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### Narcissism and the Selfie: Investigating Millennial Narcissism on Instagram

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<https://dx.doi.org/10.32597/honors/109/>

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HONS 497  
Honors Thesis

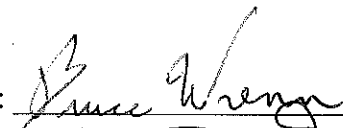
Narcissism and the Selfie: Investigating Millennial Narcissism on Instagram

Megan Reed

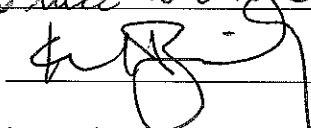
April 6, 2015

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Handwritten signature of Bruce Wrenn in black ink, written over a horizontal line.

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Department: Management, Marketing and Information Systems

## **Abstract**

Recent studies revealed a correlation between self-promoting images on social media and higher levels of narcissism. This research further examined the relationship between narcissism and use of social media by determining the proportion of selfies an individual posts on Instagram and narcissism among millennials. The proportion of pictures that were selfies was measured in two ways: in the subject's past 4-weeks of picture posting and in the last 30 pictures the subject posted. The standard Narcissistic Personality Inventory (NPI) was used to measure the subject's level of narcissism. Correlation analyses revealed that no correlations were found between the NPI score and the proportion of selfies posted among the total subject pool, however, among subjects who do post selfies, there was a correlation approaching significance.

## **Introduction**

For the millennial generation, today's world is full of tweeting, photo sharing, and scrolling as nearly 90% of Internet users between the ages of 18-29 actively use social networking sites (Pew Research Center 2014). In conjunction with the prevalent use of social networking sites (SNS), certain photo-posting trends have developed, one of them being the "selfie" (Kemp 2014). A selfie is a photograph one has taken of oneself, typically taken with a smartphone or webcam and uploaded to a social media website. A popular SNS where selfies are posted and viewed by millennials is Instagram, an online mobile photo-sharing, video-sharing, and social networking site in which users are able to take pictures and videos and share them on various social media platforms. The practice of posting selfies on social networking sites is often viewed as a narcissistic behavior seeking self-glorification and affirmation. Interestingly, recent research found that the millennial generation is more narcissistic than previous generations (Twenge et al. 2008; Lunbeck 2014). The rise in the use of SNS, which are often viewed as reinforcing and creating outlets for narcissistic tendencies of self-promotion, and the increase of narcissism in the millennial generation raises questions of whether there is a relationship between particular types of SNS usage and millennial narcissism. The goal of this research is to investigate whether there is a correlation between the proportion of selfies an individual posts on Instagram and millennial narcissism levels.

### *Background and Rationale*

Recent research shows a correlation between self-promoting material on social media and higher levels of narcissism (Buffardi and Campbell 2008; Bergman et al 2011; McKinney, Kelly, Duran 2012; Mehdizadeh 2010). Subclinical narcissism is a personality trait reflecting a grandiose and inflated self-concept associated with a need for admiration (Buffardi and

Campbell 2008). Buffardi and Campbell found that narcissism is related to more self-promoting content in several aspects of one's Facebook page including the main photo, "about me" section, and self-promoting quotes. Bergman and his colleagues studied the link between narcissism and the motivation for social networking site activities by looking at Facebook and found that narcissism predicted reasons why millennials use social networking sites. These reasons included: having as many friends as possible, projecting a positive image, and believing that their friends were interested in their posts. Bergman's study found that narcissism was only related to posting self-focused pictures and was unrelated to posting pictures of friends and engagement in other-focused activities.

McKinney and his colleagues examined two social media platforms, Facebook and Twitter, and found that higher levels of narcissism were associated with a larger number of Facebook friends and the number of self-focused tweets an individual posted on Twitter. These studies suggest that an individual's self-promotional photos as well as the number of friends that the individual has in their network indicate higher levels of narcissism.

What remains unclear from these studies is whether Facebook is the most relevant social media platform for millennials and the objectivity of the self-promotional material measured in the studies. This study uses a relevant platform that is an appropriate measure of the millennial demographic and objectively defines self-promotional material. Millennials, defined according to Pew Research, are between the ages of 18 to 33 (age range according to 2014). This study primarily focuses on the younger millennials between the ages of 18 and 24. The social media platform that is used is Instagram which better reflects the trends of millennial users.

In a 2013 report by Business Insider Intelligence, 83% of 18 to 29-year-olds who use the Internet are on Facebook. Although there are a large percentage of Internet users in the 18 to 29-

year-old demographic on Facebook, Facebook is not the most important site for young millennials. A survey done by Piper Jaffray Research in 2013 shows that Instagram is the most important social media site for teens. Instagram experienced growth from the fall of 2012 to the fall of 2013 from 12% to 23% in terms of being the most important social media site while Facebook experienced a decline from 42% in the fall of 2012 to 23% in the fall of 2013. A more recent study by Piper Jaffray in 2014 shows that the percentage of teens using Instagram has increased from 69% in the spring of 2014 to 76% by the fall of 2014. Facebook usage has plummeted from 72% in the spring of 2014 to 45% by the fall of 2014. Therefore, the research shows that although there are a large number of millennials on Facebook, Instagram is viewed as the most relevant and important platform for young millennials.

#### *Aims and Hypotheses*

The objective measure used for self-promotional material is the proportion of selfies a participant posts on Instagram. A selfie is defined as a photograph that one has taken of oneself, typically taken with a smartphone or webcam and uploaded to a social media website. Since it is a picture of oneself taken by the individual, it serves as an objective measure of self-promotional material in regards to the narcissistic traits of maintaining a grandiose view of self as well as a need for admiration.

Hypothesis 1: Narcissism will be positively related to the proportion of selfies posted in the past four weeks.

Hypothesis 2: Narcissism will be positively related to the proportion of selfies posted in the latest 30 pictures.

The role of how many followers a participant has compared to how many people the participant is following is part of this study and gives deeper insight into how large social networking sites can affect one's level of narcissism.

Hypothesis 3: There will be a positive correlation between narcissism and the ratio of the number of followers to the number following.

## **Methodology**

### *Participants*

Participants in this research consisted of 101 Andrews University undergraduate students recruited from the Behavioral Sciences Research Participation Pool, J.N. Andrews Honors program, and the School of Business. Participants who fell outside of the millennial generation age range (18 – 25 years old) and did not post a picture on Instagram within the past four weeks were eliminated, resulting in a final sample of 64. The final sample had a mean age of 19.88 years,  $SD = 1.37$ , ranged from 18 to 25, was 81.2% female, 35.9% White, 29.7% Black, 20.3% Asian, and 14.1% Hispanic.

### *Materials*

After agreeing to participate in the research study, participants were administered a brief two-part online questionnaire through LimeSurvey 2.05+. The first section assessed the participant's level of narcissism using the Narcissistic Personality Inventory (Raskin and Terry 1988). The Narcissistic Personality Inventory (NPI-40), a commonly used measure of non-clinical narcissism, is a 40-item forced choice personality questionnaire designed for use on the normal population. Subjects respond to items by choosing one of two statements. Sample



statement items include “I prefer to blend in with the crowd” versus “I like to be the center of attention” and “I am more capable than other people” versus “There is a lot that I can learn from other people.” Total scores can range from 0 to 40 with higher scores indicating greater levels of narcissism. For the current study, scores ranged from 3 to 31 ( $M = 15.02$ ,  $SD = 6.26$ ,  $\alpha = .80$ ,  $\beta = .59$ ,  $\omega = .41$ ).

The second section of the questionnaire required demographic information including the participant’s age, ethnicity, gender, and Instagram username.

### *Procedure*

Data concerning the participant’s photo-posting activity and Instagram usage was collected through an Instagram account independent of the researcher’s personal Instagram account. The number of selfies for each participant was recorded based on the definition of “selfie” outlined in the introduction. The following three variables were collected and recorded for each participant: the proportion of selfies posted (see below), the ratio of number of followers to the number following, and whether the participant’s profile was public or private.

As there is currently no published research on narcissism and selfie posting activity on Instagram, there were two measures used to record the proportion of selfies posted. By having two different measures, we hoped for a better understanding of selfie posting activity. The first measure recorded the proportion of selfies posted in the subject’s past 4-weeks of picture posting. This method held weeks constant allowing the amount of photos to vary. The second measure recorded the proportion of selfies posted in the subject’s latest 30 pictures. This method held the amount of photos constant allowing the week range to vary. The two methods used to

measure selfie posting activity were proven to be reliable measures as they exhibited a positive correlation relationship ( $r = .65$ ).

### *Analysis*

Alpha, beta, and omega were calculated for the NPI-40 ( $\alpha = .80$ ,  $\beta = .59$ ,  $\omega = .41$ ). The rationale behind calculating and reporting alpha, beta, and omega is that important information concerning the properties of the scale may be missing if the researcher only reports alpha (Zinbarg et al 2005). Although a particular level of alpha, usually at least .8 is desired; analyzing only alpha ignores the dimensionality and overall construct validity of the scale. Beta and omega measure the internal consistency of an inventory by measuring the correlations between different items on the same inventory. By representing beta and omega, potential intercorrelations are also presented (Schmitt 1996). The report of omega is significant as it reveals that the NPI-40 is measuring several factors instead of ideally measuring one single factor.

The total score for the NPI-40 was calculated for each participant. A Pearson correlation analysis was run with the following four variables: proportion of selfies posted in the past 4 weeks, proportion of selfies posted in the latest 30 pictures, the ratio of followers to following, and the NPI-40 score. The frequency of selfie posting was examined and then a second correlation analysis was run excluding the participants who did not post any selfies in the past 4 weeks. The five variables used in that analysis included: proportion of selfies posted in the past 4 weeks, proportion of selfies posted in the latest 30 pictures, the ratio of followers to following, and the NPI-40 score.

## Results

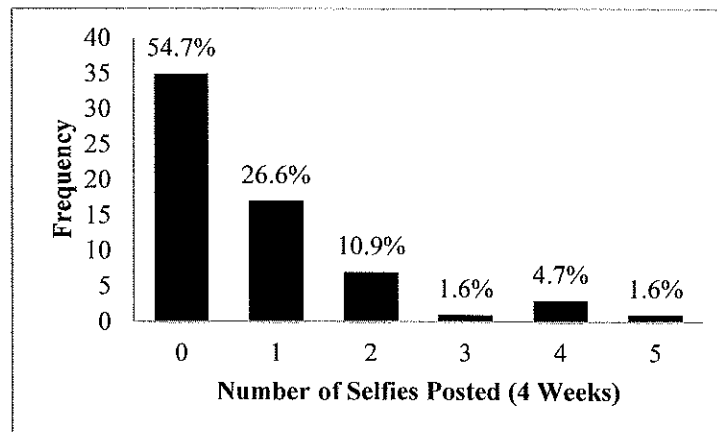
No correlations were found between the NPI score and the proportion of selfies posted in the past four weeks, the NPI score and the proportion of selfies posted in the past 30 pictures, and the NPI score and the ratio between number of followers to number of following. A positive correlation was found between the proportion of pictures posted in the past four weeks and the proportion of pictures posted in the past 30 pictures.

**TABLE 1:** No Correlation between NPI Score and Self-Promoting Activity on Instagram

Measure	1	2	3	4
1. Proportion of Selfies (4 Weeks)	--			
2. Proportion of Selfies (30 Pictures)	.65**	--		
3. Ratio of Followers to Following	.01	-.10	--	
4. NPI-40 Score	.09	.18	.03	--

\*\*  $p < 0.01$

To further investigate the lack of correlation between the NPI score and self-promoting activity on Instagram, an analysis was performed to understand the number of selfies each participant posted in the past four weeks. The results found that 54.7% of the 64 participants posted zero selfies in the past four weeks ( $M = .80$ ,  $S = 1.17$ ).



**Figure 1** Number of Selfies Posted

Considering the results of the number of selfies posted in past four weeks, an additional Pearson correlation was administered excluding participants who did not post any selfies in the past four weeks ( $N = 29$ ). A correlation approaching significance was found between the NPI-40 score and the proportion of selfies posted in the past 30 pictures ( $r = .34, p < 0.1$ ).

**TABLE 2:** Correlation between NPI Score and Proportion of Selfies (30 Pictures)

Measure	1	2	3	4
1. Proportion of Selfies (4 Weeks)	--			
2. Proportion of Selfies (30 Pictures)	.70**	--		
3. Ratio of Followers to Following	.34 <sup>†</sup>	-.07	--	
4. NPI-40 Score	.24	.34 <sup>†</sup>	.16	--

\*\*  $p < 0.01$

<sup>†</sup> $p < 0.1$

### Discussion

Existing research suggests that there is a correlation between self-promoting material on social media and higher levels of narcissism. The objective of this study was to increase the existing knowledge of social media and narcissism by exploring new social media platforms and photo-posting practices that better reflect the millennial generation. The hypotheses that there would be a positive correlation between the relationship between the NPI score and the proportion of selfies posted in the past four weeks, the NPI score and the proportion of selfies posted in the past 30 pictures, and the NPI score and the ratio between number of followers to number of following were rejected as there was no significant correlation between the variables when all subjects were considered.

However, among subjects who do post selfies, there is a correlation approaching significance. In examining the data, it became evident that there could be a floor effect. Over 50% of the sample participants did not post any selfies in the past four weeks, which was

possibly influencing the results of the data. When participants who did not post any selfies in the past four weeks were excluded from the correlation analysis, a correlation was found between the NPI-40 score and the proportion of selfies posted in the past 30 pictures. Although the sample size was nearly half of the original sample size ( $N=29$ ), the analysis shows that there is a correlation approaching significance between the NPI-40 score and the proportion of selfies posted in the past 30 pictures.

### *Implications*

The results of the study imply that the proportion of selfies posted does seem to be related to the level of narcissism of some participants, namely those who post selfies at least once a month. The relationship between selfie posting and narcissism is heavily influenced by the frequency of selfies posted as well as the regularity in which the selfies are posted. Measuring the number of selfies posted in the past four weeks accounts for frequency and the proportion of selfies posted in the latest 30 pictures accounts for regularity. The implication of this relationship is that to best understand the relationship between millennial narcissism and selfie posting activity on Instagram, the participation pool must consist of subjects who post selfies relatively frequently and regularly.

The results of the study also imply that there could be a difference between individuals who post selfies and those who do not. When the study specifically looked at the participants who did post selfies in a four week period ( $N =29$ ), there was a correlation approaching significance between the proportion of selfies posted in the past 30 pictures and the NPI-40 scores. There is reason to believe that with a higher sample consisting of participants who do post selfies there could be a stronger correlation. Of the 29 participants who did post at least one

selfie in the past four weeks, only 41.4% posted more than one selfie in that four-week period. What that shows is that even in the sample of those who did post selfies, the frequency of posting selfies in the past four weeks was relatively low.

Concerning the sample that did post more than one selfie in the past four weeks there are questions concerning whether posting more selfies in the four week period is associated with higher levels of narcissism. With a larger sample size of individuals who do post selfies, a correlation analysis could be used to determine if more selfie posting correlates with a higher narcissistic score. In examining the practice of posting selfies and its relationship to narcissism, there is reason to believe that either posting selfies frequently increases ones narcissistic level or some narcissists are prone to post more selfies.

The results collected from this research are consistent with previous research findings that found a correlation between self-promoting images on social media and higher levels of narcissism (Buffardi and Campbell 2008, Bergman et al 2011). The importance of this study is that it contributes to the existing body of knowledge concerning millennial narcissistic behavior on social media through investigating narcissism on popular social media platform that is commonly used by millennials. The social media platform used in this study, Instagram, is a current platform that better reflects the trends of millennials compared to previous studies that observed narcissistic behavior on Facebook or Twitter. The method used to measure narcissism by selfie posting also better reflects the habits and trends of the millennial population. An important implication of this research is that in order to really understand an evolving generation, the research should reflect social media platforms and practices that are common to the millennial generation.

### *Limitations*

There were three significant limitations that affected the results of the data. The first limitation was the small sample size. The study examined the behavior of only 64 participants. A larger sample size would give a better indication of selfie-posting activity to assess potential correlations. The relationship between narcissism and selfie-posting could possibly exhibit itself differently in a larger population.

The second limitation was that the sample consisted of participants with low selfie-posting activity. Of the 64 participants, over 50% did not post any selfies in the past four weeks. When those participants were excluded from the sample, of the participants who did post selfies there was a correlation approaching significance between the proportion of selfies posted in the past thirty pictures and the participant's narcissistic score ( $N = 29$ ). A larger sample size of participants who do post selfies would reveal the strength of the correlation between selfie-posting and narcissism.

The third limitation is the demographic of the sample. All of the participants attend Andrews University, a conservative Adventist institution. Adventist beliefs strongly admonish activities that promote self-glorification and excessive preoccupation with self. The participants could be influenced by these beliefs which further influence their behavior. This conservative sample did not strongly reflect the norms of the general millennial population that is referenced in recent research.

### *Conclusion*

There is still reason to believe that there could be a strong positive correlation between the proportion of selfies an individual posts on Instagram and millennial narcissism. When the

sample consisted only of participants who posted at least one selfie in the past four weeks, there existed a correlation approaching significance between the proportion of selfies posted in the past 30 pictures and the NPI-40 scores.

The lack of significant positive correlation in this study is possibly due to low sample size, low selfie-posting activity, and homogeneity concerning religious influence of the sample pool. A larger amount of participants and a diversified sample including more individuals who more frequently post selfies would be a better measure to use in order to see whether there is a relationship between selfies posted on Instagram and millennial narcissism.

A suggestion for further research on this topic is to use a larger sample pool of students that better represent the varying beliefs and views of self in the millennial generation. Additional research could also be done on the Seventh-day Adventist millennial generation to see whether upholding certain beliefs that hold a higher importance on serving others rather than glorifying self tend to influence millennial behavior that is uncharacteristic of the general population. In terms of expanding the realm of knowledge in understanding millennial trends and narcissistic behavior, it is important that the medium studied matches the practices of the cohort. This study expanded the realm of knowledge with the narcissistic practice and platform reflecting the common usage and behaviors of the studied cohort. Therefore, it is recommended that researchers not only continue to investigate the nuances of the millennial generation on social media platforms, but they must also keep up with the common social media practices of this growing group. Understanding what drives the millennial cohort is vital in order to process an accurate portrayal of their behavior and how they develop and shape behavioral norms that ultimately affect society.



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