

WOMEN, SOCIAL MEDIA, AND PHYSICAL APPEARANCE ANXIETY: THE EFFECT OF SOCIOCULTURAL ATTITUDES

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ABSTRACT

In this report, we tested if viewing the body as an object (BAO; two forms: thin and curvaceous) and body as a process (BAP) on social media, and sociocultural attitudes regarding social media, directly affected women's state physical appearance anxiety. Women ($N = 249$; $M_{age} = 23.81$; $SD = 5.68$) completed an online experiment where they were randomly assigned to view BAO-thin, BAO-curvaceous, and BAP images. Viewing BAO-curvaceous images had no effect on women's state physical appearance anxiety. However, viewing BAO-thin and BAP images decreased women's state physical appearance anxiety. Further, this effect was stronger for women with greater internalization and awareness of body ideals conveyed by social media (i.e., high sociocultural attitudes). We conclude that sociocultural attitudes regarding social media may buffer the adverse effects of viewing BAO-thin images.

BODY IMAGE
SOCIOCULTURAL ATTITUDES
SOCIAL MEDIA
BODY AS A PROCESS
BODY AS AN OBJECT

KEYWORDS

20 METHOD
21 RESULTS
22 DISCUSSION



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KOBIETY, MEDIA SPOŁECZNOŚCIOWE I LĘK DOTYCZĄCY WYGLĄDU: WPŁYW POSTAW SPOŁECZNO-KULTUROWYCH

ABSTRAKT

W niniejszym raporcie sprawdziliśmy, czy postrzeganie ciała jako przedmiotu (BAO; dwie formy: szczupła i zaokrąglona) i ciała jako procesu (BAP) w mediach społecznościowych oraz społeczno-kulturowe postawy wobec mediów społecznościowych bezpośrednio wpływają na stan lęku przed wyglądem fizycznym kobiet. Kobiety ($N = 249$; $M_{age} = 23,81$; $SD = 5,68$) ukończyły eksperyment online, w którym zostały losowo przydzielone do przeglądania obrazów szczupłych i zaokrąglonych, oraz obrazów ciała jako procesu. Oglądanie zaokrąglonych obrazów ciała nie miało wpływu na stan lęku przed wyglądem fizycznym kobiet. Jednak oglądanie obrazów szczupłych oraz obrazów ciała jako procesu miało negatywny wpływ na stan lęku przed wyglądem fizycznym kobiet. Co więcej, ten negatywny efekt był wyższy w przypadku kobiet o wysokich postawach społeczno-kulturowych. Wnioskujemy, że postawy społeczno-kulturowe dotyczące mediów społecznościowych mogą buforować negatywny wpływ oglądania obrazów szczupłych i obrazów ciała jako procesu.

SŁOWA KLUCZOWE

obraz ciała, postawy społeczno-kulturowe, media społecznościowe, ciało jako proces, ciało jako przedmiot

Conflict of Interest Statement

All authors certify that they have no affiliations with or involvement in any organisation or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Data availability

Data used in the current study is not publicly available due to sharing restrictions outlined in the Human Research Ethics approval.

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The thin-ideal has largely dominated portrayals of women's bodies (cite). However, alternative presentations, including strength-focused imagery and curvaceous imagery (cite), are growing in popularity - particularly on social media (cite). According to body conceptualization theory (Franzoi, 1995) a woman's body can be presented in two ways: Body as an Object (BAO) and Body as a Process (BAP; Mask et al., 2014; Mulgrew & Hennes, 2014). Images that highlight and objectify women's body parts (i.e., waist, legs) invite the viewer to focus on the model's external attributes, thus viewing the BAO. Comparatively, BAP presentation focuses on functional aspects of the body, emphasising instrumentality and functioning of muscles and strength.

Two common forms of BAO imagery on social media are thinspiration¹ which focus on thin bodies and body positive imagery which typically include diverse (e.g., overweight, curvaceous) body-sizes (Cohen et al., 2019). Although viewing thinspiration on social media has typically been associated with increased body dissatisfaction and eating disorders (e.g., cite), outcomes of viewing body positive imagery are mixed. Viewing positive body imagery can increase body satisfaction viewing body positive imagery can increase body satisfaction (Stevens & Griffiths, 2020) and lead women to make more positive statements about their appearance (Cohen et al., 2019). However, body positive images have also been shown to have no effect on women's body appreciation, esteem (Betz & Ramsey, 2017), and satisfaction (Tiggemann et al., 2020). In this brief report, we explore these nuances of BAO by testing the impact of BAO-thin images compared to BAO-curvaceous images.

Viewing BAP images can also have mixed impact; although some researchers note that focusing on the functionality of a body can have positive outcomes for body image (Abbott & Barber, 2010), exposure to BAP images can lower state appearance satisfaction (Mulgrew & Tiggemann, 2015) and increase negative (i.e., anxiety, depression) mood (Tiggemann & Zaccardo, 2015). On social media, BAP images have colloquially been termed fitspiration² (Deighton-Smith & Bell, 2018). Interestingly, women engage in more appearance comparisons after viewing fitspiration compared to thinspiration (Dignard & Jarry, 2021; Mulgrew & Tiggemann, 2015). As such, focusing on the BAP, particularly when the bodies still conform to society's conceptions of an ideal weight, may still have a deleterious effect on women's body-image.

In sum, there is inconsistency regarding the impact of BAO and BAP images, with both appearing to have positive and negative effects on women's body image. One possibility for this inconsistency could be individual differences in women's sociocultural attitudes. Sociocultural attitudes, which include internalization, perceived pressures, and awareness of ideals, are important determinants of women's body image (Cafri et al., 2005). Women who internalize the thin-ideal experience greater weight-related body anxiety, especially when exposed to thin models compared to average weight models, and less body appreciation after viewing body positive captions on thin images (Dittmar et al., 2009; Halliwell & Dittmar, 2004; Tiggemann et al., 2020). Meanwhile, women with low thin-ideal internalization experience less negative impact following exposure to attractive and thin models (Yamamiya et al., 2005).

Sociocultural attitudes have largely been assessed in relation to effects of traditional forms of media, such as television and magazines (Cafri et al., 2005). Compared to these traditional forms of media, social media is considered to have stronger influence on women's body image (Cohen & Blaszczynski, 2015). New trends in body presentation, such as fitspiration, are largely delivered via social media (Rounds & Stutts, 2021). Based on the important

¹ A portmanteau of thin and inspiration

² A portmanteau of fit and inspiration

relationship between attitudes and body image (Monteath & McCabe, 1997), and between social media and body image (Ryding & Kuss, 2020), we explore, for the first time, the effect of women's sociocultural attitudes regarding social media on their state physical appearance anxiety levels.

The aim of this brief study is to explore if women's exposure to different body presentations (BAO-thin, BAO-curveous, and BAP) and their sociocultural attitudes regarding social media directly affect their state physical appearance anxiety. We predicted that women who viewed BAO-thin and BAP imagery would have increased state physical appearance anxiety post-image viewing. As per Dittmar and Howard (2004) and Stevens and Griffiths (2020), we predicted that women viewing BAO-curveous images have decreased state physical appearance anxiety post-image viewing. Lastly, we predicted that women with who were more likely to internalize body ideals via social media, experience perceived body idea pressure via social media, and have greater awareness of body ideals via social media (i.e., high sociocultural attitudes regarding social media) would have the most state physical appearance anxiety post-image viewing in all conditions.

METHOD

PARTICIPANTS AND PROCEDURE

Participants were 261 volunteer women aged between 18 and 66 years ($M_{\text{age}} = 25.17$ years; $SD = 8.30$) who indicated they were mostly Caucasian (73.2%). After receiving institution ethical approval from Federation University Australia (A16-054), potential participants were recruited via advertisements on social media (e.g., Facebook, Instagram). Prior to commencing the anonymous questionnaire, participants provided informed consent. Participation took approximately 20 minutes. An *a priori* power calculation indicated that with power set at .95, effect size at .25, and alpha at .05, a sample size of 251 was required and thus met. Data and materials are available via OSF.³

MEASURES

We measured physical appearance state and trait anxiety with the eight weight-related items from the *Physical Appearance State and Trait Anxiety Scale* (Reed et al., 1991). For trait anxiety, participants indicated how anxious, tense, or nervous they felt, *in general*, about the eight items (e.g., their weight, thighs, and buttocks). Responses were recorded on a 5-point Likert scale ranging from 1 (*Never*) to 5 (*Always*) and summed for an overall score of trait anxiety (Cronbach's $\alpha = .86$). For state anxiety, participants indicated how anxious, tense, or nervous they felt *right now* (i.e., at this very moment) about the above characteristics. Responses were recorded on a 5-point Likert scale ranging from 1 (*Not at all*) to 5 (*Exceptionally so*) and summed for total pre-image presentation ($\alpha = .86$) and post-image presentation ($\alpha = .93$).

To assess sociocultural attitudes regarding social media, we modified the *Sociocultural Attitudes Towards Appearance Measure-3* (Thompson et al., 2004) by substituting the terms 'TV and magazines' to read 'social media'. Participants responded to items (e.g., "I've felt pressure from social media to lose weight"; current $\alpha = .96$) on a 5-point Likert scale ranging from 1 (*Definitely Disagree*) to 5 (*Definitely Agree*) and summed for an overall score. Following procedure of Yamamiya et al. (2005), a median split was conducted to categorize women's sociocultural attitudes as low (48.7%) or high (51.3%).

³ https://osf.io/9mq5c/?view_only=4cb3ac4b94ff4e9c81919012c22e026d

VISUAL STIMULI

We sourced the BAO-thin and BAP images from Mulgrew and Hennes (2014) and edited these images to appear as social media posts.⁴ BAO-curvaceous images online from online public domains and edited to appear social media posts. We assessed the three categories of images (BAO-thin, BAP, and BAO-curvaceous) via manipulation checks, where participants ($N = 292$) indicated whether the image represented a thin, curvy, athletic, or obese body type. Only one image did not satisfy manipulation checks (73.4% indicated the body was “thin”). In total, there were eight images per category, and participants were randomly assigned to the three image categories: BAO-thin (32.6%), BAO-curvaceous (34.5%), and BAP (33.0%). Images were sequentially presented on the screen for a total of 30 seconds per image.

DESIGN

This study was an experiment administered via an online questionnaire. The design was a $3 \times 2 \times 2$ mixed models experimental design with three Independent Variables: Image (3 levels: BAO-thin, BAO-curvaceous, and BAP; between subjects), time (2 levels: Pre-image presentation and post-image presentation; within-subjects), and sociocultural attitudes (2 levels: low and high; between-subjects). State physical appearance anxiety was the Dependent Variable. Trait physical appearance anxiety was included as a covariate.

RESULTS

All analyses⁵ were conducted using SPSS v.27. Descriptives statistics can be seen in Table 1. A $3 \times 2 \times 2$ mixed models ANCOVA was conducted, and a summary of results can be found in Table 2. For the interaction⁶ of time and image, simple effects (Bonferroni-corrected) showed that women who viewed BAP images had more state physical appearance anxiety post-image ($M = 23.38$, $SE = 0.58$) viewing compared to pre-image ($M = 20.97$, $SE = 0.54$) viewing ($p = .001$). Further, women who viewed BAO-thin images had more state physical appearance anxiety post-image ($M = 21.92$, $SE = 0.58$) viewing compared to pre-image ($M = 20.05$, $SE = 0.55$) viewing ($p = .001$). There was no difference in pre- and post-state physical appearance anxiety for women who viewed BAO-curvaceous images.

For the three-way interaction (see Figure 1), women with stronger sociocultural attitudes had more state appearance anxiety post-BAP image ($M = 25.46$, $SE = 0.86$) viewing compared to pre-BAP image ($M = 21.71$, $SE = 0.80$) viewing ($p = .001$). This effect was also observed for women with weaker sociocultural attitudes post-BAP image ($M = 21.30$, $SE = 0.82$) viewing compared to pre-image ($M = 20.22$, $SE = 0.77$) viewing ($p = .028$). Lastly, women with stronger sociocultural attitudes regarding social media had more state appearance anxiety post-BAO-thin image viewing ($M = 23.98$, $SE = 0.82$) compared to pre-BAO-thin image ($M = 20.60$, $SE = 0.78$) viewing ($p = .001$). No other effect reached significance when correcting for Type I error inflation.

4 Examples of these images can be requested from the corresponding author

5 Tests of normality indicated the state appearance anxiety distribution violated normality for each type of image ($p > .05$). Standardized skew and kurtosis statistics indicated no significant violations. All other assumptions were met.

6 In the interest of brevity, we only report the interactions in text. A full description of results can be requested from the corresponding author

DISCUSSION

The aim of this study was to explore if women's exposure to different body presentations (i.e., BAO-thin, BAO-curvaceous, and BAP) and their sociocultural attitudes regarding social media would affect their state physical appearance anxiety. Results supported the hypothesis that viewing BAO-thin and BAP imagery would increase women's state physical appearance anxiety levels. These results corroborate findings that viewing BAO-thin (i.e., thinspiration) social media images can have a negative impact on body satisfaction (e.g., Anixiadis et al., 2019), and can increase weight-related body anxiety (Harper & Tiggemann, 2008). Further, these findings substantiate claims that despite a focus on function instead of objectification, viewing the BAP can still have a deleterious effect on state physical appearance satisfaction (Mulgrew & Tiggemann, 2015).

We also predicted that viewing BAO-curvaceous images would decrease state physical appearance anxiety levels post-image presentation, but this hypothesis was not supported. Viewing BAO-curvaceous images did not change state physical appearance anxiety as previously reported elsewhere (Betz & Ramsey, 2017; Tiggemann et al., 2020), but inconsistent with other work (Stevens & Griffiths, 2020). Before abandoning the body positivity movement though, it is important to note that although state physical appearance anxiety did not change after viewing BAO-curvaceous images, unlike BAO-thin and BAP conditions, it did not get any worse. Viewing more diverse bodies may not necessarily have positive effects on women's body satisfaction and appearance anxiety, but it does not appear to cause harm. It appears that viewing more diverse, female bodies may even be a neutral affective experience – information that will no doubt be important for body positivity activists.

Lastly, we predicted that stronger sociocultural attitudes regarding social media would increase state physical appearance anxiety in all post-image viewing conditions and results partially supported this hypothesis. Women who viewed BAO-thin images, and who internalize the thin body ideal via social media, perceive body pressure via social media, and have greater awareness of body ideals via social media (i.e., women high sociocultural social media attitudes), had more state physical appearance post-image viewing. This result corroborates previous findings that internalization (a component of sociocultural attitudes) of the thin-ideal is associated with increased body anxiety (Dittmar et al., 2009; Halliwell & Dittmar, 2004) and lower body appreciation (Tiggemann et al., 2020) when exposed to thin models. Interestingly, regardless of whether they had low or high sociocultural attitudes regarding social media, women who viewed BAP images experienced an increase in state physical appearance anxiety. As the current study is the first to explore body presentation, sociocultural attitudes regarding social media, and women's state physical appearance anxiety levels, interpretation of this finding is somewhat speculative. Still, we suggest that this finding supports the premise that fitspiration images could be even more damaging than thinspiration (Dignard & Jarry, 2021; Mulgrew & Tiggemann, 2015), and even more problematic, sociocultural attitudes regarding social media do not buffer this effect. Interestingly, it appears that sociocultural attitudes regarding social media only effect state anxiety when viewing BAO-thin and BAP images. State anxiety experienced after viewing BAO images of more diverse bodies (e.g., curvaceous) appears unaffected by these attitudes. As such, it is possible this effect is only observed when women view stereotypical body "ideals" (e.g., thin and athletic bodies; Baceviciene & Jankauskiene, 2021).

LIMITATIONS AND CONCLUSIONS

While there are several important implications to this study, there are some limitations to note. The sample was mostly Caucasian women in Australian (71.9%) aged 18 – 40 years. Although we selected body image images to reflect the sample, future research could test the generalizability of these results by exploring more diverse groups. The assessment of weight-related state physical appearance anxiety via self-report may also be subject to bias (Furnham & Henderson, 1982), and future research should consider employing more objective methods of state appearance anxiety, such as physiological responses. Lastly, although the images included in the BAO-curvaceous category underwent a manipulation check, they were not initially qualified and piloted to ensure construct validity.

Another limitation of the current study is that the sample only comprised women. Although we aimed to study only women, we acknowledge that viewing images on social media may also be deleterious to men's body image (Gültzow et al., 2020). We recommend future researchers endeavour to explore the effect of men's internalization of body ideals via social media, perceived ideals via social media, and awareness of body ideals via social media (i.e., sociocultural attitudes regarding social media), and how such attitudes effects their own state physical appearance anxiety when viewing social media images.

In conclusion, the presentation of diverse bodies on social media does not appear have an adverse effect on women's state physical appearance anxiety. As such, there is opportunity for future research to continue exploring body positivity images on social media in the quest to determine how body positive images may benefit women's body image. Further, although the goal of fitspiration may be to inspire women to engage in an active and healthy lifestyle, it could have more of a deleterious effect on women's body image than thinspiration (see Dignard & Jarry, 2021, for further discussion). Creators of social media content intended to enhance women's body image would benefit from understanding the potential harmful impact of fitspiration. Lastly, our findings show that sociocultural attitudes regarding social media may exacerbate the effect social media images have on women's state physical appearance anxiety – particularly for women viewing thin-ideals. This has important implications for psychosocial education on social media and body image and we recommend such education focus on internalization, perceived pressures, and awareness of ideals via social media.

Table 1. Descriptive Statistics and Effects for State Physical Appearance Anxiety Across Type of Images, Sociocultural Attitudes, and Time 1 and Time 2

	<i>M (SD)</i>		<i>t</i>	<i>d</i>
	Time 1	Time 2		
BAO-thin				
Low	16.78 (7.73)	17.08 (8.27)	-0.66	-0.11
High	22.21 (8.16)	25.79 (9.28)	-5.84*	-0.90
<i>t</i>	-3.10*	-4.48*		
<i>d</i>	-0.68	-0.99		
BAO-curvaceous				
Low	15.14 (7.00)	15.28 (7.10)	-0.40	-0.07
High	23.80 (8.82)	24.73 (8.84)	-1.80	-0.26
<i>t</i>	-4.87*	-5.28*		
<i>d</i>	1.07	1.16		
BAP				
Low	17.19 (7.82)	18.19 (7.93)	-2.78*	-0.42
High	24.56 (8.00)	28.49 (8.16)	-6.47*	-1.04
<i>t</i>	-4.22*	-5.80*		
<i>d</i>	0.93	1.28		

Note. BAO = Body as Object; BAP = Body as process, *d* is Cohen's *d* for effect size

* $p < .01$

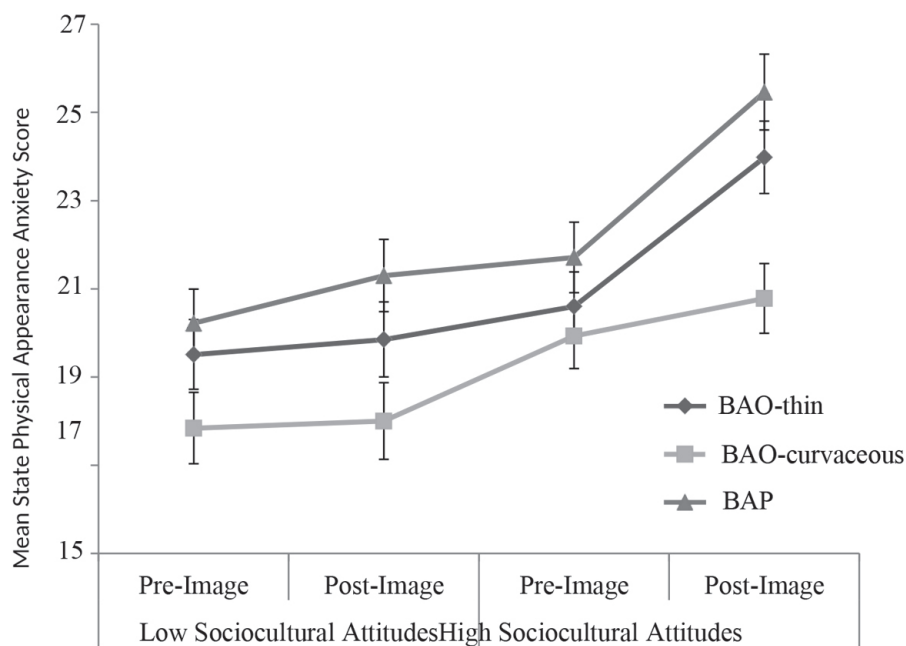


Figure 1. Interaction of individual sociocultural attitudes (low and high), type of image presented (BAO-thin, BAO-curvaceous, and BAP), and pre-and post-image mean state appearance anxiety scores

Note. Y-axis starts at 15, error bars represent Standard Error.

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