1 **Abstract**

2 Body positive content on social media aims to challenge mainstream beauty ideals and

3 encourage acceptance and appreciation of all body types. The present study aimed to

4 investigate the effect of viewing body positive Instagram posts on young women's mood and

5 body image. Participants were 195 young women (18-30-years old) who were randomly

6 allocated to view either body positive, thin-ideal, or appearance-neutral Instagram posts.

7 Results showed that brief exposure to body positive posts was associated with improvements

8 in young women's positive mood, body satisfaction and body appreciation, relative to thin-

9 ideal and appearance-neutral posts. Additionally, both thin-ideal and body positive posts were

10 associated with increased self-objectification relative to appearance-neutral posts. Finally,

11 participants showed favourable attitudes towards the body positive accounts with the majority

12 being willing to follow them in the future. It was concluded that body positive content may

13 offer a fruitful avenue for improving young women's body image, although further research

14 is necessary to fully understand the effects on self-objectification.

15

#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-

41   objectification, body dissatisfaction, and disordered eating behaviours in women (Grabe et

42   al., 2008; Groesz, Levine, & Murnen, 2002; Harper & Tiggemann, 2008).

43   Newer media sources, such as social media platforms like Facebook and Instagram,

44   can offer a constant stream of carefully curated images and messages promoting the thin-

45   ideal. Instagram, a photo-based social networking site with 800 million global users who

46   share an average of 95 million photos and videos per day, is most popular amongst 18-29

47   year old women (Pew Research Center, 2018). A systematic review of the extant literature on

48   social media and body image found that social media use is positively related to body image

49   concerns and disordered eating (Holland & Tiggemann, 2016). More recent research has

50   shown that it is specifically appearance-focused social media use that is related to body

51   image outcomes, rather than overall time spent on social media (Cohen, Newton-John, &

52   Slater, 2017, 2018; Meier & Gray, 2014). For example, correlational studies have shown that

53   engaging in photo-based activities on Facebook (e.g., looking at photos posted by others,

54   sharing one's own photos), following appearance-focused accounts on Instagram, and

55   expending effort and concern in selecting and editing one's *selfies* before posting them

56   online, are all related to body image concerns in young women (Cohen et al., 2017, 2018;

57   McLean, Paxton, Wertheim, & Masters, 2015; Meier & Gray, 2014). Whilst there is less

58   experimental research to date, some experimental studies have shown that exposure to

59   idealised images of women on social media, whether the thin-ideal, *fitspiration* (lean and

60   toned bodies), or curvy ideals (thin with large breasts and buttocks), led to increased negative

61   mood, body dissatisfaction, and self-objectification in women (Betz & Ramsey, 2017; Brown

62   & Tiggemann, 2016; Cohen & Blaszczynski, 2015; Robinson et al., 2017; Tiggemann &

63   Zaccardo, 2015).

64

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). 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

90   psychological well-being. Similarly, Andrew, Tiggemann, and Clark (2016a, 2016b) found

91   positive body image was positively associated with health-seeking behaviours, intuitive

92   eating and physical activity, and negatively related to dieting, alcohol consumption, and

93   cigarette use. Moreover, there is evidence that body appreciation may play a protective role

94   against the negative impacts of media exposure (Andrew, Tiggemann, & Clark, 2015;

95   Halliwell, 2013). Accordingly, body appreciation appears to be a fruitful target for

96   interventions that aim to not only reduce women's vulnerability to body dissatisfaction, but

97   also to promote positive body image and its associated positive psychological and physical

98   health benefits (Halliwell, 2015).

99   Researchers have suggested that in order to improve body appreciation, it is important

100   to provide women with broader conceptualisations of beauty and to encourage women to

101   surround themselves with social networks that foster respect and appreciation for one's own

102   body (Paraskeva, Lewis-Smith, & Diedrichs, 2017). Accordingly, it is plausible that engaging

103   with body positive content on Instagram, which aims to foster an online community of

104   acceptance and appreciation of all bodies, may be one avenue through which to promote

105   positive body image in young women. A recent study found that women who were exposed

106   to images of full-figured models that did not adhere to the sociocultural thin-ideal reported

107   increases in state body appreciation, compared to those who viewed images of thin models

108   (Williamson & Karazsia, 2018). Moreover, a recent content analysis of popular body positive

109   accounts on Instagram found that the majority of content analysed depicted a broad range of

110   larger body types, and contained messages that aligned with Tylka and Wood-Barcalow's

111   (2015b) theoretical construct of positive body image (Authors, in preparation). However, to

112   date no research has explicitly investigated the impact of viewing body positive content on

113   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 (Authors, in preparation), 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". 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

139   media. After you finish viewing the images you will be asked questions about what you have

140   seen so please pay close attention to the images presented. How you feel can also influence

141   your attention so we are also going to monitor your mood and how you feel throughout the

142   study". After providing informed consent, participants completed measures of pre-exposure

143   state mood and body satisfaction, among distractor items. They were then randomly

144   allocated, via the random allocation function in the Qualtrics survey software, to one of three

145   exposure conditions (body positive, thin-ideal, or appearance-neutral posts). In each

146   condition, participants viewed 20 posts for at least 10 seconds each. Participants then

147   completed post-exposure measures of state self-objectification, state mood and body

148   satisfaction, and state body appreciation among distractor items and memory questions to

149   bolster the cover story. Participants then completed a measure of trait body appreciation,

150   followed by attitudes towards body positive content. Participants were also asked to report

151   their age, ethnicity, and height and weight (used to calculate BMI). Testing sessions lasted

152   approximately 15-20 minutes, and participants received a coffee voucher for their

153   participation. All participants were debriefed on completion of the study.

154   **Measures and Materials**

155   **Experimental manipulation: Post type.** Three sets of visual stimuli were used in the

156   study (body positive, thin-ideal, and appearance neutral), each containing four individual

157   Instagram accounts with five posts each (20 posts in total per condition). All posts were

158   sourced from public Instagram accounts. The thin-ideal and body positive posts were selected

159   from an initial pool of 50 body positive and 50 thin-ideal posts (five Instagram accounts per

160   condition with 10 posts each) to provide a reasonable coverage of currently disseminated

161   posts in the designated categories. A pilot study was conducted with 13 independent female

162   raters from the target age group ($M = 22.45$ years $SD = 2.46$). Raters were provided with a

163   definition of 'body positive' *['body positive' refers to rejecting unrealistic body ideals and*

164   *encouraging women to accept and love their bodies at any shape and size. Body positive*

165   *Instagram posts tend to depict women proudly posting their unique bodies and quotes about*

166   *body acceptance (e.g., @bodyposipanda, @Ashleygraham, @effyourbeautystandards etc.)*],

167   and 'thin-ideal' [*'idealised images' refer to images of attractive women with thin and toned*

168   *bodies. Instagram posts of idealised women tend to depict thin women either posing in*

169   *bikinis, form-fitting or revealing fashion or in fitness attire (e.g., @victoriasecretangels,*

170   *@kendalljenner, @gigihadid etc.)*], and asked to rate the extent to which each image was

171   representative of its designated category using a visual analogue scale (VAS; 0 = *not at all*,

172   100 = *to a great extent*). The accounts and posts rated to be most representative of the

173   conditions were selected for the study (body positive $M = 72.31$, $SD = 11.86$; thin-ideal $M =$

174   79.77, $SD = 10.08$).

175   The final thin-ideal stimuli consisted of posts from four popular accounts that were

176   perceived as subscribing to the thin-ideal, and included full body shots of women with thin

177   physiques either posing in bikinis, form-fitting fashion, or fitness attire, as these are typical

178   posts found on Instagram accounts that depict the thin-ideal. The final body positive stimuli

179   consisted of posts from four popular body positive accounts: 1) @bodyposipanda: images of

180   a larger woman displaying her body with captions about body acceptance, 2) @omgkenzieee:

181   side by side images of a 'real' woman challenging societal beauty ideals, 3)

182   @beautyredefined: body positive quotes, and 4) @nolatrees: images of a 'fat' woman

183   practicing yoga with captions focusing on appreciating what her body can do. This cross

184   section of accounts was selected to represent the different types of posts typically found on

185   body positive accounts. Specifically, 15 of the 20 body positive posts contained women in

186   bikinis, form-fitting fashion, or fitness attire (matching the 20 thin-ideal images except for

187   body type), and five of the images consisted of quotes. The women in the thin-ideal and body

188   positive posts were of similar age to the participants. The appearance-neutral posts consisted

189 of nature photography typical of Instagram such as plants, marine life, skyscapes, and

190 animals, with no human bodies present. All posts were presented with Instagram borders,

191 names, and captions to enhance ecological validity. However, comments and likes were

192 removed to avoid any confounding effects. Stimuli were presented to participants on a

193 desktop computer screen in a randomised account order with each post displayed for a

194 minimum of 10 seconds before giving participants the option to move to the next image. All

195 images were counterbalanced to control for order effects.

196   **State Mood and Body Satisfaction.** Computer based visual analogue scales (VAS)

197 were used to measure state mood and body satisfaction both before and immediately after

198 viewing the experimental stimuli. Participants were asked to rate how they feel "right now"

199 by moving a vertical marker to the appropriate point on each horizontal line with end points

200 labelled 'not at all' (0) and 'very much' (100). Participants were asked to rate a series of

201 mood dimensions: depressed, anxious, confident, and happy. Research has found that in low

202 stress situations, positive and negative mood are experienced independently, and therefore

203 should be measured as separate dimensions (Reich, Zautra, & Davis, 2003). Accordingly,

204 ratings of 'happy' and 'confident' were combined to form a measure of state positive mood,

205 and 'depressed' and 'anxious' combined to form a measure of state negative mood.

206   The body satisfaction dimensions included 'satisfied with my weight', 'satisfied with

207 my overall appearance', and 'satisfied with my body shape', which were combined to form a

208 measure of state body satisfaction. To further disguise the true purpose of the study,

209 participants were also asked about their satisfaction with their romantic relationship, financial

210 status, housing situation, occupation/study, and social life. Previous research has shown VAS

211 to be reliable and sensitive measures of changes in mood and body satisfaction among

212 college women, and thus are ideal for pre-post-experimental designs (Fardouly, Diedrichs,

213 Vartanian, & Halliwell, 2015; Heinberg & Thompson, 1995; Prichard & Tiggemann, 2012).

214 In the current study, the positive mood scale demonstrated acceptable internal consistency at

215 pre-($\alpha = .69$), and post-exposure ($\alpha = .75$), the negative mood scale demonstrated good

216 internal consistency at pre- ($\alpha = .77$), and post-exposure ($\alpha = .80$), and the body satisfaction

217 scale demonstrated good to excellent internal consistency at pre- ($\alpha = .84$), and post-exposure

218 ($\alpha = .92$).

219   **State Self-Objectification.** A modified version of the Twenty Statements Test

220 (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998) was used to measure state self-

221 objectification. Participants were asked to describe themselves by completing 10 sentences

222 beginning with 'I am'. This implicit measure of state self-objectification has been

223 successfully used in prior experimental research (Calogero, 2013; Harper & Tiggemann,

224 2008; Tiggemann & Boundy, 2008). As per Harper and Tiggemann (2008), two independent

225 researchers who were blind to the hypotheses and experimental conditions coded the

226 responses into one of six categories: 1) body shape and size (e.g., "I am overweight"), 2)

227 other physical appearance (e.g., "I am blonde"), 3) physical competence (e.g, "I am strong"),

228 4) traits or abilities (e.g., "I am friendly"), 5) states or emotions (e.g., "I am tired"), and 6)

229 miscellaneous or uncodable. State self-objectification was operationalised as the number of

230 responses that fit into the first two categories. This produced a score ranging from 0 to 10,

231 with higher scores indicating higher levels of self-objectification. There was substantial inter-

232 rater agreement for appearance items in the first two categories (Cohen's $\kappa = 0.75$). The

233 authors resolved the remaining discrepancies through discussion until consensus was reached.

234   **State Body Appreciation.** A modified version of the State Body Appreciation Scale-

235 2 (SBAS-2; Homan, 2016) was used to assess state body appreciation. The scale was

236 presented as a VAS, requiring participants to rate how they feel "right now" by moving a

237 vertical marker to the appropriate point on each horizontal line with end points labelled 'not

238 at all' (0) and 'very much' (100). The four items include "At this moment, I feel good about

239 my body", "At this moment, I feel love for my body", "Right now, I am comfortable in my

240 body", and "Right now, I appreciate the different and unique characteristics of my body".

241 Scores were averaged, with higher scores indicating higher levels of state body appreciation.

242 Homan (2016) examined the factor structure and psychometric properties of the SBAS-2, and

243 found it to be a valid, reliable, and sensitive measure of state body appreciation. For this

244 study the scale showed excellent reliability (α =.94).

245 **Trait Body Appreciation.** The Body Appreciation Scale-2 (Tylka & Wood-

246 Barcalow, 2015a) was used to measure trait body appreciation. Participants are asked to

247 respond to 10 items on a 5-point scale ranging from 'never' (1) to 'always' (5). Example

248 items include "I respect my body" and "I appreciate the different and unique characteristics

249 of my body". Scores were averaged, with higher scores indicating a higher level of body

250 appreciation. Tylka and Wood-Barcalow (2015a) reported good internal consistency, test-

251 retest reliability, and construct validity with a sample of college women. For this study the

252 scale showed excellent reliability (α =.94).

253 **Attitudes towards Body Positive Accounts.** All participants were given a definition

254 of body positive accounts and asked how often they currently view body positive content on

255 social media in their everyday lives on a 5-point scale ranging from 'never' (1) to 'always'

256 (5), and how likely they would be to follow such accounts in the future 'very unlikely' (1) to

257 'very likely' (5). Finally, to ascertain attitudes towards the body positive accounts compared

258 to the thin-ideal accounts, participants in both conditions were presented with an image from

259 each of the four Instagram accounts that they had viewed in their condition and asked to

260 respond to three statements 1) "I like the person who this account belongs to", 2) "I would

261 want to be friends with this person", and 3) "I would want to follow this account" on a 5-

262 point scale ranging from 'strongly disagree' (1) to 'strongly agree' (5). Scores were averaged,

263 with higher scores indicating more positive attitudes towards the Instagram accounts they

264   viewed. For this study the scale showed good reliability (body positive accounts: α =.89; thin-

265   ideal accounts α =.83).

<div align="center">Results</div>

266

267   **Preliminary Analyses**

268   Available item analysis was used to handle missing data (<1% across all variables). A

269   series of one-way ANOVAs were conducted to ensure that there were no initial differences

270   across the three experimental conditions. There were no significant group differences in age,

271    $F(2,192) = 0.47$, $p =.63$, partial $\eta^2 = .01$, racial background, $F(2,192) = 0.84$, $p = .43$, partial

272    $\eta^2 = .01$, BMI, $F(2,191) = 0.76$, $p = .47$, partial $\eta^2 = .01$, pre-exposure positive mood,

273    $F(2,191) = 3.02$, $p = .05$, partial $\eta^2 = .03$, pre-exposure negative mood, $F(2,192) = 0.01$, $p >$

274   .99, partial $\eta^2 < .01$, and pre-exposure body satisfaction, $F(2,190) = 0.22$, $p = .80$, partial $\eta^2 <$

275   .01. Nor did the conditions differ on trait body appreciation, $F(2,192) = 0.14$, $p = .87$, partial

276    $\eta^2 < .01$ indicating that this measure had not been reactive to the experimental manipulation.

277   Participants assigned to each condition did not significantly differ in their frequency of

278   viewing body positive posts on social media in their everyday lives $F(2,192) = 1.88$, $p = .16$,

279   partial $\eta^2 = .02$.

280   **State Positive Mood**

281   The means and standard deviations for each outcome measure per condition are

282   presented in Table 1. A two-way mixed ANOVA was conducted to determine whether

283   changes in positive mood over time were different for those exposed to different types of

284   Instagram posts. There was a statistically significant interaction between type of Instagram

285   exposure and time on positive mood, $F(2, 191) = 12.34$, $p < .001$, partial $\eta^2 = .11$. As seen in

286   Figure 1, an analysis of simple main effects showed that positive mood significantly

287   increased from pre- to post-exposure for those exposed to body positive posts, $F(1, 64) =$

288   4.23, $p = .04$, partial $\eta^2 = .06$, and appearance-neutral posts, $F(1, 63) = 9.93$, $p = .002$, partial

289      $\eta^2 = .14$, whereas for those exposed to thin-ideal Instagram posts, positive mood significantly

290   decreased from pre- to post-exposure, $F(1, 64) = 9.82$, $p = .003$, partial $\eta^2 = .13$.

291   **State Negative Mood**

292   A two-way mixed ANOVA was conducted to determine whether changes in negative

293   mood over time were different for those exposed to different types of Instagram posts. There

294   was a statistically significant interaction between type of Instagram exposure and time on

295   negative mood, $F(2, 192) = 3.37$, $p = .04$, partial $\eta^2 = .03$. Changes in negative mood over

296   time were significantly different for the different types of exposure, with negative mood

297   increasing following exposure to thin-ideal posts, and decreasing following exposure to both

298   body positive and appearance-neutral posts (see Figure 2). However, simple main effects for

299   each condition were not significant ($ps > .05$).

300   **State Body Satisfaction**

301   A two-way mixed ANOVA was conducted to determine whether changes in body

302   satisfaction over time were different for those exposed to different types of Instagram posts.

303   There was a statistically significant interaction between type of Instagram exposure and time

304   on body satisfaction, $F(2, 190) = 31.59$, $p < .001$, partial $\eta^2 = .25$. As seen in Figure 3, simple

305   main effect analysis showed that for those exposed to body positive posts, body satisfaction

306   significantly improved from pre- to post-exposure, $F(1, 64) = 32.32$, $p < .001$, partial $\eta^2 =$

307   .34, whereas for those exposed to thin-ideal Instagram posts, body satisfaction significantly

308   decreased from pre- to post-exposure, $F(1, 64) = 25.74$, $p < .001$, partial $\eta^2 = .29$. There were

309   no significant differences between pre- and post-exposure body satisfaction for those exposed

310   to appearance-neutral posts $F(1, 62) = 3.60$, $p = .06$, partial $\eta^2 = .06$.

311   **State Body Appreciation**

312   A one-way ANOVA was conducted to determine if state levels of body appreciation

313   were different following exposure to the different types of Instagram posts. Body

314   appreciation scores were significantly different following the different types of exposure

315    $F(2,192) = 3.26$, $p = .04$, partial $\eta^2 = .03$. As seen in Figure 4, body appreciation scores were

316   highest for those exposed to body positive posts, followed by appearance-neutral posts, with

317   the lowest levels of body appreciation following exposure to thin-ideal posts. Tukey post hoc

318   analysis revealed that body appreciation levels were significantly higher for those exposed to

319   body positive posts compared to thin-ideal posts ($MD = 10.72$, $SE = 4.21$, $p = .03$), but no

320   other group differences were statistically significant ($ps > .05$).

321   **State Self-objectification**

322   A one-way ANOVA was conducted to determine if state self-objectification scores

323   differed across the three exposure conditions. State self-objectification scores were

324   significantly different between the different exposure conditions, $F(2,192) = 7.40$, $p = .001$,

325   partial $\eta^2 = .07$. As seen in Figure 5, state self-objectification scores were highest for those

326   exposed to body positive posts, followed by the thin-ideal condition, and lowest in the

327   appearance-neutral condition. Tukey post hoc analysis revealed that state self-objectification

328   was significantly higher in the thin-ideal and body positive conditions compared to the

329   appearance-neutral condition ($MD = 0.49$, $SE = 0.16$, $p = .01$; and $MD = 0.55$, $SE = 0.14$, $p <$

330   .001 respectively). There were no significant differences in state self-objectification scores

331   between those exposed to thin-ideal and body positive posts ($MD = 0.06$, $SE = 0.16$, $p = .92$).

332   In accordance with previous research (Aubrey, Henson, Hopper, & Smith, 2009), the

333   valence of each appearance-based statement was further coded as negative (-1; e.g., "I am

334   dumpy"), positive (+1; e.g., "I am cute"), or neutral (0; e.g., "I am brunette"). A one-way

335   ANOVA was conducted to determine if the valence of appearance-related statements differed

336   between the body positive and thin-ideal conditions. Results showed that women who viewed

337   body positive posts made significantly more positive statements about their appearance ($M =$

338   0.37, $SD = 0.84$) than the women who viewed thin-ideal posts ($M = 0.00$, $SD =$

339   0.79), $F(2,192) = 5.40$, $p = .005$, partial $\eta^2 = .05$.

Controlling for Trait Body Appreciation

341   We were interested to see if the effects of viewing body positive versus thin-ideal

342   Instagram posts on state positive and negative mood, state body satisfaction, state body

343   appreciation, and state self-objectification differed when controlling for trait body

344   appreciation. Even when controlling for trait body appreciation, there was a statistically

345   significant interaction between type of Instagram exposure and time on positive mood $F(2,$

346    $190) = 12.64$, $p < .001$, partial $\eta^2 = .12$, negative mood, $F(2, 191) = 3.42$, $p = .04$, partial $\eta^2 =$

347   .04, and body satisfaction, $F(2, 189) = 31.85$, $p < .001$, partial $\eta^2 = .25$. Similarly, ANCOVAs

348   showed that, even after adjustment for trait body appreciation, post-exposure state body

349   appreciation levels were significantly higher following exposure to body positive posts

350   compared to thin-ideal posts, $F(2, 191) = 6.66$, $p = .002$, partial $\eta^2 = .07$, and post-exposure

351   state self-objectification was significantly higher in the thin-ideal and body positive

352   conditions compared to the appearance-neutral condition $F(2, 191) = 7.54$, $p = .001$, partial

353    $\eta^2 = .07$.

Attitudes towards Body Positive Accounts

355   An independent samples t test established that those who viewed body positive

356   accounts formed more positive attitudes towards the women in the accounts they viewed (M

357    $= 3.55$, $SD = 0.75$) compared to those who viewed the thin-ideal posts ($M = 2.73$, $SD = 0.75$),

358    $t(127) = 6.17$, $p < .001$. Moreover, just over half of all participants (51%, $n=99$) said that they

359   were somewhat or very likely to follow body positive accounts in the future, and this

360   likelihood to follow body positive accounts in the future did not differ across conditions

361   (body positive: $M = 3.18$, $SD = 1.25$, thin-ideal: $M = 3.18$, $SD = 1.21$, appearance-neutral: M

362    $= 3.29$, $SD = 1.32$), $F(2,192) = 0.16$, $p = .85$.

Discussion

363

364   The present study aimed to examine the impact of exposure to body positive

365   Instagram posts on women's state mood, body satisfaction, body appreciation, and self-

366   objectification relative to thin-ideal and appearance-neutral Instagram posts. In support of the

367   hypotheses, brief exposure to body positive content on Instagram was associated with

368   improvements in young women's positive mood and body satisfaction, whereas viewing thin-

369   ideal posts was associated with decreases in positive mood and body satisfaction. Women

370   who viewed body positive content also reported greater body appreciation than women who

371   viewed thin-ideal content. Exposure to appearance-neutral posts had no impact on body

372   image outcomes as expected, but was associated with improvements in positive mood.

373   Although not predicted, this finding was not surprising given that exposure to nature has been

374   found to improve mood (Velarde, Fry, & Tveit, 2007). Additionally, exposure to both body

375   positive and thin-ideal content was associated with increased state self-objectification relative

376   to exposure to appearance-neutral content.

377   These findings contribute to the existing research in two important ways. Firstly, they

378   lend experimental support to the growing, yet mostly correlational, body of research on the

379   harmful effects of viewing thin-ideal social media content on women's mood and body image

380   (Holland & Tiggemann, 2016), providing further support for the application of the Tripartite

381   Influence Model and objectification theory to the social media environment. Secondly, to the

382   best of our knowledge, the present study is the first experimental study to demonstrate that

383   viewing 'body positive' content on Instagram (or *BoPo)* may improve positive mood, body

384   satisfaction, and body appreciation. In line with the theoretical construct of positive body

385   image, by providing women with broader conceptualisations of beauty and fostering body

386   appreciation, body positive content may offer a practical and cost-effective way to both

387   reduce women's vulnerability to body dissatisfaction, as well as promote positive body image

388   (Halliwell, 2015; Paraskeva et al., 2017). The fact that these results held even when

389   controlling for trait body appreciation indicates that brief exposure to body positive content

390   can have an immediate positive impact on a woman's body image regardless of her trait

391   levels of body appreciation.

392   This study also examined the effects of viewing body positive content on young

393   women's state self-objectification. Interestingly, women reported more appearance-related

394   statements after viewing both thin-ideal and body positive posts compared to the appearance-

395   neutral posts, and there were no differences between the thin-ideal and body positive

396   conditions. Previous correlational research have found that recalled experiences of both

397   appearance criticisms and compliments were associated with higher levels of self-

398   objectification (Calogero, Herbozo, & Thompson, 2009; Slater & Tiggemann, 2015).

399   Although these studies were investigating the effects of appearance commentary made by

400   others, and not self-referential comments, the findings converge with the results of the

401   present study to suggest that any focus on one's appearance, whether positive or negative,

402   may be associated with greater state self-objectification. This finding is also understandable

403   given that body positive content also exists on the photo-based platform of Instagram and

404   contains images of women's bodies in revealing clothing (Authors, in preparation), as well as

405   captions that make explicit references to aspects of appearance like 'cellulite', 'belly rolls',

406   'curvy', and 'fat'. Research shows that viewing objectifying images and objectifying words

407   can separately prime state self-objectification (Harper & Tiggemann, 2008; Roberts &

408   Gettman, 2004), and therefore, despite its positive intentions, it is possible that viewing body

409   positive content may be associated with higher state self-objectification in young women just

410   like other forms of appearance-focused social media (Betz & Ramsey, 2017; Cohen et al.,

411   2017). Given the potential ramifications of self-objectification on body shame, depression

412   and eating disorder symptomatology (Moradi & Huang, 2008), future longitudinal research is

413   needed to understand the long-term effects of following body positive content on Instagram,

414   in terms of body image outcomes, self-objectification, and general well-being.

415   Notably, when the appearance-related statements were re-analysed in terms of valence

416   (Aubrey et al., 2009; Harrison & Fredrickson, 2003), we found that the women who viewed

417   body positive posts made more positive statements about their appearance than the women

418   who viewed thin-ideal posts. Whilst self-objectification is typically related to negative body

419   image (Halliwell, 2015), it is possible for a women to self-objectify and be happy with her

420   appearance (Aubrey et al., 2009), as was found in the body positive condition. In the present

421   study, statements like "I am beautiful" were particularly common in the body positive

422   condition. Such statements could be indicative of participants adopting a broader

423   conceptualisation of beauty to incorporate a variety of appearances and internal attributes

424   when determining beauty in themselves (i.e., 'I am beautiful despite my flaws', 'I am

425   beautiful on the inside', Tylka & Wood-Barcalow, 2015b), as encouraged by the body

426   positive content they just viewed (i.e., 'every body is beautiful'). Nevertheless, the current

427   coding procedure of the Ten Statements Test limits our ability to clarify what women meant

428   by "I am beautiful" resulting in such statements being coded as appearance-related responses,

429   and thus higher scores of state self-objectification. Qualitative analyses of women's

430   responses to body positive posts would provide a deeper understanding of the impact of this

431   newer media type on women's body image, in particular self-objectification. Moreover,

432   future research is necessary to disentangle the psychological effects of viewing content on

433   social media that reflects aspects of both positive body image and objectification. This

434   inquiry would also help inform and refine existing theories regarding the potential

435   coexistence of these two constructs unique to the body positive environment (Webb, Vinoski,

436   Bonar, Davies, & Etzel, 2017).

437

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

463   made to reduce demand characteristics, participants' responses may still have been

464   influenced by these factors and future research should take this into account. Finally, to

465   enhance ecological validity, stimuli posts were taken directly from Instagram, including both

466   the photograph and caption. However, this approach means it is not possible to differentiate

467   between the impact of the image versus the caption. Similarly, the body positive stimuli were

468   somewhat heterogeneous with three accounts containing images of humans and one account

469   containing images of quotes. Consequently, whilst there appears to be an effect of the body

470   positive stimuli overall, it is difficult to ascertain which types of posts may be driving these

471   effects. Future experimental studies should aim to tease apart these aspects and establish

472   whether both the image and caption are necessary to achieve these effects, and if these effects

473   differ across the various types of body positive posts.

474   **Conclusions**

475   Despite these limitations, the present study demonstrates novel and promising initial

476   findings regarding the effects of viewing 'body positive' content on Instagram on women's

477   mood and body image. Specifically, the findings that exposure to body positive content on

478   Instagram can have a positive impact on women's immediate mood, body satisfaction, and

479   body appreciation significantly extend previous research into 'new' media and body image,

480   as well as contribute to the emerging research into positive body image. Based on the results

481   of the present study, young women who find themselves frequently exposed to thin-ideal

482   content on social media could be encouraged to follow body positive accounts on social

483   media that offer alternative and empowering messages about the body, in order to improve

484   their mood and body image.

485

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628

629   Table 1. *Means (SD) for state positive mood, negative mood, body satisfaction, body*

630   *appreciation and self-objectification by exposure condition.*

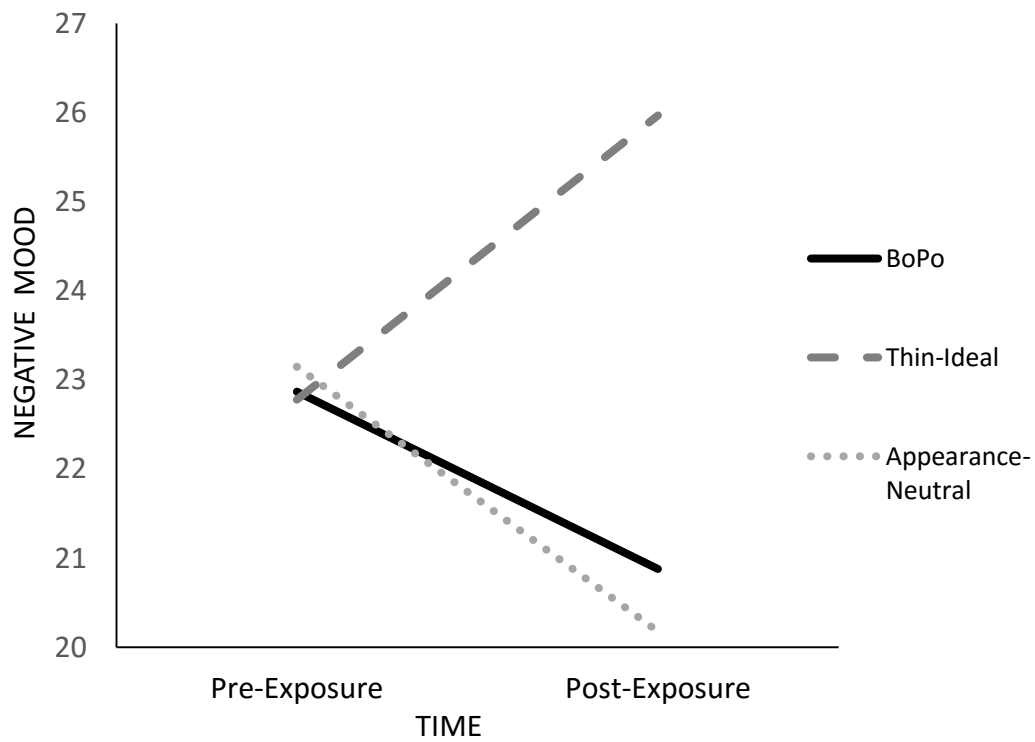|	Pre-exposure	Post-exposure
Positive Mood		
Body Positive	68.23 (14.16)	71.47 (16.01)[a]
Thin-ideal	68.78 (17.19)	62.30 (21.61)[b]
Appearance-neutral	62.17 (19.08)	67.09 (21.05)[a,b]
Negative Mood		
Body Positive	22.87 (22.37)	20.88 (20.61)[a]
Thin-ideal	22.78 (22.02)	25.97 (23.86)[a]
Appearance-neutral	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]

631   [*]$p < .05$, [**]$p < .001$

632   *Note:* Means within a column with different superscripts are significantly different at $p < .05$.
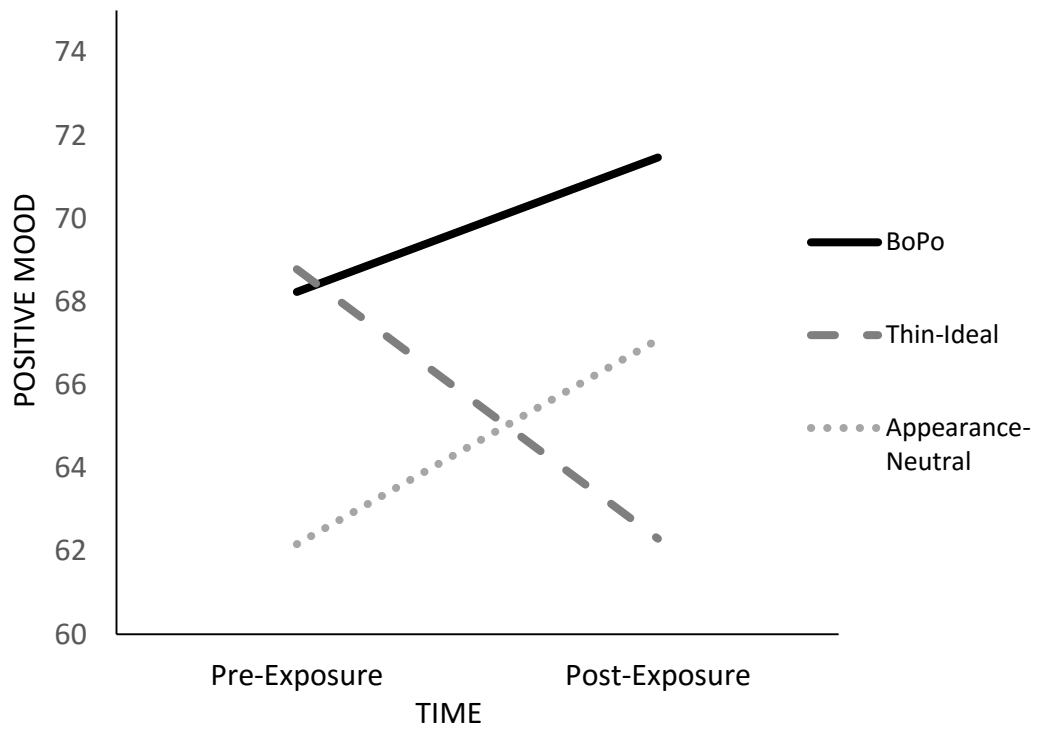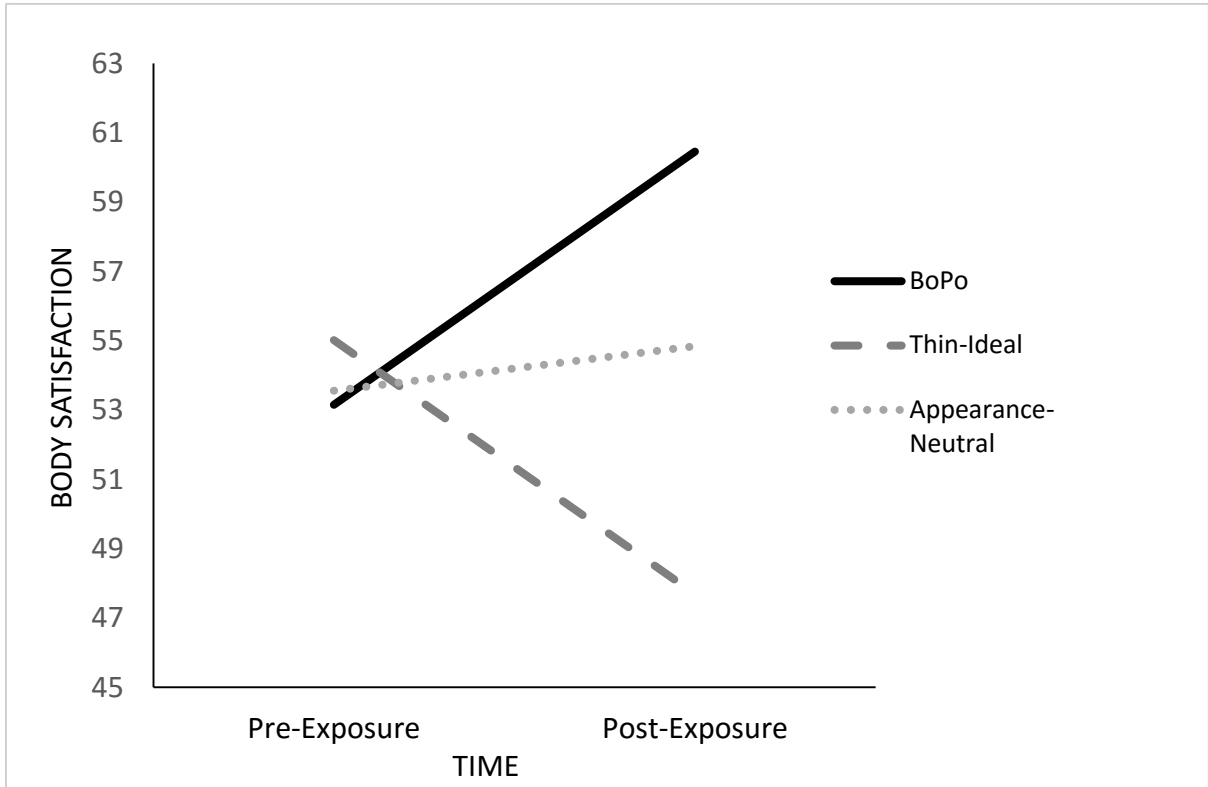
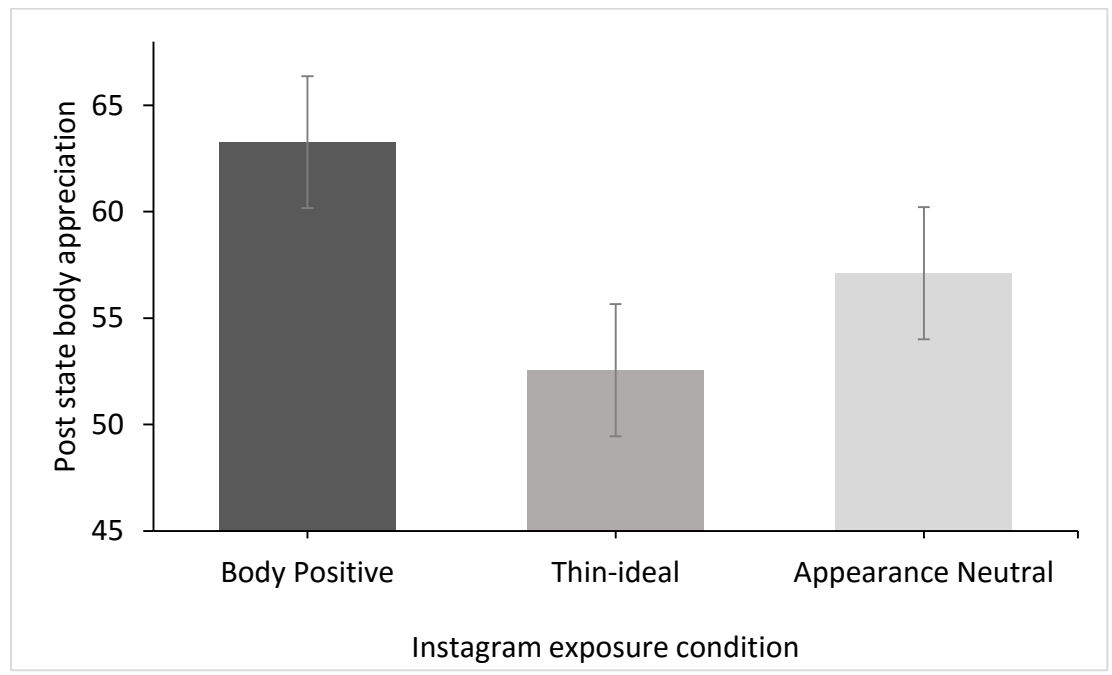633   *Figure 1.* Changes in positive mood across time for each exposure condition.

634

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

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BODY SATISFACTION

Pre-Exposure   Post-Exposure

TIME

BoPo
Thin-Ideal
Appearance-Neutral

Figure 3. Changes in body satisfaction across time for each exposure condition.
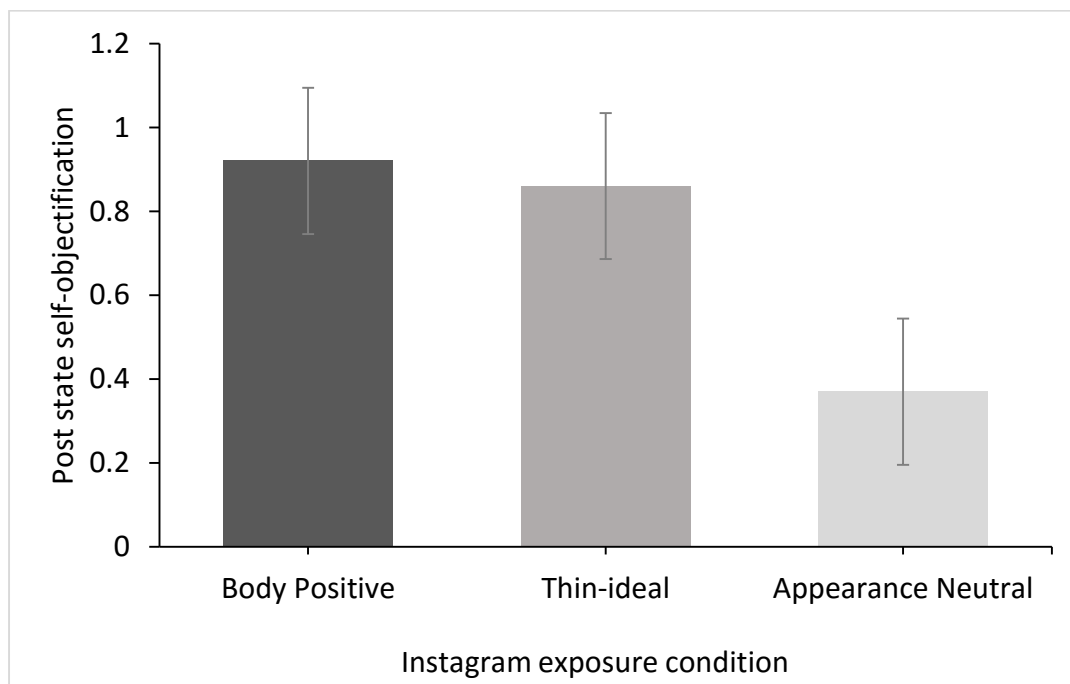
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639　*Figure 4.* Post-exposure scores for state body appreciation for each exposure condition

640

641

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