Investigating trait antecedents of normative and deceptive Like-seeking on Instagram

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ABSTRACT

On Instagram, individuals proactively seek Likes for posts, as the number of Likes received is a social currency, signalling popularity and status. However, digital status-seeking behaviours, such as Like-seeking, are also associated with negative outcomes including health-risk behaviours. Yet little is known about traits that drive Like-seeking. Proposing Like-seeking as a form of conspicuous consumption, we investigate materialism, vulnerable narcissism, and self-monitoring-traits associated with conspicuous consumption-as antecedents of Like-seeking on Instagram, distinguishing between normative Like-seeking and deceptive Like-seeking. We explore the mediating role of Instagram intensity in the relationship between these traits and the two forms of Like-seeking. Using a cross-sectional non-experimental design, data from a sample of 436 Instagram users in the United States were analysed using partial least squares structural equation modeling. Results show that the traits are directly associated with deceptive Like-seeking. Findings reveal new insights into users' Instagram intensity as a mediating variable between materialism and self-monitoring, and both Like-seeking behaviours.

1. Introduction

Social media use is associated with positive outcomes such as individual development and social interaction (Boer et al., 2022). However, research has also shown that "digital status seekers", who invest significant effort into the accumulation of indicators of peer status such as Likes, are at risk for engaging in offline health-risk behaviours (Nesi & Prinstein, 2019).

The present study posits that Like-seeking behaviours on Instagram-which can be normative, whereby individuals engage in activities typically used to increase validation (e.g., using filters or hashtags) or deceptive, where a false impression is made to receive Likes (e.g., purchasing Likes/followers) (Dumas et al., 2017)-are a modern form of conspicuous consumption, due to their status and signalling value. Offline conspicuous consumption can be associated with happiness, satisfaction with life, and empowerment derived from signalling through the consumption of objects (Kumar et al., 2022). However, as previously noted, virtual status signalling such as Like-seeking, is associated with negative well-being outcomes (Nesi & Prinstein, 2019). For instance, focusing on deceptive Like-seeking, Dumas et al. (2020) cautioned that this behaviour may have harmful downstream consequences for well-being.

Given the ubiquity of social media and the potential negative consequences of Like-seeking on users' well-being (Dumas et al., 2020; Nesi & Prinstein, 2019), understanding traits that drive Like-seeking behaviours could inform research. However, there is a surprising lack of studies in this area, with some exceptions, such as the work of Dumas et al. (2017), who proposed that narcissism, loneliness and peer belonging were drivers of both forms of Like-seeking.

Therefore, extending prior research, we investigate materialism, vulnerable narcissism, and self-monitoring-traits associated with conspicuous consumption-as antecedents of normative and deceptive Like-seeking on Instagram. We also consider the mediating role of users' Instagram intensity. The intensity of social network use is one of the most analysed variables in the computer-mediated communication literature (Dhir & Tsai, 2017). Personality traits such as narcissism (e.g., Moon et al., 2016), self-monitoring (e.g., Kim et al., 2017) and materialism (e.g., Pellegrino et al., 2022) are related to usage and perceptions of social networks. Similarly, social network intensity has been linked to consequences such as negative changes in life satisfaction (Boer et al., 2022), and depression and lower self-esteem (Boers et al., 2019). To date, however, no studies have investigated how users' social network

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intensity may explain the relationship between traits and Like-seeking behaviours.

1.1. Instagram Like-seeking as a form of conspicuous consumption

Thorstein Veblen (1899) proposed the term conspicuous consumption to explain the acquisition and display of expensive goods and services aimed at achieving and signalling social status and relative position.

Social media is a platform for conspicuous consumption, because of its scope to convey status and disseminate desired impressions through strategic self-presentation (Siepmann et al., 2022). Accumulating indicators of peer status, such as Likes, is a form of digital status seeking (Nesi & Prinstein, 2019). In line with conspicuous consumption (Veblen, 1899), Likes are: i) visible to others, ii) highly prized by social media users, and iii) signal status and relative position for the recipient of the Like. While earlier forms of conspicuous consumption required the ownership or possession of a good or service (Veblen, 1899), self-presentation on social media can be unrelated to ones' material reality and yet serve as a conspicuous representation of the self (Hollenbeck & Kaikati, 2012). Therefore, we assert that Like-seeking can be considered a modern form of conspicuous consumption, where the acquisition of Likes conveys status and relative position on the social media user.

1.2. Antecedents of Instagram Like-seeking

Research has sought to understand drivers of conspicuous consumption in the context of social media (Siepmann et al., 2022) and individual differences in consumers' propensity to engage in conspicuous consumption (Kastanakis & Balabanis, 2014). We investigate the relationship between traits associated with conspicuous consumption (i. e., materialism, vulnerable narcissism, and self-monitoring) and Like-seeking-both normative and deceptive-, on Instagram.

Extant research informs these antecedents. First, materialism is recognised as a key driver of consumers' propensity to engage in conspicuous consumption (Kumar et al., 2022; Siepmann et al., 2022). Second, informed by the self-concept orientation, one form of conspicuous consumption is the "bandwagon effect", whereby the demand for a good is increased due to the fact that others wish to consume the same commodity (Leibenstein, 1950) with status derived from popularity (Kastanakis & Balabanis, 2014). We assert that Like-seeking has a bandwagon effect as Likes are prized and desirable because others seek them too. Under the bandwagon effect, consumers have an interdependent self-concept (Kastanakis & Balabanis, 2014). Therefore, vulnerable narcissism and self-monitoring are appropriate traits to investigate in the context of Like-seeking, because vulnerable narcissism is characterised by a fear of being rejected, and individuals who are high self-monitors or vulnerable narcissists are more likely to use social media for social comparison (Ozimek et al., 2018). We discuss each trait in more detail below.

1.2.1. Materialism

Materialism is "the importance a consumer attaches to worldly possessions" (Belk, 1984, p. 291). Materialistic individuals have material acquisition as a central goal in life and consider acquisitions as a key to happiness (Richins & Dawson, 1992). Materialism guides consumption (Richins & Dawson, 1992) and is associated with conspicuous consumption (Kumar et al., 2022).

Pellegrino et al. (2022) found an association between materialism, social media intensity, attitudes towards social media content, and compulsive buying. Wallace et al. (2017) found that materialism was associated with social media posts intended to impress others. As Likes are a form of endorsement from others (Dumas et al., 2017), we investigate whether materialistic individuals are more motivated to engage in normative and deceptive Like-seeking.

1.2.2. Narcissism

Narcissism is an individual's tendency towards "objectively unjustified conceit" (Lee et al., 2013, p. 336). Narcissists are more likely to engage in conspicuous consumption (Sedikides & Hart, 2022), and narcissism can also account for self-promoting behaviours on Instagram (Moon et al., 2016). Dumas et al. (2017)'s study of Like-seeking and its antecedents focused on grandiose narcissism, which is characterised by dominance, self-assurance, arrogance, and a need for admiration (Hendin & Cheek, 1997). They found that grandiose narcissism was associated with deceptive Like-seeking, suggesting that Instagram users may engage in deceptive routes to gain validation. They also found that deceptive Like-seeking behaviour played an explanatory role in the relation between narcissism and normative Like-seeking behaviours. They suggested that normative Like-seeking may be a manifestation of deceptive methods of achieving social stature on Instagram and called for further research.

To add to the understanding of narcissism as an antecedent of Like-seeking behaviour, the current study focuses on vulnerable narcissism. This facet of the construct is characterised by emotional instability and oscillation between feelings of superiority and inferiority (Hendin & Cheek, 1997). Czarna et al. (2014, p. 42) caution that "vulnerable narcissists are socially inhibited and mainly concerned with protection of their fragile egos". For vulnerable narcissists, Instagram Likes received provide reassurance and validation (Sheldon & Bryant, 2016).

While vulnerable narcissists are motivated to greater social interaction on social media (Buffardi & Campbell, 2008), they may receive fewer Likes (Czarna et al., 2014), which may motivate Like-seeking. Vulnerable narcissism is also interesting in a study of Instagram, because vulnerable narcissists have high impression motivation and may engage in self-presentation tactics to reflect a desired self-image (Hart et al., 2017). Furthermore, common to both forms of narcissism are a willingness to exploit others for one's own gain (Dickinson & Pincus, 2003). We therefore explore this less-researched facet of narcissism as an antecedent of Like-seeking behaviour.

1.2.3. Self-monitoring

Self-monitoring refers to the regulation and monitoring of expressive behaviours and appearances (Snyder, 1974). Self-monitors engage in impression management behaviours (Gangestad & Snyder, 2000), such as acquisitive behaviours and the cultivation of public appearance (Fuglestad & Snyder, 2010). Extant research found a positive association between high self-monitoring and conspicuous behaviour on social media (Wallace et al., 2017). We posit that high self-monitors seek more Likes.

In sum, we hypothesise a positive relationship between materialism (H1a and H1b), vulnerable narcissism (H2a and H2b), self-monitoring (H3a and H3b), and Like-seeking. In testing these hypotheses, we explore normative and deceptive Like-seeking as separate outcomes. Regarding narcissism, Dumas et al. (2017) found some differences in influences on normative Like-seeking and deceptive Like-seeking. In particular, while stronger narcissism predicted deceptive Like-seeking behaviours, the association between narcissism and normative Like-seeking was not significant. Earlier we pointed out differences between grandiose narcissism, investigated by Dumas et al. (2017), and vulnerable narcissism, investigated in our study, highlighting that vulnerable narcissists oscillate between feelings of superiority and feelings of inferiority. Yet, narcissists tend to exploit others for their own gain (Dickinson & Pincus, 2003). Therefore, we expect that vulnerable narcissism will also have a stronger effect on deceptive Like-seeking than on normative Like-seeking. Regarding materialism and self-monitoring, the relationship between these traits and Like-seeking behaviours is untested. Thus, as there is no empirical evidence to suggest how these traits might affect normative and deceptive Like-seeking in different ways, we examine these relationships in an exploratory manner.

1.3. The mediating effect of Instagram intensity

Despite a compelling need to connect to social media, such activities also pressurise users and hold a risk for low mood or anxiety (O'Reilly, 2020). This study explores Instagram intensity as a mediator. In line with the conceptualisation of Facebook intensity (Ellison et al., 2007), Instagram intensity refers to the user's active engagement in Instagram activities, and the extent to which they are emotionally connected to Instagram and the platform is integrated into their daily activities (Ellison et al., 2007).

Materialism, vulnerable narcissism, and self-monitoring are antecedents of Instagram use. Instagram users who are more materialistic have a more positive relationship with social media and higher scores for social media intensity (Pellegrino et al., 2022). Vulnerable narcissists' image management motivation is high where there is an opportunity for image cultivation (Hart et al., 2017). Finally, self-monitoring is one of the most investigated traits in relation to self-presentation and is associated with higher preferences for image-sharing social networks such as Instagram (Kim et al., 2017).

Instagram intensity is also associated with conspicuous buying behaviour (Pellegrino et al., 2022). As Likes are a social currency, and the number of Likes received is a measurable and visible form of "flattering interaction information" (Rosenthal-von der Pütten et al., 2019, p. 78), we assert that Instagram intensity is associated with Like-seeking behaviours, as we posit Like-seeking is a form of virtual conspicuous consumption.

We therefore investigate Instagram intensity as a mediator in the relationships between materialism (H4a and H4b), vulnerable narcissism (H5a and H5b), self-monitoring (H6a and H6b), and normative and deceptive Like-seeking.

Fig. 1 presents the conceptual model.

2. Method

2.1. Participants and procedure

Research was conducted with a convenience sample of 436 Instagram users based in the United States. Inclusion was limited to holders of an active Instagram account who had posted there within the previous six months, being 18 years old or older. Most participants (64.7 %) were males. Ages ranged from 19 to 69 years (M = 33.67; SD = 8.36). Most participants were working full time outside the home (89 %) and 54.4 % had completed an undergraduate degree or diploma (detailed description of sample is provided in Table A.1 in Supplementary Materials).

G*Power (version 3.1.9.7) software was used to estimate sample size adequacy. For an alpha of 0.05, an effect size estimated of 0.2, and a power of 80 %, a total sample size of 75 is required. Therefore, the sample size of 436 is adequate.

This cross-sectional non-experimental study was conducted in line with University ethical standards. Participants were recruited using Amazon's Mechanical Turk in November 2019 and directed to an online survey hosted by Qualtrics. A more detailed explanation of the process for recruiting participants is set out in the Supplementary Materials.

2.2. Measures

The scales used to measure each construct are grounded in extant literature. The list of items (Table A.2) and the descriptive statistics and correlations between the variables (Table A.3) are reported in the Supplementary Materials.

2.2.1. Materialism

Materialism was measured using the 6 items from the Richins (1987) scale. Statements include "It's really true that money can buy happiness", measured on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*).

2.2.2. Vulnerable narcissism

Vulnerable narcissism was measured using the hypersensitive narcissism measures of Hendin and Cheek (1997). Studies of self-presentation tactics investigate vulnerable narcissism using this measure (Hart et al., 2017). Respondents indicated their level of agreement on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Statements include "My feelings are easily hurt by ridicule or by the slighting remarks of others".
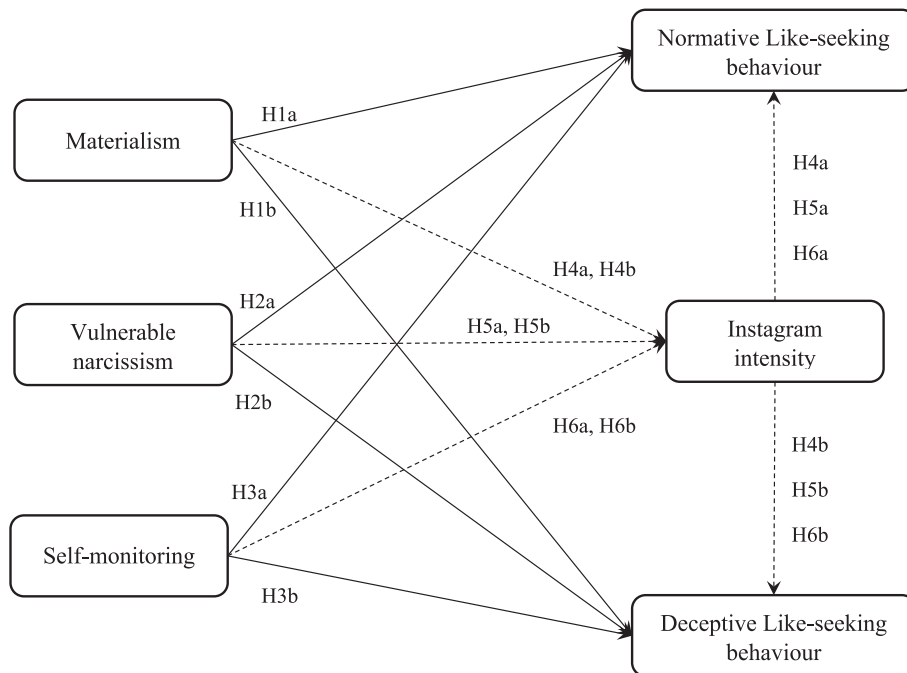

Fig. 1. Conceptual model.
Note: Dashed lines represent mediation effects.

2.2.3. Self-monitoring

Self-monitoring was measured using the 13-item Attention to Social Comparison Information (ATSCI) scale (Bearden & Rose, 1990). Items include "It's important for me to fit into the group I'm with", measured on a 5-point Likert scale (1 = *always false*, 5 = *always true*).

2.2.4. Instagram intensity

Instagram intensity measure was adapted from the Facebook Intensity Scale (Ellison et al., 2007), as other works focused on Instagram (e.g., Kim et al., 2017). Following Ellison et al. (2007), the scale includes two self-reported assessments of Instagram behaviour to measure the extent to which respondents are actively engaged in Instagram activities: the number of Instagram followers and the time spent on Instagram on a typical day. The scale also includes six attitudinal items to measure the extent to which respondents are emotionally connected to Instagram and the social network is integrated into their daily activities. Statements include "Instagram is part of my everyday activity" measured on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*).

2.2.5. Like-seeking behaviours

Like-seeking was measured following Dumas et al. (2017). Participants were asked the frequency with which they engaged in activities reflecting normative Like-seeking behaviours (e.g., "used a hashtag") and deceptive Like-seeking behaviours (e.g., "used software to modify your physical appearance"), on 5-point Likert scales (1 = *never*, 5 = *nearly always*).

2.3. Data analysis

Analysis was conducted using Partial least squares (PLS) structural equation modeling, a nonparametric technique that does not assume normality of the data, with SmartPLS 3.0. PLS is appropriate for studies such as this, where the model is complex and includes reflective and formative measures (Hair et al., 2017). The next section describes the measurement and the structural model results.

3. Results

3.1. Measurement model

The reliability and validity of the reflective constructs were assessed. Following Ellison et al. (2007), Instagram intensity items were standardized before an average total score was calculated. The scale showed a good reliability (Cronbach's alpha = 0.858). The assessment of the reflective measurement model suggested the deletion of one item of the materialism scale, one item of the vulnerable narcissism measure, and four items of the self-monitoring construct, since their standardized parameter estimates indicated weak factor loading. After these deletions, the individual item reliability for all factor loadings was confirmed, as they were all greater than 0.60, and statistically significant at 1 %. Internal consistency reliability was confirmed as the composite reliability of all constructs were greater than 0.7. The constructs also met the convergent validity criteria, as the average variance extracted values were above 0.5 (see Table A.4, Supplementary Materials). Discriminant validity was supported since all HTMT values were below the threshold of 0.90, and the bootstrap confidence interval did not contain the value 1.

Normative and deceptive Like-seeking behaviours were conceptualized as first-order formative constructs, as there is no reason to expect that all the behaviours present strong correlations. The external validity of the formative measurement model was analysed. The weights of the indicators should ideally be statistically significant. However, indicators with non-significant weights but high loadings should be retained (Hair et al., 2017). As can be seen in Table A.5 (Supplementary Materials), external validity was acceptable. VIF values were lower than 5, indicating the model has no multicollinearity problems (Hair et al., 2017).

3.2. Structural model

To test the hypotheses, a bootstrapping procedure with 5000 iterations of resampling was used. Age and gender were included as control variables. The model explains 41 % of the normative Like-seeking behaviour variance and 53.9 % of deceptive Like-seeking behaviour. The Stone-Geisser test criterion (Q^2) exceeded the threshold of 0 for all dependent variables, supporting the predictive relevance of the model. The standardized root mean square residual (SRMR) showed a value of 0.06, lower than the threshold of 0.08. Thus, the model has good fit.

Table 1 presents the results. None of the analysed traits are directly associated with normative Like-seeking behaviour, which lead us to reject H1a, H2a, and H3a. Materialism, vulnerable narcissism, and self-monitoring are all positively associated with deceptive Like-seeking behaviour, supporting H1b, H2b, and H3b.

Instagram intensity fully mediates the effect of materialism and self-monitoring on normative Like-seeking behaviour, supporting H4a and H6a. In addition, Instagram intensity partially mediates the role of materialism and self-monitoring on deceptive Like-seeking behaviour. Therefore, H4b and H6b are accepted. No mediating role is found for Instagram intensity among the influence of vulnerable narcissism on normative Like-seeking behaviour, or among the influence of vulnerable narcissism on deceptive Like-seeking behaviour. Thus, H5a and H5b are not supported.

Finally, findings revealed a significant effect of age on normative Like-seeking behaviours. Younger users tend to engage more in normative Like-seeking behaviours. Gender was not significantly associated with Like-seeking.

4. Discussion

In this study, we assert that Like-seeking can be considered a form of virtual conspicuous consumption. While offline conspicuous consumption can lead to well-being positive outcomes (Kumar et al., 2022), online status signalling, such as Like-seeking, is associated with negative outcomes for well-being (Dumas et al., 2020; Nesi & Prinstein, 2019).

Table 1
Structural model results.

Hypotheses	β	t-Value	p-Value	CI
H1a. Materialism ➔ NLSB	0.077	1.258	0.208	[−0.046,0.194]
H1b. Materialism ➔ DLSB	0.100	2.422	0.015	[0.014,0.176]
H2a. Vulnerable narcissism ➔ NLSB	0.124	1.884	0.060	[−0.005,0.254]
H2b. Vulnerable narcissism ➔ DLSB	0.463	10.466	0.000	[0.373,0.549]
H3a. Self-monitoring ➔ NLSB	0.088	1.399	0.162	[−0.036,0.212]
H3b. Self-monitoring ➔ DLSB	0.141	3.018	0.003	[0.039,0.223]
H4a. Materialism ➔ Instagram intensity ➔ NLSB	0.077	2.349	0.017	[0.012,0.140]
H4b. Materialism ➔ Instagram intensity ➔ DLSB	0.035	2.206	0.027	[0.008,0.070]
H5a. Vulnerable narcissism ➔ Instagram intensity ➔ NLSB	−0.005	0.161	0.872	[−0.067,0.058]
H5b. Vulnerable narcissism ➔ Instagram intensity ➔ DLSB	−0.002	0.159	0.873	[−0.034,0.024]
H6a. Self-monitoring ➔ Instagram intensity ➔ NLSB	0.168	3.923	0.000	[0.091,0.261]
H6b. Self-monitoring ➔ Instagram intensity ➔ DLSB	0.076	3.048	0.002	[0.036,0.136]
Control variables				
Gender ➔ NLSB	0.014	0.551	0.582	[−0.021,0.077]
Gender ➔ DLSB	0.015	0.528	0.598	[−0.062,0.056]
Age ➔ NLSB	−0.149	3.535	0.000	[−0.230,-0.067]
Age ➔ DLSB	0.019	0.521	0.602	[−0.056,0.088]

Note: NLSB: Normative Like-seeking behaviour; DLSB: Deceptive Like-seeking behaviour.

Therefore, the traits informing Like-seeking merit further understanding.

Our findings reveal that traits normally associated with conspicuous consumption, such as materialism, vulnerable narcissism and self-monitoring, inform normative and deceptive Like-seeking in different ways. First, we find that the relationship between vulnerable narcissism, which is associated with a more fragile ego, and normative Like-seeking is not significant. By contrast, results indicate a positive and significant association between vulnerable narcissism and deceptive Like-seeking. While Dumas et al. (2017) explored grandiose narcissism, this result is in line with their findings, and assertion that narcissists' self-presentation may be considered as a form of "virtual lying" (Dumas et al., 2017). Vulnerable narcissists have high impression motivation and may engage in self-presentation tactics to reflect a desired self-image (Hart et al., 2017). Thus, we add to current scholarship, as we show that the vulnerable narcissism facet of the narcissism construct is also associated with deceptive Like-seeking.

We also reveal different new insights into previously untested traits. We show effects of materialism and self-monitoring on normative and deceptive Like-seeking. Materialism and self-monitoring are directly associated with deceptive Like-seeking. Likes are paralinguistic digital affordances associated with social support (Whon et al., 2016). Results indicate that those who are more materialistic, exhibit vulnerable narcissism, or are higher self-monitors are also likely to engage in virtual lying to attain support through Likes.

On Instagram, followers may not know the user. This affords the user an opportunity to deceive to attain greater Likes. It is possible that vulnerable narcissists, materialistic people, or high self-monitors use Instagram rather than other reciprocal networks such as Facebook, partly because Instagram affords opportunities for deceptive Like-seeking.

Introducing Instagram intensity as a mediator, we add to literature that explores the pressures faced by users to continually access social media and its implications for mental health (O'Reilly, 2020). Findings show that Instagram intensity partially mediates the relationship between materialism and self-monitoring, and deceptive Like-seeking behaviours. Interestingly, these traits also have an indirect effect on normative Like-seeking through Instagram intensity. That is, Instagram users who are more materialistic and are high self-monitors are more likely to actively engage in Instagram. This active engagement and emotional connection with the social network leads in turn to engage in normative Like-seeking behaviours, such as using filters or hashtags. In line with ongoing debates regarding social media users' screen time and their mental health (O'Reilly, 2020), we show that Instagram intensity is a significant mediator in explaining Like-seeking behaviour. It may be helpful for health practitioners to work with Instagram users who display more of these traits, to encourage them to limit Instagram use. However, the literature recognises that normative Like-seeking can also be positively associated with peer belonging (Dumas et al., 2017). We suggest that future research would investigate whether normative Like-seeking might be considered a "healthier" form of Like-seeking.

Although gender was not significantly associated with Like-seeking, we found a significant association between age and normative Like-seeking. This finding supports research that suggests young people are likely to engage in online behaviours common to their peer context (Dumas et al., 2017), and they may need support to avoid negative consequences of these behaviours (O'Reilly, 2020).

Our study shows that traits common to conspicuous consumption are associated with Like-seeking behaviours. In particular, those who engage in deceptive Like-seeking, motivated by these traits, may experience weaker feelings of peer belonging, driving them to further deceptive Like-seeking. Considering traits common to conspicuous behaviours among social media users may help clinical practitioners to identify individual differences in Like-seeking behaviours online and potentially, identify those who may be at risk of subsequent risky behaviours and reduced wellbeing.

4.1. Limitations and future directions

First, we did not consider grandiose narcissism or other traits associated with deception, such as machiavellianism (Jonason et al., 2014). Second, the sample may suffer from self-selection bias, as respondents volunteered to participate. Furthermore, the study is cross-sectional. Longitudinal research could consider the relationship between the traits analysed, Like-seeking, and individuals' connectedness with peer networks in other samples, and offline status seeking. Finally, longitudinal studies could also explore the relationship between Like-seeking and risky behaviours among younger Instagram users. Clinical care may be informed by observing younger individuals' social media use and time spent on social media, and their Like-seeking behaviours. Work with younger Instagram users could include discussions about norms and deception on social media, and how norms might be revised to better navigate the online environment.

CRediT authorship contribution statement

Elaine Wallace: Conceptualization, Methodology, Validation, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Funding acquisition. **Isabel Buil:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Funding acquisition.

Declaration of competing interest

None.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.paid.2023.112175.

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