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**Selfie-Objectification: Self-Objectification and Positive Feedback (“Likes”) are
Associated with Frequency of Posting Objectifying Self-Images on Social Media**

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21

Abstract

22 The present study is the first to examine the extent to which young adult women post
23 objectifying self-images on social media, and whether the frequency of posting such content
24 can be predicted by self-objectification and positive feedback (likes). Eighty-six young adult
25 women from the UK (Age $M = 19.88$; $SD = 1.34$, $Range = 18-24$) completed self-report
26 measures of self-objectification and social media use. The 20 most recent images they had
27 posted on their personal Instagram accounts were downloaded (Image $N = 1720$) and content
28 analysed for self-objectifying content. The analysis found that 29.77% of participants'
29 Instagram images were objectified, though there were individual differences. Higher
30 frequency of posting objectified self-images was associated with trait self-objectification and
31 receiving more likes on this type of self-image, relative to non-objectified self-images. The
32 implications of the novel findings for objectification theory are discussed within.

33

34 **Introduction**

35 In Western consumer culture, women are routinely objectified, that is, their value is
36 reduced to the appearance of their body parts and/or their sexual function (Calogero, Tantleff-
37 Dunn, & Thompson, 2011; Fredrickson & Roberts, 1997). However, little is known about
38 how young adult women, socialised in this culture to self-objectify and adopt an external
39 viewer's perspective of their own body, present themselves to others (Fredrickson & Roberts,
40 1997; Moradi & Huang, 2008). Social media (i.e., web and mobile based applications used to
41 communicate with others through user-generated content) provide a novel opportunity for
42 understanding how women who self-objectify present themselves to others and how
43 objectified self-presentations are received (Kapidzic, 2015). Self-presentation through images
44 are particularly popular: Instagram, the most popular image-focused social media platform,
45 reports 300 million daily users (Instagram, 2016). Through Instagram, users can create and
46 share self-images for immediate feedback (e.g., likes and comments) from others (Chua &
47 Chang, 2016). The present study aims to examine the extent to which women present
48 themselves in self-objectifying ways on social media, and whether frequency of posting self-
49 objectifying images are associated with trait levels of self-objectification and typically
50 receiving more positive audience feedback in comparison to other types of self-images.

51 **Objectification Theory and Self-Objectification**

52 Objectification theory provides a useful framework for understanding the
53 psychological and behavioural consequences of growing up in a culture that routinely
54 objectifies the female body (Fredrickson & Roberts, 1997; Moradi & Huang, 2008).
55 Objectification occurs when a person is deprived of their personhood to the extent that they
56 are perceived as or behave in an object-like way relative to a human (Haslam, 2006; Heflick
57 & Goldenberg, 2014). Sexual objectification, a specific form of objectification, occurs when

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58 individuals are reduced to, and valued for, their body parts or sexual function over their
59 internal attributes and human worth (Calogero et al., 2011; Fredrickson & Roberts, 1997).

60 According to objectification theory, girls and young women who are repeatedly
61 exposed to sexually objectifying cultural messages are socialised into adopting an external
62 viewer's perspective of their own bodies and perceive themselves as objects—known as self-
63 objectification (Calogero et al., 2011; Fredrickson & Roberts, 1997). In turn, this tendency to
64 habitually self-objectify (i.e., trait self-objectification) has been linked to a variety of
65 deleterious psychological and behavioural consequences including low self-esteem and life
66 satisfaction (Mercurio & Landry, 2008), negative body image (Calogero & Thompson, 2009;
67 Steer & Tiggemann, 2008) and disordered eating behaviour (Noll & Fredrickson, 1998;
68 Tiggemann & Williams, 2012). Furthermore, objectification can also be temporally activated
69 (i.e., state self-objectification) by a contextual factor, leading to more object-like behaviour in
70 the short-term, such as talking less and reduced cognitive performance (Gay & Castano,
71 2010; Saguy, Quinn, Dovidio, & Pratto, 2010).

72 Media, Social Media and Self-objectification

73 The mass media play an important role in the objectification of women (Aubrey &
74 Frisby, 2011; Fredrickson & Roberts, 1997). Content analyses of media imagery consistently
75 show that women are depicted in ways that over-emphasise and over-value their body parts
76 and sexual function: this is achieved by depicting women, relative to men, as body parts
77 dismembered from the body, with their faces omitted, wearing revealing clothes, exposing
78 more flesh/body parts, or adopting seductive, sexy, and suggestive poses (e.g., Aubrey &
79 Frisby, 2011; Coltrane & Messineo, 2000). Recent content analyses demonstrate that a high
80 proportion of women featured in social media imagery are similarly objectified (Carrotte,

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81 Prichard, & Lim, 2017; Deighton-Smith & Bell, 2017; Ghaznavi & Taylor, 2015; Tiggemann
82 & Zaccardo, 2016).

83 In contrast to traditional media, images found on social media are user-generated.
84 Many of these images are self-images (or “*selfies*”), created by social media users as a form
85 of self-presentation: a way of showing who they are to others (Chua & Chang, 2016;
86 Manago, Graham, Greenfield, & Salimkhan, 2008; Mascheroni, Vincent, & Jimenez, 2015).
87 Thus, many of the objectified images found on social media are likely to be self-
88 presentations, posted by the users themselves. The extent to which young women present
89 themselves in objectified ways on social media remains unclear, largely because content
90 analyses have typically focused on images labelled with specific hashtags (i.e., metadata
91 labels that add images to an online searchable repository of other images with that label),
92 such as #fitspiration, #selfie, or #thinspiration (Deighton-Smith & Bell, 2017; Doring, Reif,
93 & Poeschl, 2016; Ghaznavi & Taylor, 2015; Tiggemann & Zaccardo, 2016). Furthermore,
94 many of the images found with these hashtags are commercially produced. A small number
95 of studies have specifically focused on identifying objectified self-presentations (Hall, West,
96 & McIntyre, 2012; Kapidzic & Herring, 2015), but these studies have focused on publicly
97 searchable profile pictures only, thus missing private and non-profile self-images.

98 Engaging in objectified self-presentations may have unintended negative interpersonal
99 consequences. Laboratory studies have found that when young women are presented in a
100 sexualised way (e.g., wearing a bikini) as opposed to a non-sexualised way (e.g., wearing
101 jeans and t-shirt), men perceive them as being less agentic and less competent (Cikara,
102 Eberhardt, & Fiske, 2011). Daniels and Zurbriggen (2016) replicated these findings in a
103 social media environment and found female participants rated the same female Facebook user
104 as less socially and physically attractive and less competent when she was depicted wearing a

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105 low-cut dress and a visible garter belt (i.e., objectified), compared to when depicted wearing a
106 t-shirt, jeans, and a scarf covering her chest (i.e., non-objectified). Therefore, not only is it
107 important to understand the extent to which young women present themselves in objectifying
108 ways on social media, but it is also important to identify factors associated with these self-
109 presentations.

110 Self-Objectification, Self-Presentations, and Audience Reactions

111 Self-objectification may be one factor associated with posting sexually objectified
112 self-presentations on social media. Current research has demonstrated links between an
113 increased likelihood of engaging in sexualised self-presentations on social media and factors
114 typically associated with self-objectification. Vandebosch, van Oosten, and Peter (2015)
115 found that engagement with sexually-objectifying media (e.g., sexual reality TV like MTV's
116 *Geordie Shore*) predicted online sexualised self-presentation among young men and women.
117 Research has also found that the endorsement of gender stereotypes predicts male and female
118 adolescents' sexy self-presentations and exposure to sexy self-presentations of others (van
119 Oosten, Vandebosch, & Peter, 2017). While these studies demonstrate links between self-
120 objectification-related factors and sexualised online self-presentations, little research has
121 shown how young women who habitually self-objectify present themselves visually to others.

122 Self-presentation theory (SPT) is typically used to explain the factors motivating
123 online self-presentations (Chua & Chang, 2016; Mascheroni et al., 2015). SPT argues that
124 individuals are motivated to engage in self-presentation by desires to convey their ideal self
125 and to please their audience (Baumeister, 1982). For young women who self-objectify,
126 portraying the self in objectified ways on social media is likely to fulfil both motives.
127 Alternatively, research has also shown that using sexualised avatars in online environments
128 can increase state self-objectification in young women (Fox, Ralston, Cooper, & Jones, 2015;

129 Vandebosch, Driesmans, Trekels, & Eggermont, 2017). Thus, self-objectification may be a
130 consequence as well as a cause of posting objectified self-presentations on social media.

131 A further factor that may be associated with presenting the self in objectified ways on
132 social media is the audience response to them. The *like* feature of some forms of social media
133 (e.g., Instagram and Facebook), wherein users effortlessly provide positive feedback on the
134 content of others at the click of a button, is of interest here since it offers easily quantifiable
135 and ostensibly unambiguous measure of positive audience feedback (Sherman et al., 2016).
136 Social reward is a potent motivator of behaviour among young people (Foulkes &
137 Blakemore, 2016). Therefore, receiving more likes on objectified self-images, relative to non-
138 objectified self-images, may serve as positive reinforcement for an objectified self-image,
139 increasing their posting frequency. Such a prediction would also be consistent with SPT,
140 since receiving more likes on a specific self-presentation would be indicative of having
141 pleased the audience, thus motivating future similar self-presentations.

142 **The Present Study**

143 The aims of the present study are twofold. First, the present study aims to use content
144 analysis to examine the extent to which young adult women engage in self-objectification in
145 the images they share on their personal social media profiles (RQ₁). Second, the present study
146 aims to examine the individual and social factors that may contribute to the frequency of
147 posting self-objectifying images. It is hypothesised that young women who report high levels
148 of trait self-objectification will present themselves in objectified ways more frequently on
149 social media (H₁). It is also hypothesised that receiving more positive feedback on images
150 (i.e., more likes) will predict the frequency with which girls present themselves in self-
151 objectified ways on social media (H₂).

152

153

Method**154 Participants**

155 A convenience sample of 86 young adult women (*Age M* = 19.88; *SD* = 1.34, *Range*
156 = 18-24) were recruited via adverts placed on social media and on a university campus.
157 Participants were Caucasian (*N* = 86) undergraduate students at a UK university. All
158 participants had an Instagram account: approximately half of the sample had a private
159 Instagram account (48.8%; *n* = 42) and half had a public account (51.2%; *n* = 44). Each
160 participant provided the researchers with access to their 20 most recent Instagram posts,
161 resulting in an overall sample of 1720 Instagram images for the content analysis.

162 Coding of Instagram Posts

163 A coding book was created by the first and second authors detailing how to code for
164 self-images, objectified self-images and audience reaction to images. Coding was initially
165 performed by the second author, and then a 75% subsample was coded by the third author.
166 Cohen's kappa showed high inter-rater reliability between the two coders (*K* = .81-.96; See
167 Table 1). The frequency of each coding category within the sample is shown in Table 1.

168 **Self-images.** Images were coded as to whether the participant was present in the
169 image or not (1 = Present, 0 = Absent). To do this, the researcher checked the image against
170 the profile picture for the account and also utilised any clues within the set of images that
171 could assist with this judgement (e.g., images labelled as "selfie").

172 **Objectified self-images.** Images were coded across four different facets of
173 objectification derived from existing content analyses of mainstream and social media.
174 Images were coded as objectified if one or more feature of objectification was present (1 =
175 Present, 0 = Absent).

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176 **Face obscured/absent.** Media images of models wherein their faces have been
177 deliberately obfuscated are believed to denigrate the personhood of the models, and is one of
178 the key ways in which bodies are objectified by mainstream media (Aubrey & Frisen, 2011;
179 Deighton-Smith & Bell, 2017; Fredrickson & Roberts, 1997). Images were coded (0 =
180 Present, 1 = Absent) as to whether the participant's face was visible or not.

181 **Body part main focus.** Objectification involves emphasising the separate body parts
182 of individuals, rather than focusing on them as holistic humans (Fredrickson & Roberts,
183 1997). Thus, images can be considered to contain objectified female representations by
184 focusing on a woman's body parts rather than her face or a more holistic representation of the
185 women (Tiggemann & Zaccardo, 2018). This was coded as 1 = Yes, 0 = No.

186 **Body parts exposed.** Four body parts (arms, cleavage, abdomen, legs) were coded
187 according to whether the skin was exposed or not (1 = Present, 0 = Absent). Objectification
188 was believed to be present when three or more body parts were exposed, since revealing 75%
189 of the body would be consistent with Fredrickson and Roberts' (1997) observation that
190 objectified women typically show a high proportion of skin. The coded body parts were
191 chosen on the basis of previous research (e.g., Aubrey & Frisen, 2011; Deighton-Smith &
192 Bell, 2017; Ghaznavi & Taylor, 2015)

193 **Sexually suggestive pose.** Previous content analyses have coded sexual
194 objectification in multiple ways, including: alluring gaze; winking; flirting; posing sexually
195 (e.g., arching back); sexual teasing; wearing unbuttoned, ripped or partially open clothing;
196 wearing lingerie; and pouting while tilting the head suggestively to the camera (Coltrane &
197 Messineo, 2000; Ghaznavi & Taylor, 2015; Tiggemann & Zaccardo, 2018). In the present
198 study, images were coded as being sexually suggestive if one or more of these features was
199 present (1 = Present, 0 = Absent).

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200 **Likes.** The number of likes achieved on each image was extracted by the coders and
201 recorded as continuous data.

202 **Measures**

203 Participants completed a questionnaire containing measures of demographic
204 information (i.e., age, gender, and ethnicity), Instagram use, and self-objectification.

205 **Instagram usage.** Participants completed four questions about their typical Instagram
206 use. To assess daily Instagram use, participants were asked two open-ended questions: how
207 often they check Instagram every day and how long (in minutes) they spend checking
208 Instagram each time. Responses were multiplied together to create an estimate of minutes
209 spent using Instagram on a daily basis. Next, participants were asked to estimate of how often
210 they post images to Instagram. Again, participants were provided with an open-ended
211 response format for this question. Responses were then coded by the researchers as 1 = *Daily*,
212 2 = *Less than daily but more than weekly*, 3 = *Weekly*, 4 = *Less than weekly but more than*
213 *monthly*, 5 = *Monthly*, and 6 = *Less than monthly*. Lastly, participants were asked whether
214 their Instagram accounts were set to public or private.

215 **Self-objectification.** The Self-objectification Questionnaire (Noll & Fredrickson,
216 1998) requires participants to rank a selection of 10 body attributes according to how
217 important they are to their self-concept (1 = *Not at all important to me*, 10 = *Very important*
218 *to me*). Five of the attributes are appearance-based (e.g., sex appeal and physical
219 attractiveness) and five are competence-based (e.g., health and stamina). Scores are
220 calculated by subtracting the sum of the competence attributes from the sum of the
221 appearance attributes (Range = -25 to 25). High scores reflect a greater emphasis on the
222 importance of appearance-based physical attributes over competency-based attributes,
223 indicating high levels of self-objectification. The measure has good construct validity (Noll &

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224 Fredrickson, 1998) and is widely used in young female samples (e.g., Gay & Costano, 2010;
225 Tiggemann & Williams, 2012).

226 **Positive feedback.** To calculate participants' mean positive audience feedback for (1)
227 all images, (2) objectified self-images and (3) non-objectified self-images, the likes accrued
228 on all images coded as fitting within that category were summed and then divided by the
229 corresponding number of images to create mean positive feedback scores for each participant.

230 Procedure

231 Having responded to the study advertisement, participants were sent a link to an
232 online questionnaire, which included measures of self-objectification and Instagram use, via
233 email. Participants were also asked to supply the username of their personal Instagram
234 account and informed that the researchers would access their account with the next five days
235 to retrieve, and subsequently, code their 20 most recent posts. To extract Instagram data, the
236 research assistant searched for the participants' Instagram user name. They then "followed"
237 the participant for the period of data collection and "unfollowed" once retrieval of images
238 was complete. The researchers used screen-capture software to store a duplicate of the image
239 and information about the number of likes it had received. Images were stored on a password
240 protected computer accessible only by the research team. The study adhered to BPS ethical
241 guidelines and received ethics approval from the University Ethics Committee.

242 Results

243 Content Analysis of Instagram Posts

244 First, the frequency with which young women presented themselves in objectifying
245 ways on social media (RQ₁) was examined. This analysis was conducted on an overarching
246 sample level to calculate the frequency/percentage of image types within the entire sample of

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247 images (see Table 1). More than half of participants' Instagram posts included a self-image (n
248 = 1013; 58.90%), and over a quarter of Instagram posts contained at least one element of
249 objectification ($n = 512$; 29.77%). Adopting a sexually suggestive pose was the most
250 common form of self-objectification ($n = 432$; 25.12%). Other forms of objectification were
251 less common. Very few posts exposed three body parts simultaneously in order to meet the
252 criteria for objectification in this way ($n = 58$; 3.37%). Arms were most frequently exposed
253 body part ($n = 277$; 16.10%), followed by cleavage ($n = 196$; 11.40%), legs ($n = 138$; 8.02%)
254 and abs ($n = 64$; 3.72%). Participants posted few images of the self with their face absent /
255 obscured from view ($n = 71$; 4.13%) or where a body part other than the face was the central
256 focus ($n = 24$; 1.40%). Although significantly more self-images were found in private
257 Instagram profiles as opposed to public profiles, $\chi^2 = 18.98$, $p < .001$, there were no
258 significant differences in the frequency of occurrence of each category of objectifying self-
259 image or the frequency of occurrence of objectifying self-images overall (see Table 1 for
260 frequencies; all $\chi^2 = 0.01-0.39$, all $p > .53$).

261 Descriptive Statistics

262 On average, participants reported using Instagram for 62 minutes every day;
263 however, there was substantial variation in this amount ($SD = 48.29$; range = 9-200),
264 suggesting the median (50.00 minutes) may be a more accurate representation (see Table 2
265 for descriptive statistics). Despite using Instagram daily, very few participants reported
266 posting images to Instagram on a daily basis (3.5%; $n = 3$). Instead, most posted images on a
267 weekly (47.5%; $n = 41$) or less than weekly but not daily (24.5%; $n = 21$) basis. Some posted
268 on a more than weekly but not monthly basis (17.4%; $n = 15$), and very few posted monthly
269 (4.7%; $n = 4$) or less frequently than monthly (1.2%; $n = 1$). This suggests that the sample of
270 Instagram images used in our study represent around 20 weeks of Instagram content for the

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271 majority of women in our sample. The mean positive audience reaction for participants'
272 general Instagram posts was ($M = 26.21$, $SD = 29.49$), however there was substantial
273 variation in this (range = 2.95-178.30), again suggesting the median may be a better
274 representation of this ($Mn = 16.90$). Participants received a significantly more positive
275 audience reaction for objectified self-images ($M = 28.96$, $SD = 34.00$, $Mn = 17.72$) than non-
276 objectified self-images ($M = 25.39$, $SD = 31.08$, $Mn = 16.75$), $z = -3.31$, $p < .001$, $n = 86$.

277 Daily time spent using Instagram and frequency of posting images were not
278 correlated, $r_s(83) = -.10$, $p = .39$. Furthermore, neither of the self-reported Instagram use
279 measures were correlated with trait self-objectification (daily Instagram use $r_s[84] = .14$, $p =$
280 $.20$; frequency of posting images $r_s[85] = -.08$, $p = .49$). Positive audience reaction for
281 general Instagram posts was not correlated with self-objectification or overall Instagram use,
282 $r_s(85) = .01$, $p = .93$ and $r_s(84) = -.03$, $p = .81$, respectively. However, it was positively
283 correlated with Instagram posting frequency, $r_s(85) = -.25$, $p < .05$. Thus, individuals who
284 received more positive feedback on their images reported posting images to Instagram more
285 frequently. There were no significant differences between participants with public and private
286 Instagram accounts in terms of self-reported Instagram use (daily use $U = 796.50$, $p = .45$, $n =$
287 84 ; frequency of posting images $U = 862.58$, $p = .71$, $n = 85$), self-objectification ($U = 777$, $p =$
288 $.20$, $n = 86$), and mean positive feedback for all images ($U = 775.50$, $p = .20$, $n = 86$),
289 objectified self-images ($U = 760.50$, $p = .16$, $n = 86$) and non-objectified self-images ($U =$
290 827.50 , $p = .40$, $n = 86$).

291 Predictors of Posting Objectified Self-Images

292 Lastly, we sought to assess whether frequency of posting objectified self-images
293 could be predicted by participants' trait level of self-objectification and typically receiving
294 more positive feedback for objectified self-images, compared to non-objectified self-images.

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295 To do this, frequency of posting objectified self-images was calculated for each participant by
296 summing the number of images that met the criteria for self-objectification ($M = 5.95$, $SD =$
297 3.97 , $Mn = 5.50$). Then, a hierarchical multiple regression analysis was performed, with
298 frequency of posting objectified self-images as the criterion variable. Predictor variables were
299 added in four steps. Trait self-objectification was entered in Step 1 (H_1). Participants' mean
300 positive feedback for non-objectified self-images was added in Step 2 in order to control for
301 the large individual differences in positive feedback typically received by participants, then
302 their mean positive feedback for objectified self-images was added in Step 3 (H_2). The
303 interaction between self-objectification and positive feedback for objectified self-images was
304 entered in Step 4.

305 Step 1 of the regression analysis was found to be significant, $R^2 = .08$, $F(1, 84) = 6.78$,
306 $p < .05$. Self-objectification significantly predicted the frequency with which young women
307 posted objectified self-images to social media, $\beta = .26$, $p < .05$, $sr = .27$, accounting for 8% of
308 the variance. The inclusion of mean positive feedback for non-objectified self-images in Step
309 2 did not significantly improve the model, $\Delta R^2 = .01$, $F(1, 83) = 0.58$, $p = .45$, $\beta = .08$, $p =$
310 $.45$, $sr = .08$. However, the inclusion of mean positive feedback for objectified self-images
311 did improve the model, $\Delta R^2 = .05$, $F(1, 82) = 5.07$, $p < .05$. Typically receiving more positive
312 feedback on objectified self-images, while controlling for mean positive feedback on non-
313 objectified self-images, significantly predicted the frequency with which young women
314 posted objectified self-images, $\beta = .51$, $p < .05$, $sr = .23$, accounting for an additional 5% of
315 the variance. Lastly, the inclusion of the interaction term did not improve the model, $\Delta R^2 =$
316 $.00$, $F(1, 81) = 0.26$, $p = .61$; interaction $\beta = .12$, $p = .33$, $sr = .05$. Therefore, in the present
317 study, the frequency of posting objectified self-images was found to be associated with trait-
318 levels of self-objectification and typically receiving more likes on this type of self-image
319 relative to other self-images.

320

Discussion

321 First, the present study examined the extent to which young women share objectified
322 self-images on social media. Around a third of the young women's Instagram posts featured
323 objectified self-images, with sexually suggestive poses being the most frequent form of self-
324 objectification. Second, the study examined whether the frequency of posting objectified self-
325 images can be predicted by self-objectification, positive audience reaction (as indicated by
326 likes achieved on objectified self-images relative to non-objectified self-images), and the
327 interaction between the two. As predicted, the frequency of posting self-objectifying images
328 was associated with their trait levels of self-objectification (H_1) and whether their self-
329 objectifying images typically received more positive audience feedback in comparison to
330 other self-images (H_2). However, no significant interaction effect was found.

331 The findings are consistent with previous content analyses that have found a high
332 proportion of social media imagery featuring young sexually objectified women (Deighton-
333 Smith & Bell, 2017; Doring et al., 2016; Ghaznavi & Taylor, 2015; Hall et al., 2012;
334 Kapidzic & Herring, 2015; Tiggemann & Zaccardo, 2016). Sexually-suggestive poses were
335 the most common form of objectified self-presentation. Other forms of self-objectification,
336 including faceless bodies, bodies with a high proportion of the skin exposed, and a focus on a
337 body part other than the face, were less common than has been found in mainstream media
338 (e.g., Aubrey & Frisby, 2011; Fredrickson & Roberts, 1997) or hashtag-labelled publicly
339 available social media content (e.g., Deighton-Smith & Bell, 2017). The high frequency of
340 sexually suggestive images within the sample may reflect the developmental stage of the
341 participants. Though relationship status was not controlled for, as part of their normative
342 sexuality development, many young adult women wish to be seen as sexually attractive to

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343 others (Tolman & McClelland, 2011) and be more likely to engage in sexy displays on social
344 media.

345 There were individual differences in the extent to which young women presented
346 themselves in objectified ways, and, as expected, trait self-objectification accounted for some
347 of the variance in this. This finding is a significant contribution to the objectification theory
348 research literature: though research has shown that young women primed with self-
349 objectification are more likely to behave in object-like ways in the presence of others (e.g.,
350 Saguy et al., 2010), scant research has considered how young women with high levels of trait
351 self-objectification present themselves visually to others. This finding is also consistent with
352 existing research that has similarly linked factors associated with self-objectification (i.e.,
353 engagement with sexually objectifying media and endorsement of gender stereotypes) with
354 sexually objectified self-presentations (van Oosten et al., 2017; Vandebosch et al., 2015).

355 Receiving more likes on objectified self-images relative to non-objectified self-
356 images also was associated with the frequency of posting objectified self-images. According
357 to SPT, individuals engage in self-presentations to please the audience (Baumeister, 1982).
358 Receiving more positive feedback on objectified self-images relative to non-objectified self-
359 images indicates that such self-presentations will please the audience, thus providing
360 motivation for presenting the self in similar ways in the future. This novel finding is
361 consistent with existing qualitative research suggesting that the desire for receiving more
362 likes is a motivator of posting objectified self-images among young women (Chua & Chang,
363 2016; Mascheroni et al., 2015) and experimental work demonstrating the social reinforcing
364 properties of positive social media feedback (Sherman et al., 2016). Furthermore, given that
365 women typically received more likes on their objectified self-images than their non-
366 objectified images, and research highlighting the socially reinforcing properties of likes, our

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367 findings may also help shed light on why young women engage in objectified self-
368 presentations, despite the potentially deleterious consequences for themselves and others
369 (e.g., Daniels & Zubriggen, 2016).

370 In the present study, we have conceptualised self-objectification and audience
371 reaction as predictors of objectifying self-presentations. However, all measures were taken at
372 the same time point, so causality cannot be assumed. Existing research (e.g., Halpern,
373 Valenzuela, & Katz, 2016) has found that personality traits not only predict increases in
374 sharing self-images over time, but also that the frequency of posting self-images also
375 predicted personality traits. Therefore, longitudinal research is needed to disentangle and
376 clarify associations between trait self-objectification, audience reactions, and sharing self-
377 objectifying images over time. Alternatively, future research could focus on identifying the
378 immediate situational factors that contribute to posting objectified self-images on social
379 media, as well as the self-related consequences of posting these, using experience sampling
380 techniques (e.g., app-based diary studies).

381 Though our findings cannot attest to the consequences of engaging in objectifying
382 self-presentations on social media, previous research has suggested that women presented in
383 sexually objectifying ways on social media are rated more negatively than their non-
384 objectified counterparts (Daniels & Zubriggen, 2016). Past research has also shown that
385 viewing sexually objectified images can cause self-objectification and negative body image
386 among those who view them (Tiggemann & Holland, 2016; Vandebosch, & Eggermont,
387 2012). Given the widespread use of sexually objectifying self-images, considerations for
388 social media literacy programmes should be made. Recent research has shown that greater
389 media literacy among can mediate reduced body satisfaction after viewing magazine images
390 of thin-ideal models (McLean, Paxton, & Wertheim, 2016). Further, a recent pilot evaluation

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391 of a social media literacy intervention was found to reduce risk factors for eating disorders
392 among female adolescents (McLean, Wertheim, Masters, & Paxton, 2017). These studies
393 suggest that media literacy programmes may be effective in reducing the impact of engaging
394 with problematic traditional and social media imagery linked to negative body image.

395 Typically, previous studies have relied on self-report to capture image-sharing
396 practices, which is prone to subjectivity and bias. The present study used a more objective
397 measure created through content analysis to overcome this. However, the content analysis
398 focused on participants' 20 most recent Instagram posts only, and it is unclear how
399 representative this dataset is of their typical image-sharing. Future research may benefit from
400 using a more stratified sample of social media images (i.e., collected at several different time
401 points) to determine representativeness. Furthermore, the present study involved a small and
402 relatively homogenous sample of young Caucasian female students from the same
403 geographical region in the UK. Given cultural variations in self-objectification (Moradi &
404 Huang, 2008), more research is needed to understand the generalisability of the findings.
405 Finally, the variables examined in the present study explained only 13% of the variance in
406 objectified self-image posting frequency. Future research should consider the contribution of
407 other factors, including marital/relationship status, sexuality, and body image.

408 Conclusion

409 The present study is the first to examine the extent to which young women present
410 themselves in self-objectifying ways on social media, and the factors associated with
411 frequency of engaging in such self-presentations. Approximately one third of young women's
412 Instagram self-images met criteria for self-objectification, and adopting a sexually suggestive
413 pose was by far the most common form of objectification within the sample. Variation in the
414 frequency with which young women post objectified self-presentations was associated with

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415 their trait levels of self-objectification and receiving more positive feedback on those images.

416 Future research should aim to disentangle causality in these relationships.

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References

- 435 Aubrey, J. S. (2006). Effects of sexually objectifying media on self-objectification and body
436 surveillance in undergraduates: Results of a 2-year panel study. *Journal of*
437 *Communication, 56*, 366-386. doi: 10.1111/j.1460-2466.2006.00024.x
- 438 Aubrey, J. S., & Frisby, C. M. (2011). Sexual objectification in music videos: A content
439 analysis comparing gender and genre. *Mass Communication and Society, 14*, 475-501.
440 doi: 10.1080/15205436.2010.513468
- 441 Baumeister, R. F. (1982). A self-presentational view of social phenomena. *Psychological*
442 *Bulletin, 91*, 3-26. doi: 10.1037/0033-2909.91.1.3
- 443 Calogero, R. M., Tantleff-Dunn, S. E., & Thompson, J. K. (2011). *Self-objectification in*
444 *women: Causes, consequences, and counteractions*. Washington, DC: American
445 Psychological Association.
- 446 Calogero, R. M., & Thompson, J. K. (2009). Potential implications of the objectification of
447 women's bodies for women's sexual satisfaction. *Body Image, 6*, 145-148. doi:
448 10.1016/j.bodyim.2009.01.001
- 449 Carrotte, E. R., Prichard, I., & Lim, M. S. C. (2017). "Fitspiration" on social media: A
450 content analysis of gendered images. *Journal of Medical Internet Research, 19*, e95.
451 doi: 10.2196/jmir.6368
- 452 Chua, T. H. H., & Chang, L. (2016). Follow me and like my beautiful selfies: Singapore
453 teenage girls' engagement in self-presentation and peer comparison on social
454 media. *Computers in Human Behavior, 55*, 190-197. doi: 10.1016/j.chb.2015.09.011

OBJECTIFYING SELF-IMAGES AND SELF-OBJECTIFICATION

- 455 Cikara, M., Eberhardt, J. L., & Fiske, S. T. (2011). From agents to objects: Sexist attitudes
456 and neural responses to sexualized targets. *Journal of Cognitive Neuroscience*, *23*,
457 540-551. doi: 10.1162/jocn.2010.21497
- 458 Coltrane, S., & Messineo, M. (2000). The perpetuation of subtle prejudice: Race and gender
459 imagery in 1990s television advertising. *Sex Roles*, *42*, 363-389. doi:
460 10.1023/A:1007046204478
- 461 Daniels, E. A., & Zurbriggen, E. L. (2016). The price of sexy: Viewers' perceptions of a
462 sexualized versus non-sexualized Facebook profile photograph. *Psychology of*
463 *Popular Media Culture*, *5*, 2-14. doi: 10.1037/ppm0000048
- 464 Deighton-Smith, N., & Bell, B. T. (2017). Objectifying fitness: A content and thematic
465 analysis of #Fitspiration images on social media. *Psychology of Popular Media*
466 *Culture*. Advance online publication. doi: 10.1037/ppm0000143
- 467 Döring, N., Reif, A., & Poeschl, S. (2016). How gender-stereotypical are selfies? A content
468 analysis and comparison with magazine adverts. *Computers in Human Behavior*, *55*,
469 955-962. doi: 10.1016/j.chb.2015.10.001
- 470 Foulkes, L., & Blakemore, S. J. (2016). Is there heightened sensitivity to social reward in
471 adolescence? *Current Opinion in Neurobiology*, *40*, 81-85. doi:
472 10.1016/j.conb.2016.06.016
- 473 Fox, J., Ralston, R. A., Cooper, C. K., & Jones, K. A. (2015). Sexualized avatars lead to
474 women's self-objectification and acceptance of rape myths. *Psychology of Women*
475 *Quarterly*, *39*, 349-362. doi: 10.1177/0361684314553578

OBJECTIFYING SELF-IMAGES AND SELF-OBJECTIFICATION

- 476 Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding
477 women's lived experiences and mental health risks. *Psychology of Women Quarterly*,
478 *21*, 173-206. doi: [10.1111/j.1471-6402.1997.tb00108.x](https://doi.org/10.1111/j.1471-6402.1997.tb00108.x)
- 479 Gay, R. K., & Castano, E. (2010). My body or my mind: The impact of state and trait
480 objectification on women's cognitive resources. *European Journal of Social*
481 *Psychology*, *40*, 695-703. doi: 10.1002/ejsp.731
- 482 Hall, P. C., West, J. H., & McIntyre, E. (2012). Female self-sexualization in MySpace.com
483 personal profile photographs. *Sexuality & Culture*, *16*, 1-16. doi: 10.1007/s12119-
484 011-9095-0
- 485 Halpern, D., Valenzuela, S., & Katz, J. E. (2016). "Selfie-ists" or "Narci-selfiers?": A cross-
486 lagged panel analysis of selfie taking and narcissism. *Personality and Individual*
487 *Differences*, *97*, 98-101. doi: 10.1016/j.paid.2016.03.019
- 488 Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social*
489 *Psychology Review*, *10*, 252-264. doi: 10.1207/s15327957pspr1003_4
- 490 Heflick, N. A., & Goldenberg, J. L. (2014). Seeing eye to body: The literal objectification of
491 women. *Current Directions in Psychological Science*, *23*, 225-229. doi:
492 10.1177/09637214531599
- 493 Instagram (2016). 500 million windows to the world. Retrieved from
494 <http://blog.instagram.com/post/146255204757/160621-news>
- 495 Kapidzic, S., & Herring, S. C. (2015). Race, gender, and self-presentation in teen profile
496 photographs. *New Media & Society*, *17*, 958-976. doi: 10.1177/1461444813520301

OBJECTIFYING SELF-IMAGES AND SELF-OBJECTIFICATION

- 497 Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-
498 presentation and gender on MySpace. *Journal of Applied Developmental*
499 *Psychology, 29*, 446-458. doi: 10.1016/j.appdev.2008.07.001
- 500 Mascheroni, G., Vincent, J., & Jimenez, E. (2015). "Girls are addicted to likes so they post
501 semi-naked selfies": Peer mediation, normativity and the construction of identity
502 online. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 9*(1), 5.
503 doi: 10.5817/CP2015-1-5
- 504 McLean, S. A., Paxton, S. J., & Wertheim, E. H. (2016). Does media literacy mitigate risk for
505 reduced body satisfaction following exposure to thin-ideal media? *Journal of Youth*
506 *and Adolescence, 45*, 1678-1695. doi: 10.1007/s10964-016-0440-3
- 507 McLean, S. A., Wertheim, E. H., Masters, J., & Paxton, S. J. (2017). A pilot evaluation of a
508 social media literacy programme to reduce risk factors for eating disorders.
509 *International Journal of Eating Disorders, 50*, 847-851. doi: 10.1002/eat.22708
- 510 Mercurio, A. E., & Landry, L. J. (2008). Self-objectification and well-being: The impact of
511 self-objectification on women's overall sense of self-worth and life satisfaction. *Sex*
512 *Roles, 58*, 458-466. doi: 10.1007/s11199-007-9357-3
- 513 Moradi, B., & Huang, Y. P. (2008). Objectification theory and psychology of women: A
514 decade of advances and future directions. *Psychology of Women Quarterly, 32*, 377-
515 398. doi: 10.1111/j.1471-6402.2008.00452.x
- 516 Noll, S. M., & Fredrickson, B. L. (1998). A mediational model linking self-objectification,
517 body shame, and disordered eating. *Psychology of Women Quarterly, 22*, 623-636.
518 doi: 10.1111/j.1471-6402.1998.tb00181.x

OBJECTIFYING SELF-IMAGES AND SELF-OBJECTIFICATION

- 519 Saguy, T., Quinn, D. M., Dovidio, J. F., & Pratto, F. (2010). Interacting like a body:
520 Objectification can lead women to narrow their presence in social interactions.
521 *Psychological Science, 21*, 178-182. doi: 10.1177/0956797609357751
- 522 Sherman, L. E., Payton, A. A., Hernandez, L. M., Greenfield, P. M., & Dapretto, M. (2016).
523 The power of the “like” in adolescence: Effects of peer influence on neural and
524 behavioral responses to social media. *Psychological Science, 7*, 1027-1035. doi:
525 10.1177/0956797616645673
- 526 Steer, A., & Tiggemann, M. (2008). The role of self-objectification in women's sexual
527 functioning. *Journal of Social and Clinical Psychology, 27*, 205-225. doi:
528 10.1521/jscp.2008.27.3.205
- 529 Tiggemann, M., & Williams, E. (2012). The role of self-objectification in disordered eating,
530 depressed mood, and sexual functioning among women: A comprehensive test of
531 objectification theory. *Psychology of Women Quarterly, 36*, 66-75. doi:
532 10.1177/0361684311420250
- 533 Tiggemann, M., & Zaccardo, M. (2018). ‘Strong is the new skinny’: A content analysis of
534 #fitspiration images on Instagram. *Journal of Health Psychology, 23*, 1003-1011. doi:
535 10.1177/1359105316639436
- 536 Tolman, D. L., & McClelland, S. I. (2011). Normative sexuality development in adolescence:
537 A decade in review, 2000–2009. *Journal of Research on Adolescence, 21*, 242-255.
538 doi: 10.1111/j.1532-7795.2010.00726.x
- 539 van Oosten, J. M. F., Vandenbosch, L., & Peter, J. (2017). Gender roles on social networking
540 sites: Investigating reciprocal relationships between Dutch adolescents’

OBJECTIFYING SELF-IMAGES AND SELF-OBJECTIFICATION

- 541 hypermasculinity and hyperfemininity and sexy online self-presentations. *Journal of*
542 *Children and Media*, 11, 147-166. doi: 10.1080/17482798.2017.1304970
- 543 Vandebosch, L., Driesmans, K., Trekels, J., & Eggermont, S. (2017). Sexualized video
544 game avatars and self-objectification in adolescents: The role of gender congruency
545 and activation frequency. *Media Psychology*, 20, 221-239. doi:
546 10.1080/15213269.2016.1142380
- 547 Vandebosch, L. & Eggermont, S. (2012). Understanding sexual objectification: A
548 comprehensive approach toward media exposure and girls' internalization of beauty
549 ideals, self-objectification, and body surveillance. *Journal of Communication*, 62,
550 869-887. doi: 10.1111/j.1460-2466.2012.01667.x
- 551 Vandebosch, L., van Oosten, J. M., & Peter, J. (2015). The relationship between sexual
552 content on mass media and social media: a longitudinal study. *Cyberpsychology,*
553 *Behavior, and Social Networking*, 18, 697-703. doi: 10.1089/cyber.2015.0197
- 554

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556 **Table 1.** Frequency and percentage of each Instagram coding category within the sample,
 557 along with inter-rater reliability

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	Private (<i>n</i> = 840)		Public (<i>n</i> = 880)		Overall (<i>N</i> = 1720)		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>K</i>
Participant present	531	63.21%	465	52.84%	1013	58.90%	.90
Face obscured	35	4.17%	36	4.09%	71	4.13%	.88
Body part other than face main focus	12	1.42%	12	1.36%	24	1.40%	.81
3 or more body parts exposed	26	3.09%	32	3.63%	58	3.37%	n/a
Arms	154	18.33%	123	13.98%	277	16.10%	.82
Cleavage	94	11.19%	102	11.59%	196	11.40%	.82
Abs	37	4.40%	27	3.68%	64	3.72%	.88
Legs	70	8.33%	68	7.72%	138	8.02%	.83
Sexually suggestive pose	213	25.36%	219	24.89%	432	25.12%	.85
Contains one or more element of objectification	251	29.88%	261	29.66%	512	29.77%	n/a
Likes (Mean)	-	-	-	-	-	-	.96

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561 Table 2. Mean (standard deviation) and median of self-reported Instagram use (daily
 562 Instagram use and frequency of image posting), trait self-objectification, and positive
 563 audience feedback on all images, objectified self-images, and non-objectified self-images

	Private		Public		Overall	
	<i>M (SD)</i>	<i>Mn</i>	<i>M (SD)</i>	<i>Mn</i>	<i>M (SD)</i>	<i>Mn</i>
Daily Instagram Use (minutes)	70.32 (54.99)	50.00	55.96 (40.72)	46.25	62.80 (48.29)	50.00
Frequency of Image Posting	3.05 (0.97)	3.00	2.93 (0.90)	3.00	2.99 (0.93)	3.00
Self-objectification	-1.67 (8.73)	-2.00	1.11 (10.10)	0.00	-0.24 (9.50)	0.00
Positive audience reaction						
- All images	22.62 (23.70)	15.40	28.69 (34.21)	18.00	26.21 (29.49)	16.90
- Objectified self-images	25.06 (26.56)	15.47	32.68 (39.80)	20.75	28.96 (34.00)	17.72
- Non-objectified self-images	23.78 (26.23)	14.83	26.93 (35.34)	17.00	25.39 (31.08)	16.75

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