

Selfie posting behaviors are associated with narcissism among men



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ABSTRACT

Although many studies have investigated individual differences in online social networking, few have examined the recent and rapidly popularized social phenomenon of the “selfie” (a selfportrait photograph of oneself). In two studies with a pooled sample of 1296 men and women, we tested the prediction that individuals who score high on four narcissism sub-scales (Self-sufficiency, Vanity, Leadership, and Admiration Demand) will be more likely to post selfies to social media sites than will individuals who exhibit low narcissism. We examined three categories of selfies: own selfies; selfies with a romantic partner; and group selfies, controlling for non-selfie photographs. Women posted more selfies of all types than did men. However, women’s selfie-posting behavior was generally unrelated to their narcissism scores. In contrast, men’s overall narcissism scores positively predicted posting own selfies, selfies with a partner, and group selfies. Moreover, men’s Vanity, Leadership, and Admiration Demand scores each independently predicted the posting of one or more types of selfies. Our findings provide the first evidence that the link between narcissism and selfie-posting behavior is comparatively weak among women than men, and provide novel insight into the social motivations and functions of online social networking.

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1. Introduction

Social media, including online social networking sites such as Facebook and Twitter, have developed at an extreme rate over the last several years (Chou, Hunt, Beckjord, Moser, & Hesse, 2009; Kaplan & Haenlein, 2010). Common usages of social media, and its relative novelty, are related to an emergence of new psychological and social phenomena (Back et al., 2010; Błachnio, Przepiórka, & Rudnicka, 2013; Houghton & Joinson, 2010; Nadkarni & Hofmann, 2012; Ross et al., 2009), some of which have yet to be thoroughly investigated.

Many researchers have examined individual differences in social media usage. The results of these studies suggest that social media activity is related to characteristics of the Five Factor Model (Ross et al., 2009; Ryan & Xenos, 2011) and jealousy (Muise, Christofides, & Desmarais, 2009). Narcissism has also been shown to predict online social activity. Researchers have found that individuals characterized by relatively elevated narcissism are egocentric, have a sense of grandiosity, dominance, and entitlement, and

perceive themselves as more attractive and better than others, but – importantly – are still marked by insecurity (Fox & Rooney, 2015; Raskin & Terry, 1988). Researchers studying narcissism have generally suggested a positive association between this characteristic and social media usage (Buffardi & Campbell, 2008; Carpenter, 2012; Lee, Ahn, & Kim, 2014; McKinney, Kelly, & Duran, 2012; Mehdizadeh, 2010; Ryan & Xenos, 2011). However, closer examination of previous studies reveals many negative results, methodological limitations, or only partial confirmation of this thesis (Deters, Mehl, & Eid, 2014; McKinney et al., 2012; Panek, Nardis, & Konrath, 2013; Skues, Williams, & Wise, 2012).

Because narcissists tend to be exhibitionistic, attention seeking, and highly concerned with their physical appearance (Vazire, Naumann, Rentfrow, & Gosling, 2008), it seems logical to predict that narcissistic individuals may be more likely to post their pictures on social media than others. Narcissism has been found to be a significant predictor of the motivation for selecting profile pictures (Kapidzic, 2013), and narcissistic users are more likely to upload their attractive photos on social media than are less narcissistic users (Wang, Jackson, Zhang, & Su, 2012). Ong and colleagues (2011) additionally reported that narcissists assessed the attractiveness of their online pictures as unobjectively high (i.e., higher than ratings obtained from their peers). It remains unclear, however, whether narcissists post more pictures on social media than do others. For example, Ryan and Xenos (2011) did not find any

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significant relationship between narcissism and the number of profile pictures or number of tagged pictures posted on Facebook. Similar findings were reported by Ong and colleagues (2011).

Previous inconsistencies in studies examining links between narcissism and social media usage may be due to the possibility that narcissism is related to the posting of only a specific picture type, i.e., “selfies”. Because this word is relatively new and has yet to attain a definite, clear definition, we have operationalized the word selfie for the purpose of this study. Based on online dictionaries (Selfie, 2015a, 2015b) and other Internet sources we propose to define a selfie as: a self-portrait photograph of oneself (or of oneself and other people), taken with a camera or a camera phone held at arm’s length or pointed at a mirror, that is usually shared through social media. According to this definition (and consistent with real-life observations), selfies include not only self-portraits taken alone, but also photographs taken of oneself with a partner or a group of people.

Selfies in fact have a long history dating back to the early beginnings of photography. The first selfies are thought to have been taken independently by an American amateur photographer, Robert Cornelius, and an English inventor, Charles Wheatstone around the year 1840 (Wade, 2014). However, the most dynamic development in this phenomenon is its extreme and recent increase in usage in social media. According to the Oxford Dictionary, the word selfie was first used in 2002, and already within a decade, “selfie” was chosen as Oxford Dictionaries Word of the Year (Selfie, 2015a). Indeed, the word’s frequency increased in usage by 17,000% between the years 2012 and 2013. Presently, selfies are taken by millions of people all over the world every day, including politicians (Presidents Obama and Putin and the previous Iranian President Ahmadinejad), actors, musicians, sportsmen, and even astronauts in outer space. Surprisingly, there are practically no psychological studies regarding selfies, with the exception of one recent study assessing trait predictors of social networking site usage (Fox & Rooney, 2015). In this study, Fox & Rooney found that narcissism and psychopathy predicted the number of selfies posted by men.

Although the current study is not meant to be a replication of this work, as we began conducting the research before Fox and Rooney’s paper was published, our findings are an interesting extension of their results. In the present study, we are the first to test whether narcissism predicts selfie posting behavior in both men and women. In addition to analyzing the results separately for each sub-scale of narcissism (Self-sufficiency, Vanity, Leadership, and Admiration Demand), we divided selfie posting behavior into three meaningful categories: own selfies, selfies with a romantic partner, and group selfies, controlling for the total number of photos (excluding selfies) posted by each participant on social media sites. Moreover, conducting our study in Poland enables us to draw some conclusions regarding the cultural universality of relationships between narcissism and taking selfies.

2. Materials and methods

2.1. Participants

Study 1 included a total of 748 people (355 women and 393 men) aged between 17 and 47 years ($M = 21.64$; $SD = 3.41$). The participants were recruited from various university campuses across Poland. Study 2 included a total of 548 Facebook users (330 women and 218 men) aged between 14 and 47 years ($M = 23.72$; $SD = 4.39$), none of whom took part in Study 1. These participants were recruited through personal contacts by the authors and students of the authors’ University. All participants

provided informed consent prior to their inclusion in the study and were not compensated for their participation.

2.2. Measures

All participants completed the Narcissistic Personality Inventory (Raskin & Terry, 1988) Polish adaptation (Bazinska & Drat-Ruszczak, 2000). The Polish adaptation of the test revealed a different structure of narcissism than did the original version. The Polish scale consists of four factors (see Fig. 1).

Two scales: *Self-sufficiency* (Cronbach’s alpha for the Polish version – .70) and *Vanity* (Cronbach’s alpha for the Polish version – .76) were nearly identical to the original scales. However, in the Polish version, Authority also included a conviction that one has influence over others (e.g., high scores were related to the question, “I am talented in influencing others”). Therefore, the name of the Authority subscale was changed to *Leadership* (Cronbach’s alpha for the Polish version – .86). The scale *Admiration Demand* (Cronbach’s alpha for the Polish version – .86) reflects a need to be meaningful, noticed, admired, complimented by others and famous (Bazinska & Drat-Ruszczak, 2000).

We examined three categories of selfies: own selfies; selfies with a romantic partner; and group selfies (i.e., taken with one or more individuals, excluding ones romantic partner). We also examined the total number of photos (excluding selfies) posted by each participant on social media. In Study 1, we measured the self-assessed number of photos posted during the previous month on all types of online social networking sites (including Blibp, Facebook, Instagram, Snapchat, Twitter, Whatsapp, and two Polish sites, Fotka and Nasza Klasa). In Study 2, we measured the actual, total number of photos posted by each participant on Facebook.

2.3. Procedure

In Study 1, all participants completed a paper-and-pencil questionnaire containing questions related to their personality and their selfie-sharing activity during the previous month. We asked participants to count and report all types of selfies and non-selfie photos presented/uploaded/shared by the participants on all social media sites (including Blibp, Facebook, Instagram, Twitter, and two Polish sites, Fotka and Nasza Klasa) and those shared with the use of text messages or instant messaging applications (e.g., WhatsApp or Snapchat) in the past 30 days. Participants were recruited by the

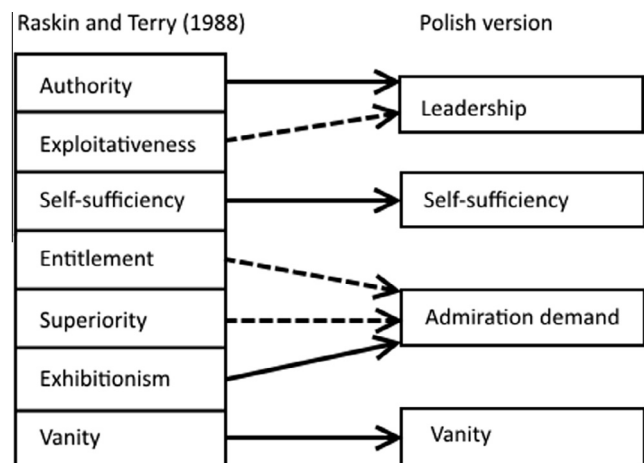


Fig. 1. Differences between narcissism subscales in the Narcissistic Personality Inventory (Raskin and Terry, 1988) and the Polish version of this test (Bazinska and Drat-Ruszczak, 2000). The comparison is based on Bazinska and Drat-Ruszczak (2000).

experimenters from various university campuses in Poland. Questionnaires were completed by the participants at home and handed back to the researchers in a sealed envelope on a scheduled day.

In Study 2, undergraduate research assistants from the authors' University volunteered to take part in the project as recruiters. These students recruited participants via their Facebook accounts to participate in a study regarding personality and Facebook usage. The participants were messaged individually with the use of Facebook chat; the message contained a request to take part in the study, a short explanation of the study purpose (i.e., 'the purpose of this study is to investigate relationships between personality and Facebook usage'), and an individually assigned link enabling the participant to complete the questionnaire. When a participant completed the questionnaire, his/her responses appeared in an anonymous database under an individually assigned code. Research assistants then counted the photos posted to each participant's Facebook page, categorizing them as own selfies, selfies with a romantic partner, group selfies, and non-selfies. Approximately 30 percent of all approached participants took part in Study 2.

3. Results

The number of selfies (own selfies, selfies with a romantic partner, and group selfies) posted by men and women in Studies 1 and 2 and results of paired sample *t* tests examining sex differences in selfie posting are given in Table 1.

We found that women participating in Study 1 declared posting significantly more own selfies and group selfies than did men. No sex differences were found with respect to selfies posted with a partner. These findings were supported by the results of Study 2, in which women published significantly more of all types of selfies to Facebook than did men (own selfies, selfies with a partner, and group selfies).

In order to determine the relationship between narcissism and posting solely selfie-type pictures via social media, we performed two-tailed partial correlations with an alpha level of .05, controlling for the total number of all other pictures uploaded by the participants.

All values of the first order correlation coefficients for men and women in Study 1 and Study 2 can be found in Table 2. Both the results of Study 1 and Study 2 indicated that, among men, all subscales except Self-Sufficiency correlated with the posting of one or more types of selfies. The majority of these correlations survived

Bonferroni correction for multiple comparisons, wherein 0.05/15 comparisons per sex = 0.003 (as indicated in Table 2). Men's overall total narcissism score positively predicted posting own selfies, selfies with a partner, and group selfies, wherein posting own selfies and group selfies survived Bonferroni correction. In the case of women, the narcissism subscale Admiration Demand was the only scale to significantly predict selfie posting behavior (own selfies in Study 1, and own selfies and selfies with a partner in Study 2, among which only the posting of selfies with a partner in Study 2 survived Bonferroni correction).

4. Discussion

The results of our study suggest that the summarized narcissism score obtained with the Narcissistic Personality Inventory scale (Raskin & Terry, 1988; Polish adaptation: Bazinska & Drat-Ruszczak, 2000) is significantly and positively correlated with posting selfies on social media sites. However, the link between narcissism and selfie posting is stronger among men than women. Women's overall narcissism scores were associated only with reported (rather than actual) number of own selfies posted online. Among men, the observed relationship was more robust, especially in the case of group selfies posted online. Our findings regarding men corroborate those reported previously by Fox and Rooney (2015) and provide the first evidence that the link between narcissism and selfie-posting behavior is weak among women compared to men.

Admiration Demand was the only narcissism subscale that significantly predicted selfie-posting among women. We observed significant relationships between women's Admiration Demand scores and their posting of own selfies and selfies with a romantic partner, but not group selfies. Similarly, Admiration Demand predicted number of selfies posted by men. However, in the case of men, Admiration Demand most strongly predicted the posting of group selfies. It should be noted that the correlations reported were rather weak (all less than $r = .22$).

Generally, all subscales of narcissism correlated with number of selfies posted by men. Men's leadership scores predicted selfies posted with a romantic partner and group selfies. This result might be associated with sex differences in the perceived importance of leadership or in power striving (Van Vugt, Hogan, & Kaiser, 2008), or may reflect sex differences in leadership styles (Eagly & Johnson, 1990). Similarly, the relationship between leadership and selfie-posting among men but not women might stem from the fact that men might be more likely than women to self-present online in order to obtain or maintain a leadership position. Further studies in this area are recommended.

Scores on the Vanity subscale correlated with the number of selfies posted by men but not women. We hypothesize that, in general, posting many pictures of oneself might not be as popular and socially acceptable among men compared to women and may reflect the self-fulfilling nature of social stereotypes (Snyder, Tanke, & Berscheid, 1977). Frequent posting of selfies by women could be related to their need for physically attractive self-presentation or an elevated need to belong in a group (in the case of group selfies), which may be relatively less important for men (see e.g., Manago, Graham, Greenfield, & Salimkhan, 2008). From this perspective, men posting many selfies on social media may have some special, psychological characteristics distinguishing them from the rest of the male population – and elevated vanity may be one such characteristic. Men with a low or average level of vanity might not be motivated to engage in highly self-presenting online behaviors.

Our findings together with the results of Fox and Rooney (2015), whose study utilized a large sample of American men,

Table 1
Number of selfies posted by men and women in Studies 1 and 2 and tests of sex differences in selfie posting.

	Women (N = 355) Mean (SD)	Men (N = 393) Mean (SD)	<i>t</i> ^a	df	<i>p</i>
<i>Study 1</i>					
Own selfies	6.68 (26.64)	3.26 (19.02)	2.03	746	<.05
Selfies with a romantic partner	1.21 (4.47)	1.72 (7.29)	-1.16	746	.26
Group selfies	6.12 (23.94)	2.64 (7.05)	2.75	746	<.01
Total selfies	14.01 (48.37)	7.62 (26.01)	2.28	746	<.05
<i>Study 2</i>					
Own selfies	3.41 (7.52)	2.04 (5.5)	2.33	546	<.05
Selfies with a partner	1.78 (4.24)	0.86 (2.57)	2.87	546	<.01
Group selfies	2.61 (6.09)	1.57 (3.65)	2.26	546	<.05
Total selfies	7.8 (13.36)	4.47 (9.26)	3.21	546	<.05

^a Paired sample *t* tests (two-tailed, alpha = .05) comparing mean number of selfies posted by men and women.

Table 2
First-order partial correlations between selfies of different categories and narcissism (controlling for the number of all other pictures).

	Women (N = 355)			Men (N = 393)		
	Own selfies	Selfies with a partner	Group selfies	Own selfies	Selfies with a partner	Group selfies
<i>Study 1</i>						
Admiration Demand	.14**	.02	.09	.19***	.11*	.22***
Leadership	0.1	<.01	.05	.05	.09	.12*
Vanity	0.1	.04	.04	.16***	.07	.19***
Self-sufficiency	.09	.09	.04	.05	.06	.08
Narcissism ^a	.14**	.04	.08	.15***	.11*	.20***
<i>Study 2</i>						
Admiration Demand	.12*	.18***	.08	.11	.04	.18**
Leadership	.02	.06	-.04	.02	.15*	.17*
Vanity	<.01	.04	-.02	.15**	.04	.19**
Self-sufficiency	-.05	.01	.02	.11	.10	.03
Narcissism ^a	.03	0.1	.02	.14*	.11	.21***

^a Narcissism total score.

*** Significant $p < .003$ (two-tailed, surviving Bonferonni correction).

** Significant $p < .01$ (two-tailed).

* Significant $p < .05$ (two-tailed).

suggest that the positive association between male narcissism and selfie posting behaviors may be present across a diverse range of cultures. Although some patterns of social media usage might depend heavily on cultural factors and may therefore be culturally specific, it seems that relationships between certain individual characteristics of social media users and their online behaviors might be robust enough to allow drawing general conclusions, at least across cultures with a widespread availability of online social networking or internet access.

Although our study utilized a large sample of men and women whose ages ranged from 14 to 47, it did not include young children or older adults, many of who use online social networking sites (Livingstone, Ólafsson, & Staksrud, 2011; Pfeil, Arjan, & Zaphiris, 2009). Younger and older people differ both in their use of social networking sites (e.g., MySapce, Pfeil et al., 2009), and in reported levels of narcissism (Foster, Keith Campbell, & Twenge, 2003), suggesting that online selfie posting behaviors may vary among age groups. This is an important research question for future work. In the present study we measured narcissism using an adaptation of the Narcissistic Personality Inventory, NPI (Raskin & Hall, 1979; Raskin & Terry, 1988). Although the NPI is the most widely used measure of narcissism, and has been for the past four decades, some researchers have expressed concerns about its conceptualization and the subscales used in this measure (reviewed in Ackerman et al., 2011).

5. Conclusion

In summary, although researchers have investigated correlates of narcissism in social media usage (Lee et al., 2014; McKinney et al., 2012; Mehdizadeh, 2010), in our study we tested whether narcissism subscales predicted selfie-posting on social media and whether this relationship differed between men and women. We found that relationships between narcissism and selfie-posting differed as a function of user sex, type of selfie, and type of narcissism subscale. In general, narcissism predicted selfie-posting behavior more strongly among men than women.

Despite the fact that most online social networking sites such as Facebook and Twitter were launched within the past decade, already tens of millions of people around the world take part in online social networking. Yet the social, cognitive and psychological implications of such computer-mediated interaction remain largely unknown. Our findings, which connect the rapidly increasing social phenomenon of posting selfie photographs to various online sites with narcissistic tendencies particularly among men,

support the hypothesis that the motivations and functions of online social networking may in part reflect strategic self-presentation. Further studies of this type may provide new insights into how social networking allows people to manage and develop not only their social networks, but also their self-concept.

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