



Brief research report

The relationship between *Facebook* and *Instagram* appearance-focused activities and body image concerns in young women

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ABSTRACT

The present study aimed to identify the specific social networking sites (SNS) features that relate to body image concerns in young women. A total of 259 women aged 18–29 years completed questionnaire measures of SNS use (*Facebook* and *Instagram*) and body image concerns. It was found that appearance-focused SNS use, rather than overall SNS use, was related to body image concerns in young women. Specifically, greater engagement in photo activities on *Facebook*, but not general *Facebook* use, was associated with greater thin-ideal internalisation and body surveillance. Similarly, following appearance-focused accounts on *Instagram* was associated with thin-ideal internalisation, body surveillance, and drive for thinness, whereas following appearance-neutral accounts was not associated with any body image outcomes. Implications for future SNS research, as well as for body image and disordered eating interventions for young women, are discussed.

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1. Introduction

In line with the sociocultural theory of body image disturbance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), research has consistently found that exposure to media depictions of the thin-ideal in television and magazine images leads to thin-ideal internalisation and appearance comparisons, resulting in body image concerns and eating disturbances in women (Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002). Similarly, objectification theory (Fredrickson & Roberts, 1997) suggests that the media's sexual objectification of women socialises women to self-objectify. Body surveillance, the behavioural manifestation of self-objectification, involves continuous self-monitoring of the body's appearance (McKinley & Hyde, 1996) and is a risk factor for eating disorders (Moradi & Huang, 2008). More recently, research has examined the role of social media and social networking sites (SNS) in body image concerns. A unique combination of factors including peer interactions, popularity of photo sharing, and the accessibility of mobile technology compounds the likelihood for SNS users to internalise the thin-ideal, self-objectify, and engage in appearance comparisons with peers. In support, a systematic review of research to date demonstrated a relationship between general SNS use and body image and disordered eating (Holland

& Tiggemann, 2016). However, the studies reviewed by Holland and Tiggemann (2016) used broad measures of SNS use (such as total time spent on SNS and frequency of SNS use) and the majority of studies in this review investigated *Facebook* use only, with no studies investigating *Instagram*.

It has been argued that since SNS use is not homogenous, a more nuanced approach to measurement of SNS use is required (Smock, Ellison, Lampe, & Wohn, 2011). For example, *Facebook* use may involve a diverse array of activities including posting photographs, privately messaging friends, reading newsfeeds, and observing and interacting with friends' posts and updates. It is conceivable that time spent on *Facebook* predominantly viewing attractive photographs of friends may lead to greater appearance comparison and thin-ideal internalisation, and thus have a greater impact on body satisfaction compared to time spent on *Facebook* reading the news or current affairs. Similarly, on *Instagram*, users following predominantly appearance-focused accounts (e.g., models and fitness bloggers) may be more preoccupied with their own appearance compared to users following appearance-neutral accounts (e.g., travel).

Previous research found that exposure to appearance-focused traditional media, rather than overall media consumption, predicted body dissatisfaction (Levine & Murnen, 2009; Tiggemann, 2005). Similarly, research into specific components of SNS use related to body image may be more informative than simply measuring total time spent on SNS. In support, Meier and Gray (2014) measured and examined the relationship between specific *Facebook* features and body image outcomes in a sample

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of 103 adolescent females. Participants reported their total *Facebook* use, specific *Facebook* feature use, and completed measures of weight dissatisfaction, drive for thinness, thin-ideal internalisation, appearance comparison, and self-objectification (Meier & Gray, 2014). It was found that engagement in photo-based activities on *Facebook* (such as posting and viewing photographs), but not overall time on *Facebook*, was correlated with body image outcomes (Meier & Gray, 2014). Similarly, a correlational study of 101 adolescent girls showed that girls who regularly shared selfies on SNS reported greater thin-ideal internalisation, body dissatisfaction, over-evaluation of shape and weight, and dietary restraint, compared to those who did not regularly post selfies (McLean, Paxton, Wertheim, & Masters, 2015).

Young adults (ages 18–29 years) are the highest users of SNS (Perrin, 2015) and therefore an exploration of appearance-focused activities on SNS would help clarify the relationship between SNS use and body image in this demographic (Perloff, 2014). Moreover, given the increasing popularity of *Instagram* amongst young women, and that *Instagram* is purely a photo-based SNS with users sharing more than 80 million photos a day (Instagram, 2016), more research into the relationship between *Instagram* and body image is warranted. To date, most studies have focused solely on *Facebook* and, to the best of the authors' knowledge, no study has explored both *Instagram* and *Facebook* use together in their relationship with body image.

Thus, the present study seeks to extend upon Meier and Gray's (2014) preliminary findings by identifying the specific *Facebook* and *Instagram* features that relate to body image concerns in a population of young women (age 18–29 years). It was hypothesized that *Facebook* "appearance exposure" (e.g., viewing friends' photos), but not total time spent on SNS, would correlate positively with body image concerns; conceptualised here as appearance evaluation, thin-ideal internalisation, appearance comparison, body surveillance, and drive for thinness. Similarly, it was hypothesised that following appearance-focused *Instagram* accounts (e.g., 'health and fitness', and 'celebrities') will positively correlate with body image concerns, whereas following appearance-neutral accounts (e.g., travel) will not be related to body image concerns.

2. Method

2.1. Participants

Participants were 259 Australian women aged 18–29 years ($M = 22.97$, $SD = 3.25$) with an average reported body mass index (BMI) of 22.45 ($SD = 3.89$), which is within the normal weight range (WHO, 2006). Participants were recruited via various social media outlets promoting the study (e.g., University's *Facebook* page). Participation was voluntary. Sixty-eight percent of participants were currently students and 61% had completed at least an undergraduate degree. The majority of participants (77.5%) identified as Caucasian, with others reporting to be Asian (15.1%), Middle Eastern (2.7%), African (0.8%), Aboriginal/Torres Strait Islander (0.8%) and other (3.1%).

2.2. Measures

2.2.1. Demographics

Participants reported age, gender, ethnicity, level of education, height, and weight. BMI (kg/m^2) was calculated using height and weight data.

2.2.2. Social networking site use

Preliminary yes/no items asked if participants had a *Facebook* and/or *Instagram* account. Participants indicated the amount of times they access/check their respective accounts daily on a 7-point

scale: *hardly ever*, *1 or 2 times*, *3–5 times*, *5–10 times*, *11–15 times*, *15–20 times*, *more times than I can count*. Participants also indicated the average amount of time they spent on SNS (*Facebook* and *Instagram*) a day on a 12-point scale: *0–15 min*, *15–30 min*, *1–2 h*, *2–3 h*, *3–4 h*, *4–5 h*, *5–6 h*, *6–7 h*, *7–8 h*, *8–9 h*, *9–10 h*, *10 or more hours*.

The *Facebook* Questionnaire (FBQ; Meier & Gray, 2014) was used to assess total *Facebook* use and *Facebook* appearance exposure. Participants were asked to indicate their frequency of engagement with 23 individual *Facebook* activities on a 5-point scale (1 = *almost never*, 5 = *nearly every time I log on*). Whilst the original questionnaire consisted of 24 items, pilot testing revealed that "write a *Facebook* note" is no longer available as a *Facebook* activity, so was deleted. Individual item responses were summed to calculate the total FBQ score. Eight of the activity items that were photo-based activities (e.g., "update your profile photo" and "view friends' photos of themselves") comprised the photo subscale (PS). Frequency scores for these items were summed and divided by the overall FBQ score to comprise the appearance exposure score (AES; range = 0–1.0). For this study alpha was .86 for the total FBQ and .71 for the PS. Participants were also asked how often they follow three categories of *Instagram* accounts: (1) 'Health and Fitness' (e.g., fitness bloggers, diet plans); (2) Celebrities (e.g., models, the Kardashians); and (3) Travel. Responses were recorded on a 5-point scale (1 = *never*, 5 = *very often*). Travel accounts were included as an appearance-neutral category to compare with the two aforementioned appearance-focused categories of *Instagram* accounts.

2.2.3. Thin-ideal internalization

The Internalisation-General subscale of the Sociocultural Attitudes Towards Appearance Questionnaire-Version 3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004), was used to measure thin-ideal internalisation. Participants rate the extent to which they agree with nine statements (e.g. "I wish I looked like the models in music videos") on a 5-point scale (1 = *definitely disagree*, 5 = *definitely agree*). This scale has demonstrated excellent psychometric characteristics amongst nonclinical female college students (Thompson et al., 2004); in the present study alpha was .93.

2.2.4. Appearance comparison

The five-item Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff-Dunn, 1991) was used to measure appearance comparison tendencies. Participants indicate on a 5-point scale (1 = *never*, 5 = *always*) how often they engage in appearance comparisons in social situations (e.g. "In social situations, I sometimes compare my figure to the figures of other people"). The scale has shown satisfactory construct validity and internal consistency in a sample of college women (Thompson et al., 1991); in the present study alpha was .73.

2.2.5. Appearance evaluation

The Appearance Evaluation (AE) subscale of the Multidimensional Body-Self Relations Questionnaire-Appearance Scales (MBSRQ; Cash, 2000) was used to measure appearance satisfaction. Participants rate the extent to which they agree with seven statements (e.g. "Most people would consider me good-looking") on a 5-point scale (1 = *definitely disagree*, 5 = *definitely agree*) with lower scores indicating lower appearance satisfaction. The scale has shown good internal consistency in a female undergraduate sample (Ata, Thompson, & Small, 2013); in the present study alpha was .90.

2.2.6. Body surveillance

The Body Surveillance Subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) was used to

measure body surveillance (the behavioural manifestation of self-objectification). Participants rate the extent to which they agree with eight statements (e.g. “During the day, I think about how I look many times”) on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). McKinley and Hyde (1996) showed good construct and discriminant validity in their undergraduate female sample; in the present study alpha was .83.

2.2.7. Drive for thinness

The Drive for Thinness Subscale of the Eating Disorder Inventory-3 (EDI-3; Garner, 2004) was used to measure disordered eating symptomatology. Participants rate seven statements (e.g. “I think about dieting”) on a 6-point scale (1 = *never*, 6 = *always*). This subscale showed good reliability and validity in a nonclinical sample of women aged 18–30 years (Clausen, Rosenvinge, Friborg, & Rokkedal, 2011); in the present study alpha was .89.

2.3. Procedure

Following approval by the University’s Ethics Committee, participants accessed a participant information statement, consent form, and questionnaires online using Qualtrics software. After providing informed consent, participants completed the demographic items, followed by the SNS questions, and finally the body image measures. The survey took approximately 10–15 min to complete.

3. Results

3.1. SNS use

Almost all participants had a Facebook account (99.2%, $n = 257$), and 90.3% ($n = 234$) of participants checked their Facebook account at least 3–5 times per day. Most participants (81.5%, $n = 211$) had an Instagram account with over half (57.5%) of participants checking Instagram at least 3–5 times a day. Almost one quarter of participants (24.0%) reported using SNS for 3 or more hours a day. Appearance exposure scores in this sample ($M = 0.39$, $SD = 0.04$) were similar to scores in Meier and Gray’s (2014) adolescent sample ($M = 0.40$, $SD = 0.05$) indicating similar engagement in appearance-focused Facebook activity between adolescent girls and young women. Relationships between SNS use variables were as expected; for example, Facebook checking, Instagram checking, and overall usage of both forms of SNS were significantly positively correlated (see Supplementary data linked online to this article).

3.2. Relationship between Facebook use and body image concerns

Means and standard deviations for all variables are displayed in Table 1. Missing data (ranging from <1% on various subscales to 5% on the body surveillance subscale) were handled with pairwise deletion. Pearson correlations were run on all main variables, controlling for BMI (see Table 2). Because multiple correlations were conducted, a more conservative significance threshold of $p < .01$

Table 1

Scores ranges, means (M), and standard deviations (SD) for BMI, SNS variables, and body image variables.

	Possible range	M (population norms)	SD
BMI	–	22.45	3.89
SNS variables:			
Time spent on social media	1–12 ^a	3.81	1.44
Facebook appearance exposure ^b	0–1	0.39	0.04
Instagram— follow health and fitness accounts	1–5	2.69	1.40
Instagram — follow celebrity accounts	1–5	2.25	1.25
Instagram — follow travel accounts	1–5	2.61	1.32
Body image variables:			
Thin-ideal internalisation	5–45	26.37 (23.76)	8.77
Appearance comparison	5–25	14.56 (16.68)	3.54
Appearance evaluation	1–5	3.21 (3.36)	0.87
Body surveillance	1–8	4.47 (4.22)	1.00
Drive for thinness	0–32	9.01 (7.24)	8.14

^a 1 = 0–15 min, 12 = 10 h or more.

^b Facebook appearance exposure represents participants’ photo-based activity relative to their overall Facebook activity.

was set to minimise type 1 error rate. Controlling for BMI, Facebook appearance exposure, but not total SNS use, was significantly positively correlated with thin-ideal internalisation ($r = .23$, $p < .01$) and body surveillance ($r = .24$, $p < .01$).

3.3. Body image concerns in Instagram users and non-Instagram users

Independent samples *t* tests were conducted to compare body image variables in Instagram users and non-Instagram users. Participants who reported having no Instagram account ($n = 48$) or checking Instagram “hardly ever” ($n = 33$) were combined to make up the ‘non-Instagram users group’ ($n = 81$). Participants who reported checking Instagram at least “1 or 2” times per day made up the ‘Instagram users’ group ($n = 178$). There was a significant difference between Instagram users ($M = 4.56$, $SD = 1.00$) and non-users ($M = 4.26$, $SD = 0.98$) for body surveillance $t(243) = -2.18$, $p = 0.03$, $d = .30$. There were no significant differences between Instagram users and non-users on any of the other body image variables (ps range between .32–.55).

3.4. Relationship between body image concerns and Instagram accounts

Controlling for BMI, following ‘health and fitness’ accounts was significantly positively correlated with thin-ideal internalisation ($r = .18$, $p = .007$) and drive for thinness ($r = .30$, $p < .001$). Following celebrity accounts was significantly positively correlated with thin-ideal internalisation ($r = .22$, $p < .001$) and body surveillance ($r = .18$, $p = .009$). By contrast, following travel accounts did not significantly correlate with any of the body image variables.

Table 2

Partial correlation coefficients for social media use, Facebook appearance exposure, Instagram accounts, and body image variables, controlling for BMI.

	Thin- ideal internalisation	Appearance comparison	Appearance evaluation	Body surveillance	Drive for thinness
Time spent on social media	-.11	.00	.07	-.09	-.13
Facebook appearance exposure	.23*	.09	-.02	.24*	.13
Instagram — ‘Health and Fitness’ Accounts	.18*	.16	.01	.15	.30**
Instagram— Celebrity accounts	.22**	.12	-.11	.18*	.11
Instagram— Travel accounts	.12	.07	.04	.09	.13

* $p < .01$.

** $p < .001$.

4. Discussion

The current study used sociocultural theory of body image disturbance (Thompson et al., 1999) and objectification theory (Fredrickson & Roberts, 1997) to expand the current literature on social media and body image by identifying the specific SNS features that relate to body image concerns in a sample of young adult women. Consistent with our hypothesis, total time on SNS was not related to body image outcomes, but rather greater engagement in photo activities on Facebook was associated with greater thin-ideal internalisation and body surveillance. Similarly, following appearance-focused accounts on Instagram ('celebrities') was associated with both thin-ideal internalisation and body surveillance, and the following of 'health and fitness' accounts also demonstrated a relationship with thin-ideal internalisation as well as increased drive for thinness. Following appearance-neutral accounts ('travel') was not associated with any of the body image variables. These results support and extend Meier and Gray's (2014) findings with adolescent girls, by demonstrating that appearance-focused SNS use (on both Facebook and Instagram), rather than overall SNS use, may be more relevant to body image concerns in young women. The findings highlight that measuring overall time may mask important effects and stress the importance of a nuanced approach to ongoing SNS research.

Of interest, appearance-focused SNS use correlated with some body image measures but not others. This pattern of results is consistent with comparable studies (e.g., McLean et al., 2015; Meier & Gray, 2014; Tiggemann & Miller, 2010), and may suggest that not all SNS activities relate to body image outcomes in the same way. Nevertheless, the appearance-focused activities on both Facebook and Instagram were correlated with thin-ideal internalisation and body surveillance, which are established risk factors for disordered eating (Moradi & Huang, 2008). Accordingly, these results offer support to sociocultural and objectification theories of media and body image (Fredrickson & Roberts, 1997; Thompson et al., 1999), and contribute to the growing literature on social media and body image. The lack of relationships found here between appearance-focused SNS activities and both appearance evaluation and appearance comparisons could be a result of the measures chosen to assess these constructs, which may not be sufficiently sensitive to the SNS environment. Future research would benefit from the development and validation of body image measures specific to the SNS environment.

While the correlational nature of the research precludes causal inferences, it is likely there exists a bidirectional relationship between appearance-focused SNS engagement and body image outcomes in young women. Accordingly, young women higher in thin-ideal internalisation and with a greater tendency to self-objectify may be more likely to engage in photo activities on Facebook and follow appearance-focused accounts on Instagram, which in turn may reinforce existing body image concerns (Perloff, 2014).

Exploratory analyses revealed that Instagram users scored significantly higher on body surveillance compared to non-Instagram users. Unlike Facebook, Instagram is purely a photo-based platform and is renowned for the ubiquitous 'selfie' as well as 'fitspiration' imagery. It may be that young women higher in body surveillance tendencies are more likely to use Instagram regularly due to the unique self-presentation opportunities it offers beyond Facebook (Chua & Chang, 2016), or that using Instagram is associated with greater body surveillance in young women via its focus on the outward qualities of appearance.

The current research is limited by its correlational and exploratory design. Experimental and longitudinal methods are necessary to clarify the nature of this relationship between appearance-focused SNS use and body image concerns. Moreover,

the sample was predominantly Caucasian, and therefore has limited generalisability to more culturally diverse samples. Finally, although the size of the correlation coefficients were relatively small, the large population of SNS users with over 2 billion users on Facebook and 500 million users on Instagram (Perrin, 2015) indicates that these findings are meaningful at a population level.

In conclusion, the present study adds to the literature on social media and body image by demonstrating the importance of appearance-focused versus non-appearance-focused SNS activity on both Facebook and the more photo-focused SNS platform of Instagram in a sample of early adult women. The findings emphasise that particular types of SNS use, such as engaging in photo-based activities on Facebook, and following appearance-focused content on Instagram, relate to various body image concerns, whereas overall SNS consumption may not. The results not only provide additional support to sociocultural theory (Thompson et al., 1999), but they emphasise body surveillance as particularly relevant to appearance-focused SNS use, thus contributing to the field of objectification theory (Fredrickson & Roberts, 1997) and encouraging further consideration of objectification in future SNS and body image research. Moreover, the current findings illustrate the complexity of the relationship between social media and body image, and thus have important theoretical implications for this growing body of literature by highlighting the utility of measuring specific SNS user activity in providing greater insight into this relationship. At a practical level, these findings suggest that recommendations to limit overall SNS use may not only be impractical but also unnecessary in preventing body image concerns in young women. Rather, appearance-focused SNS activities may be more relevant to body image concerns, and thus should be the focus of targeted interventions and practical suggestions for young women vulnerable to body image issues.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.bodyim.2017.10.002>.

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