the different exposure conditions, $F(2,192) = 7.40$, $p = .001$, partial $\eta^2 = .07$. As seen in Figure 5, state self-objectification scores were highest for those exposed to body positive posts, followed by the thin-ideal condition, and lowest in the appearance-neutral condition. Tukey post hoc analysis revealed that state self-objectification was significantly higher in the thin-ideal and body positive conditions compared to the appearance-neutral condition ($MD = 0.49$, $SE = 0.16$, $p = .01$; and $MD = 0.55$, $SE = 0.14$, $p < .001$ respectively). There were no significant differences in state self-objectification scores between those exposed to thin-ideal and body positive posts ($MD = 0.06$, $SE = 0.16$, $p = .92$).

In accordance with previous research (Aubrey, Henson, Hopper, & Smith, 2009), the valence of each appearance-based statement was further coded as negative (-1; e.g., "I am dumpy"), positive (+1; e.g., "I am cute"), or neutral (0; e.g., "I am brunette"). A one-way ANOVA was conducted to determine if the valence of appearance-related statements differed between the body positive and thin-ideal conditions. Results showed that women who viewed body positive posts made significantly more positive statements about their appearance (M = 0.37, SD = 0.84) than the women who viewed thin-ideal posts (M = 0.00, SD = 0.79), $F(2,192) = 5.40$, $p = .005$, partial $\eta^2 = .05$.

Controlling for Trait Body Appreciation

We were interested to see if the effects of viewing body positive versus thin-ideal Instagram posts on state positive and negative mood, state body satisfaction, state body appreciation, and state self-objectification differed when controlling for trait body appreciation. Even when controlling for trait body appreciation, there was a statistically significant interaction between type of Instagram exposure and time on positive mood $F(2, 190) = 12.64$, $p < .001$, partial $\eta^2 = .12$, negative mood, $F(2, 191) = 3.42$, $p = .04$, partial $\eta^2 = .04$, and body satisfaction, $F(2, 189) = 31.85$, $p < .001$, partial $\eta^2 = .25$. Similarly, ANCOVAs showed that, even after adjustment for trait body appreciation, post-exposure state body appreciation levels were significantly higher following exposure to body positive posts compared to thin-ideal posts, $F(2, 191) = 6.66$, $p = .002$, partial $\eta^2 = .07$, and post-exposure state self-objectification was significantly higher in the thin-ideal and body positive conditions compared to the appearance-neutral condition $F(2, 191) = 7.54$, $p = .001$, partial $\eta^2 = .07$.

Attitudes towards Body Positive Accounts

An independent samples t test established that those who viewed body positive accounts formed more positive attitudes towards the women in the accounts they viewed (M

= 3.55, *SD* = 0.75) compared to those who viewed the thin-ideal posts (*M* = 2.73, *SD* = 0.75), *t*(127) = 6.17, *p* < .001. Moreover, just over half of all participants (51%, *n*=99) said that they were somewhat or very likely to follow body positive accounts in the future, and this likelihood to follow body positive accounts in the future did not differ across conditions (body positive: *M* = 3.18, *SD* = 1.25, thin-ideal: *M* = 3.18, *SD* = 1.21, appearance-neutral: *M* = 3.29, *SD* = 1.32), *F*(2,192) = 0.16, *p* = .85.

Discussion

The present study aimed to examine the impact of exposure to body positive Instagram posts on women's state mood, body satisfaction, body appreciation, and self-objectification relative to thin-ideal and appearance-neutral Instagram posts. In support of the hypotheses, brief exposure to body positive content on Instagram was associated with improvements in young women's positive mood and body satisfaction, whereas viewing thin-ideal posts was associated with decreases in positive mood and body satisfaction. Women who viewed body positive content also reported greater body appreciation than women who viewed thin-ideal content. Exposure to appearance-neutral posts had no impact on body image outcomes as expected, but was associated with improvements in positive mood. Although not predicted, this finding was not surprising given that exposure to nature has been found to improve mood (Velarde, Fry, & Tveit, 2007). Additionally, exposure to both body positive and thin-ideal content was associated with increased state self-objectification relative to exposure to appearance-neutral content.

These findings contribute to the existing research in two important ways. Firstly, they lend experimental support to the growing, yet mostly correlational, body of research on the harmful effects of viewing thin-ideal social media content on women's mood and body image (Holland & Tiggemann, 2016), providing further support for the application of the Tripartite Influence Model and objectification theory to the social media environment. Secondly, to the

388 best of our knowledge, the present study is the first experimental study to demonstrate that
389 viewing 'body positive' content on Instagram (or *BoPo)* may improve positive mood, body
390 satisfaction, and body appreciation. In line with the theoretical construct of positive body
391 image, by providing women with broader conceptualisations of beauty and fostering body
392 appreciation, body positive content may offer a practical and cost-effective way to both
393 reduce women's vulnerability to body dissatisfaction, as well as promote positive body image
394 (Halliwell, 2015; Paraskeva et al., 2017). The fact that these results held even when
395 controlling for trait body appreciation indicates that brief exposure to body positive content
396 can have an immediate positive impact on a woman's body image regardless of her trait
397 levels of body appreciation.
398 This study also examined the effects of viewing body positive content on young
399 women's state self-objectification. Interestingly, women reported more appearance-related
400 statements after viewing both thin-ideal and body positive posts compared to the appearance-
401 neutral posts, and there were no differences between the thin-ideal and body positive
402 conditions. Previous correlational research have found that recalled experiences of both
403 appearance criticisms and compliments were associated with higher levels of self-
404 objectification (Calogero, Herbozo, & Thompson, 2009; Slater & Tiggemann, 2015).
405 Although these studies were investigating the effects of appearance commentary made by
406 others, and not self-referential comments, the findings converge with the results of the
407 present study to suggest that any focus on one's appearance, whether positive or negative,
408 may be associated with greater state self-objectification. This finding is also understandable
409 given that body positive content also exists on the photo-based platform of Instagram and
410 contains images of women's bodies in revealing clothing (Cohen et al., submitted for
411 publication), as well as captions that make explicit references to aspects of appearance like
412 'cellulite', 'belly rolls', 'curvy', and 'fat'. Research shows that viewing objectifying images

and objectifying words can separately prime state self-objectification (Harper & Tiggemann, 2008; Roberts & Gettman, 2004), and therefore, despite its positive intentions, it is possible that viewing body positive content may be associated with higher state self-objectification in young women just like other forms of appearance-focused social media (Betz & Ramsey, 2017; Cohen et al., 2017). Given the potential ramifications of self-objectification on body shame, depression and eating disorder symptomatology (Moradi & Huang, 2008), future longitudinal research is needed to understand the long-term effects of following body positive content on Instagram, in terms of body image outcomes, self-objectification, and general well-being.

Notably, when the appearance-related statements were re-analysed in terms of valence (Aubrey et al., 2009; Harrison & Fredrickson, 2003), we found that the women who viewed body positive posts made more positive statements about their appearance than the women who viewed thin-ideal posts. Whilst self-objectification is typically related to negative body image (Halliwell, 2015), it is possible for a women to self-objectify and be happy with her appearance (Aubrey et al., 2009), as was found in the body positive condition. In the present study, statements like "I am beautiful" were particularly common in the body positive condition. Such statements could be indicative of participants adopting a broader conceptualisation of beauty to incorporate a variety of appearances and internal attributes when determining beauty in themselves (i.e., 'I am beautiful despite my flaws', 'I am beautiful on the inside', Tylka & Wood-Barcalow, 2015b), as encouraged by the body positive content they just viewed (i.e., 'every body is beautiful'). Nevertheless, the current coding procedure of the Ten Statements Test limits our ability to clarify what women meant by "I am beautiful" resulting in such statements being coded as appearance-related responses, and thus higher scores of state self-objectification. Qualitative analyses of women's responses to body positive posts would provide a deeper understanding of the impact of this

newer media type on women's body image, in particular self-objectification. Moreover, future research is necessary to disentangle the psychological effects of viewing content on social media that reflects aspects of both positive body image and objectification. This inquiry would also help inform and refine existing theories regarding the potential coexistence of these two constructs unique to the body positive environment (Webb, Vinoski, Bonar, Davies, & Etzel, 2017).

Practical Implications

In addition to the study's implications for theory and research as discussed above, the current findings have practical implications and reveal a possible constructive avenue for social media use in terms of future prevention and intervention efforts. Unlike traditional media formats whereby users are passive consumers, social media users arguably have agency in terms of what they post and who they follow. The current results suggest that perhaps, as an initial step, simply encouraging women to follow more body positive accounts may help to counterbalance the many idealised messages typical of most women's social media feeds. Our data suggest this is feasible, considering that while only a small percentage of participants reported currently viewing body positive content on their social media, just over half of participants, regardless of exposure condition, said that they were willing to follow body positive accounts in the future. Nevertheless, users should be mindful of the potential for body positive content to increase one's focus on appearance more generally.

Limitations and Future Directions

As with all studies, the present findings should be considered in light of several limitations. Firstly, the study was conducted in a laboratory setting and so, despite using strategies to increase ecological validity, viewing social media posts in an experimental context may not replicate real-word effects. Nevertheless, the positive impact of viewing body positive content was experienced after only three minutes of exposure, whereas, on

average, participants reported their typical social media use to be just under two hours a day. Therefore, real life effects of viewing body positive content may be larger than what we found in this study, and future research into the potential longer-term benefits of viewing body positive content would be worthwhile. A second limitation was the lack of pre-exposure measures of state body appreciation and self-objectification, which were purposefully not included to avoid priming and demand characteristics. Moreover, while many efforts were made to reduce demand characteristics, participants' responses may still have been influenced by these factors and future research should take this into account. Finally, to enhance ecological validity, stimuli posts were taken directly from Instagram, including both the photograph and caption. However, this approach means it is not possible to differentiate between the impact of the image versus the caption. Similarly, the body positive stimuli were somewhat heterogeneous with three accounts containing images of humans and one account containing images of quotes. Consequently, whilst there appears to be an effect of the body positive stimuli overall, it is difficult to ascertain which types of posts may be driving these effects. Future experimental studies should aim to tease apart these aspects and establish whether both the image and caption are necessary to achieve these effects, and if these effects differ across the various types of body positive posts.

Conclusions

Despite these limitations, the present study demonstrates novel and promising initial findings regarding the effects of viewing 'body positive' content on Instagram on women's mood and body image. Specifically, the findings that exposure to body positive content on Instagram can have a positive impact on women's immediate mood, body satisfaction, and body appreciation significantly extend previous research into 'new' media and body image, as well as contribute to the emerging research into positive body image. Based on the results of the present study, young women who find themselves frequently exposed to thin-ideal

content on social media could be encouraged to follow body positive accounts on social media that offer alternative and empowering messages about the body, in order to improve their mood and body image.

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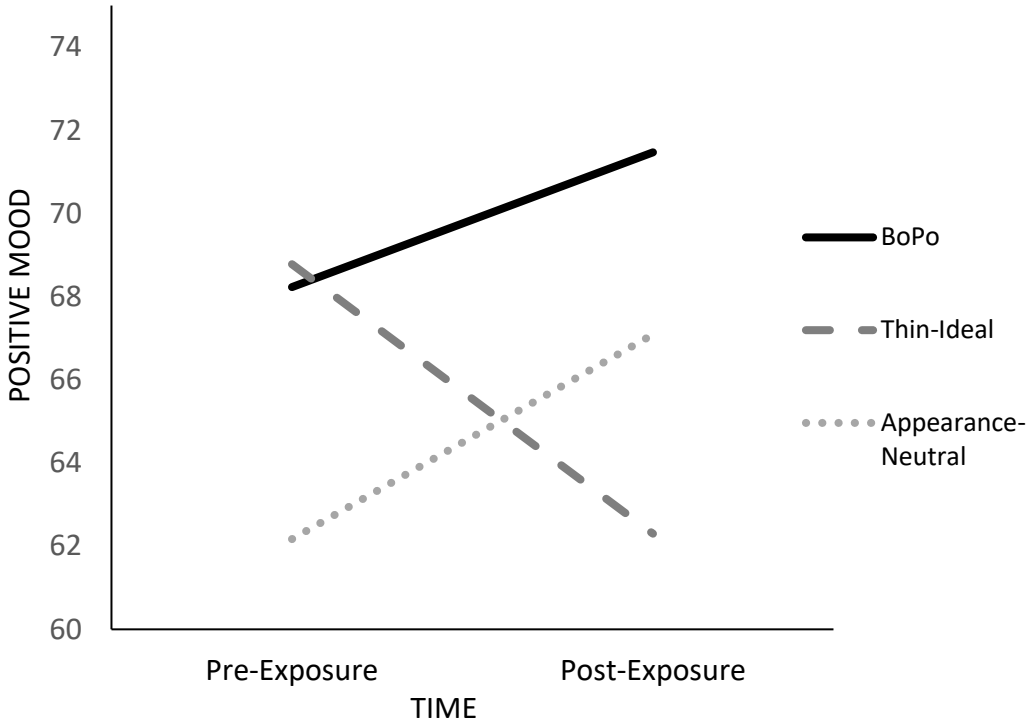
Table 1. *Means (SD) for state positive mood, negative mood, body satisfaction, body appreciation and self-objectification by exposure condition.*

	Pre-exposure	Post-exposure
Positive Mood		
Body Positive	68.23 (14.16)	71.47 (16.01)[a]
Thin-ideal	68.78 (17.19)	62.30 (21.61)[b]
Appearance-neutral	62.17 (19.08)	67.09 (21.05)[a,b]
Negative Mood		
Body Positive	22.87 (22.37)	20.88 (20.61)[a]
Thin-ideal	22.78 (22.02)	25.97 (23.86)[a]
Appearance-neutral	23.15 (23.08)	20.18 (20.10)[a]
Body Satisfaction		
Body Positive	53.15 (20.21)	60.46 (21.23)[a]
Thin-ideal	55.02 (22.06)	47.69 (26.03)[b]
Appearance-neutral	52.47 (25.38)	54.84 (25.40)[a,b]
Body Appreciation		
Body Positive	-	63.27 (19.95)[a]
Thin-ideal	-	52.55 (26.30)[b]
Appearance-neutral	-	57.10 (25.33)[a,b]
Self-objectification		
Body Positive	-	0.92 (0.89)[a]
Thin-ideal	-	0.86 (1.06)[a]
Appearance-neutral	-	0.37 (0.72)[b]

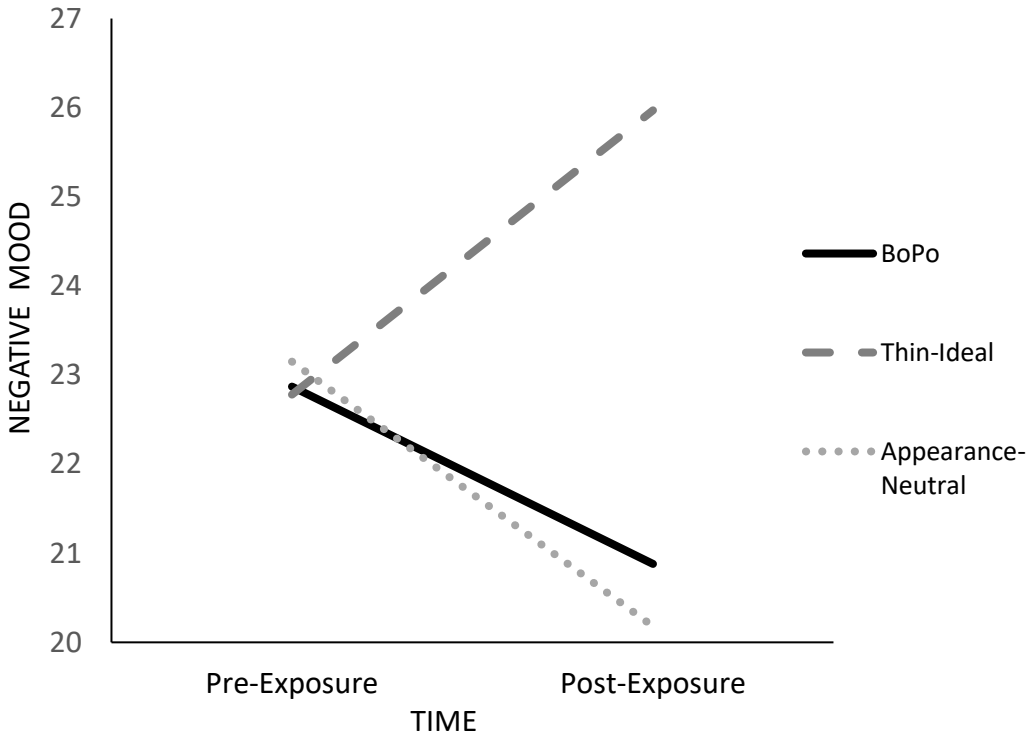
$^{*}p < .05$, $^{**}p < .001$

Note: Means within a column with different superscripts are significantly different at $p < .05$.



644 *Figure 1.* Changes in positive mood across time for each exposure condition.

645



646 *Figure 2.* Changes in negative mood across time for each exposure condition.

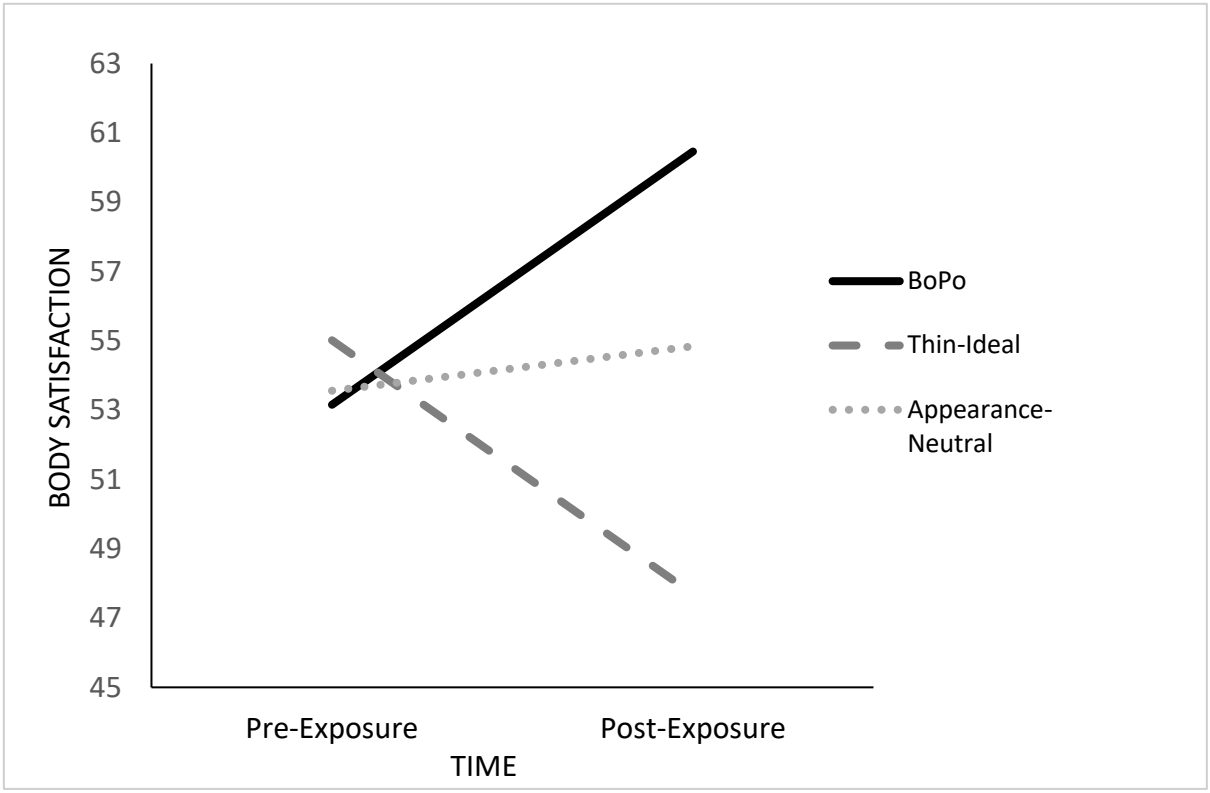


Figure 3. Changes in body satisfaction across time for each exposure condition.

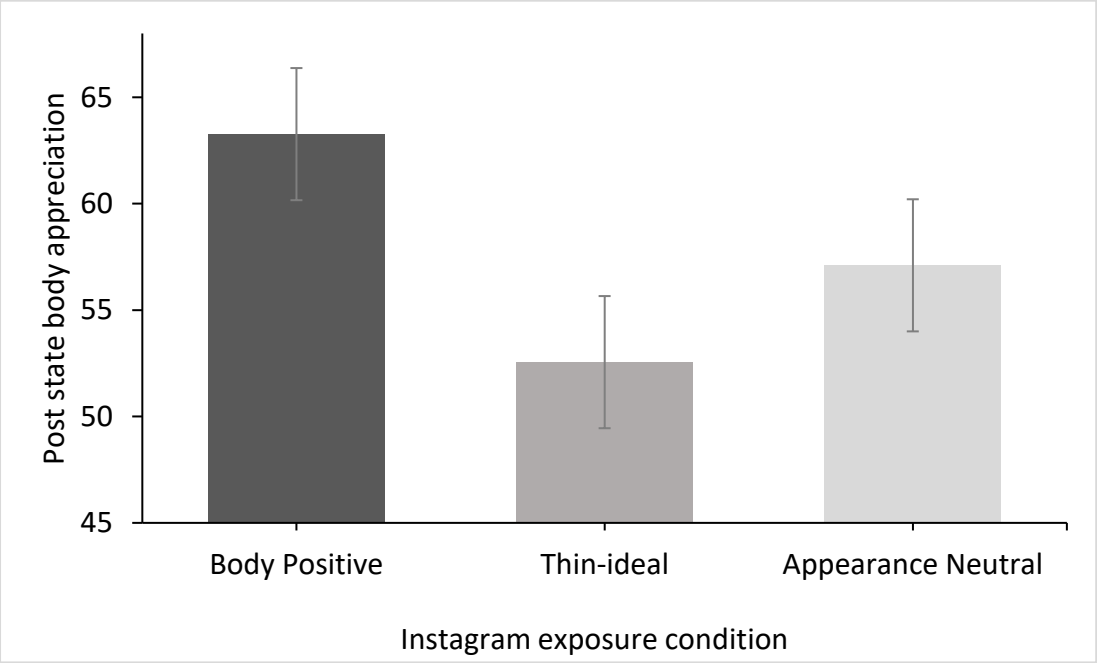


Figure 4. Post-exposure scores for state body appreciation for each exposure condition

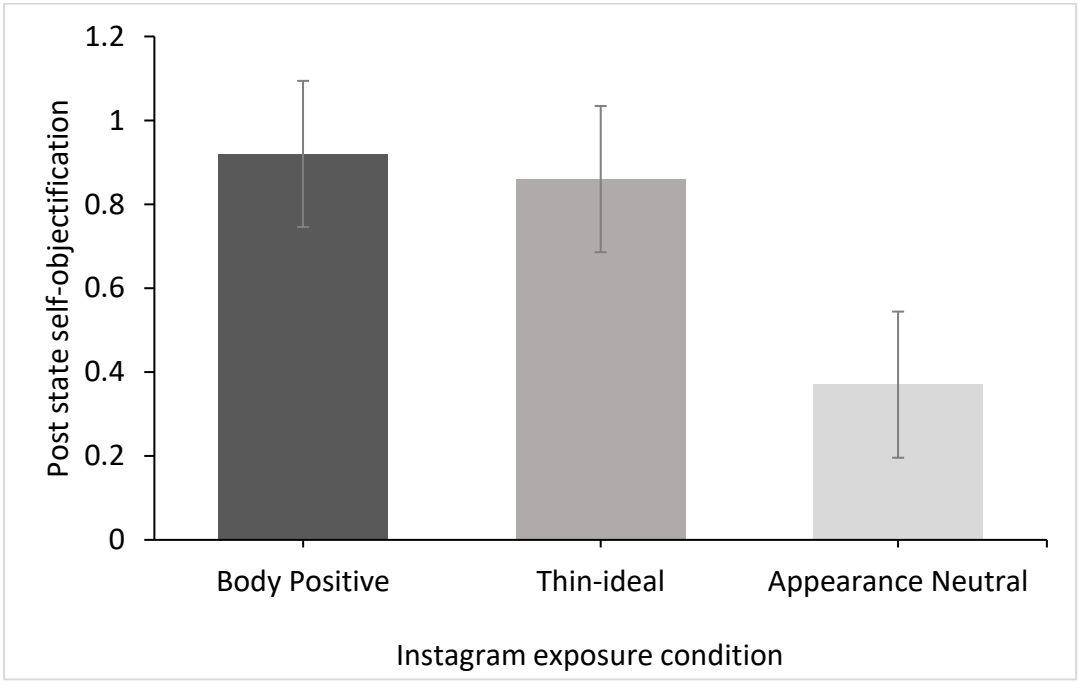


Figure 5. Post-exposure scores for state self-objectification for each exposure condition