Narcissism as a Predictor of Motivations Behind Facebook Profile Picture Selection

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Abstract

The rising popularity of social networking sites raises the question of whether and how personality differences are manifested on them. The present study explores this topic through an analysis of the relationship between narcissism and motivations behind Facebook profile picture selection. A survey that assesses motivations emphasizing physical attractiveness, personality, and social ties was conducted with 288 undergraduate students. The study found narcissism to be a significant predictor of the motivation for selecting profile pictures that emphasize attractiveness and personality for both men and women. The findings are discussed in terms of the dynamic self-regulatory processing model of narcissism.

Introduction

IN RECENT YEARS, there has been an increase in human interactions that take place in the online sphere. People are forming and maintaining relationships online, spanning the professional, social, and romantic realms. With the popularization of social networking sites (SNS), these interactions have become less anonymous; users frequently communicate with networks of loosely connected online and offline friends and acquaintances.[1] In such environments, users invest great effort into managing an online identity that represents them in the best possible way.[2,3] Personality differences play an important role both in the motivations behind the use of SNS,[4] and in the way users create and maintain their identity on them.[5] Narcissism, especially, is linked to prominent aspects of self-presentation such as the frequency of status updates,[6] or the amount of self-promoting content displayed.[7] SNSs provide narcissists with both an audience and a stage for highly controlled self-presentation.[8] Although there is an evident relationship between narcissism and a number of aspects of self-presentation, its possible connection to the underlying motivations behind presentation strategies has not yet been thoroughly explored.

The broad goal of this study is to contribute to the growing body of research at the intersection between psychology and social media. The main focus is the relationship between narcissism and the motivations behind self-presentation through profile pictures. Profiles on SNS can serve as a platform for narcissistic individuals to emphasize aspects that might maximize the possibility of gaining admiration. Profile pictures are one of the features that users attribute most im-

portance to when presenting themselves to their audience.[3] Thus, an important self-presentation strategy could be the selection of pictures that accentuate the self-image which users wish to convey. While it is essential to examine user profile pictures in relation to personality differences, the relationship between personality and the motivations that underlie picture choice should not be neglected. This study aims at addressing this topic by exploring whether narcissism influences motivations behind the selection of profile pictures. The study divides motivations into three categories that emphasize physical, personal, and social factors, and explores their relationship to narcissism. It aims at advancing the understanding of how personality differences influence motivations behind self-presentation strategies on SNSs.

SNS sand Self-Presentation

Users of SNSs such as Facebook manage their online presentation through textual and visual cues.[9] Images, especially, are a crucial tool in this process.[2] Profile pictures on SNS are a feature that can frequently be viewed by everyone on the network,[1] and are considered one of the most important aspects of online self-presentation.[3] Studies analyzing self-presentation in various online environments have found that users strategically manipulate visual cues to reflect an ideal, rather than their actual, self.[3] Online dating participants, for example, frequently choose favorable images such as ones in which they appear thinner and more attractive.[10] Studies analyzing motivations for profile picture selection all point to distinct gender differences. The most frequent motivations for women's image choice are attractive looks,[11]

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while men tend to choose images that depict them as active and fun loving.[12] Furthermore, users, especially women, attribute importance to the display of social ties (e.g., romantic partners).[12]

Narcissism and Online Self-Presentation

Recent research indicates that not only gender, but also personality is related to online behavior.[4,13,14] Narcissism, especially, is correlated to self-presentation strategies on SNS.[5–7] SNSs are favorable for the manifestation of narcissistic behavior, as they offer individuals an environment in which they can present a selective and controlled construct of themselves to an audience.[15] Research indicates that individuals who are high in narcissism have a highly inflated, positive self-concept[16] and are concerned with their physical appearance.[17] This is reflected in the online profiles of narcissists: Research on the relationship between narcissism and SNS indicates a significant link between higher levels of narcissism and more attractive appearance in profile pictures,[5] higher ratings of the profile owner's attractiveness,[6] and content that seems to persuade the viewer of the account holder's positive traits.[7]

Theoretical Framework

The present study aims at adding to this body of research by focusing on the selection process of pictures for self-presentation. The dynamic self-regulatory processing model of narcissism proposed by Morf and Rhodewalt[8] might serve as a theoretical basis for the study of the relationship between narcissism and motivations behind profile picture choice. The model builds on descriptions of narcissism from previous work (e.g., low intimacy striving,[18] viewing oneself as superior,[19] and overestimation of own attractiveness[20]), adding "the goals of how individuals would like to see themselves and be seen by others,"[21(p. 57)] as the main element of narcissistic personalities. While the core goals tend to stay the same, the ways in which narcissists try to achieve them vary as they adapt to the changing environment.[21] Thus, narcissists continually engage in a dynamic construction of self both internally and through interpersonal interactions.[8,21(p. 57)] In intrapersonal processes, narcissists interpret outside events favorably to maintain a positive view of themselves,[21(p. 59)] but since narcissistic individuals have a "grandiose, yet vulnerable self-concept,"[8(p. 178)] they also seek affirmation of this positive self-view through interpersonal interactions.[8] Such interactions comprise "behaviors through which people actively try to influence their social images and the impressions they make in interpersonal encounters."[21(p. 58)] It follows that narcissistic individuals are more concerned with the impressions they make, and might be more highly motivated than others to garner positive feedback from their environment. Online interactions, especially on SNSs, are favorable for impression management, as they provide the possibility of presenting a selective version of the self to one's network.[15] Nevertheless, the specific motivations that guide narcissists when constructing their online presentation are unclear. This study attempts to partially explore this topic by examining what motivations guide narcissistic individuals in their selection of a prominent feature of an online profile, the profile picture. Both the model and previous research suggest that

narcissists invest great effort into appearing positive and successful.[16] When choosing profile pictures, narcissistic individuals may, thus, be motivated to emphasize features that will result in positive feedback and admiration. Visual presentation is limited in that some features are more easily manipulated than others. It is, for example, difficult to convey a sense of power or intelligence through a picture. Showcasing attractiveness, personality, and connections to other people, on the other hand, is simple. Therefore, the motivations to select images in which the latter three aspects are emphasized are the focus of this study.

Given the paucity of research on the relationship between narcissism and the motivations behind self-presentation strategies on SNSs, the first research question asks:

> *RQ1: Is there a relationship between narcissism and the motivation to select profile pictures that emphasize attractiveness, personality, and social ties?*

Considering that the dynamic processing model points to possible gender differences in the display of narcissistic characteristics, suggesting that typical narcissistic behavior is displayed more often by men than women,[8] the second research question asks:

> *RQ2: Will gender moderate the relationship between narcissism and the motivation to select profile pictures that emphasize attractiveness, personality, and social ties?*

How could the relationship between narcissism and these types of motivation manifest itself? Narcissistic individuals have a positive view of their physical appearance,[17] overrate their own attractiveness,[20] and might, therefore, consider the display of their good looks as a way to gain admiration from others. Thus, users who are high in narcissism may be motivated to select pictures in which their physical attractiveness is emphasized more than in the case of users who are low in narcissism. Furthermore, individuals with high levels of narcissism believe that they have unique personalities,[18] are better than others,[16] and exaggerate their positive personality traits.[22] To affirm themselves and to be admired by others, narcissistic individuals may, therefore, be motivated to select images that depict their personality and lifestyle more than users with lower levels of narcissism. The processing model of narcissism also poses that narcissists are mainly interested in interpersonal relations with the goal of affirming their self-concept.[8] They do not look for approval but seem to need others to provide admiration[23] without interest in their concerns and needs.[8] Hence, individuals who are high in narcissism may be less motivated to display interpersonal connections in profile pictures than those who are low in narcissism.

In order to accurately evaluate these relationships, the study also controls for variables that are correlated to narcissism and SNS. Age, for example, is correlated to both narcissism and the use of SNS. Higher levels of narcissism are more evident at a younger age.[24] Younger individuals also use SNS more than those older than thirty,[25] which may influence the motivations behind their visual self-presentation. A further variable that needs to be taken into account is self-esteem. Differences in self-esteem are correlated to types of visual online presentation.[7] In addition, there is a significant relationship between narcissism and self-esteem.[26] Finally, it

is also important to consider how intensely users engage in SNS. To minimize the effects of these variables on motivations behind image selection, they were controlled for in the analysis.

Method

Participants and procedures

Two hundred eighty-eight students were recruited from communications courses at a large Midwestern university to participate in an online survey consisting of approximately 90 items, and received course credit for partaking. The participants ranged in age from 18 to 25 years ($M = 19.45$, $SD = 1.37$), and approximately half were women (51 percent). The majority of the participants were Caucasian (82 percent), and the remaining were Asian (9 percent), African American (3 percent), and Latino (3 percent). Three percent of the sample did not report their race.

Measures

Narcissism was assessed using the Narcissism Personality Inventory (NPI)-16 developed by Ames et al.[26] on the basis of the 40-item NPI-40.[27] Participants were asked to read 16 pairs of statements and check the one that came closest to describing their beliefs about themselves. Example pairs included: *I am going to be a great person./I hope I am going to be successful.* Respondents scored between 0 and 16, and higher scores were reflective of higher narcissism. The reliability for this sample was the same as the original reliability of the scale ($\alpha = 0.69$).[25]

Motivation attractiveness was measured by a newly created index of four items that was used to assess the importance which participants attributed to attractive images. The index was based on a questionnaire developed by Siibak[11] to assess motivations for profile picture selection. Items such as *I look physically fit in the picture* were rated on a five-point Likert scale ranging from strongly agree (5) to strongly disagree (1). The index was reliable (Chronbach's $\alpha = 0.78$).

Motivation personality was measured by an index of three items created to assess the importance participants attributed to reflections of their personality in profile pictures. The index was based on a questionnaire that was used to assess motivations for picture selection.[11] Items such as *The picture describes my lifestyle* were rated on a five-point Likert scale (Chronbach's $\alpha = 0.74$).

Motivation social ties were measured by a newly created three-item index that was designed to assess the importance which participants attributed to the display of social connections in profile images. The items in the index were based on a questionnaire that was designed to evaluate motivations for image choice.[11] Example items included *My boyfriend/girlfriend accompanies me in the picture* and were rated on a five-point Likert scale. The index was reliable (Chronbach's $\alpha = 0.76$).

Self-esteem was measured using the Rosenberg Self-Esteem Scale.[28] This 10-item scale has an original reliability of $\alpha = 0.72$. Participants rated ten items, including statements such as *I take a positive attitude toward myself.* The RSES is a 4-point Likert scale, ranging from strongly disagree (0) to strongly agree (3). Scores ranged from 0 to 30, with higher scores indicating higher self-esteem. The reliability for this sample was $\alpha = 0.86$.

Facebook use was measured using an adaptation of the Facebook Intensity Scale developed by Ellison, Steinfield, and Lampe.[29] Six items from the original scale (e.g., *Facebook is part of my everyday activity*) were rated on a five-point Likert scale, ranging from strongly agree (5) to strongly disagree (1). Averages were computed for each participant to describe their Facebook use. The original scale has a reliability of $\alpha = 0.83$,[29] while the reliability for the adapted index in this sample was $\alpha = 0.84$.

Results

The means, standard deviations, and the correlations between all variables are reported in Table 1. Diagnostic statistics produced by linear regression analysis were conducted because of the correlation between the predictor and a control variable. A high tolerance value of above .94 and a low variance inflation factor (VIF) of below 1.1 show an acceptable degree of multicollinearity,[30,31] indicating that the correlation between them does not impact the validity of the results for the individual variables.

In order to, in part, address the first research question about the relationship between narcissism and the motivation to select profile pictures that emphasize the attractiveness of the user, hierarchical regressions were conducted. The three control variables, age, Facebook use, and self-esteem, were entered into the analysis in the first step. The predictor variable, narcissism, was entered in the second step. The analysis revealed the control variables to be a significant predictor of the emphasis on attractiveness, $F_{change}(1, 284) = 14.24$, $p < 0.001$. Nevertheless, even when controlling for the age,

TABLE 1. MEANS, STANDARD DEVIATIONS, AND SIMPLE CORRELATIONS FOR ALL VARIABLES ($N = 288$)

Variable	M	SD	1	2	3	4	5	6	7
Baseline									
1. Age	19.45	1.37							
2. Gender	—	—	0.18**						
3. Mot. attract.	4.07	0.63	−0.11	0.11					
4. Mot. person.	3.69	0.74	−0.09	−0.11	0.19**				
5. Mot. societies	2.59	0.91	0.08	0.09	0.19**	0.16**			
6. Facebook Int.	3.75	0.80	−0.22**	0.27**	0.22**	0.13*	0.01		
7. Self-esteem	22.51	4.44	−0.01	0.02	0.29**	0.19**	−0.01	0.05	
8. Narcissism	5.59	3.11	0.06	−0.13*	0.18**	0.23**	0.04	0.36	0.23**

Means and standard deviations are not provided for categorical variables *$p < 0.05$. **$p < 0.01$.

TABLE 2. HIERARCHICAL REGRESSION FOR NARCISSISM IN PREDICTING MOTIVATIONS TO DISPLAY ATTRACTIVENESS

Variable	B	SE	β	R^2 change
Step 1				
Age	−0.03	0.03	−0.06	
Facebook use	0.15	0.04	0.19**	
Self-esteem	0.04	0.01	0.25***	0.13***
Step 2				
Narcissism	.02	.01	0.12*	0.01*

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Facebook use, and self-esteem of the participants, narcissism was found to be a predictor of the motivation to select pictures in which attractiveness was emphasized, $Fchange(1, 283) = 4.39$, $p = 0.037$ (see Table 2).

The first research question also asked about the relationship between narcissism and the motivation to select profile pictures that emphasize the personality of the user. In order to test this relationship, a hierarchical regression was conducted. The predictors in the analysis remained the same as for the first hypothesis. The analysis revealed the control variables to be a significant predictor of the motivation to highlight personality, $Fchange(1, 284) = 5.54$, $p = 0.001$. Narcissism was found to be the strongest predictor of the motivation to select profile pictures that emphasize the personality of the user, $Fchange(1, 283) = 12.14$, $p = 0.001$ (see Table 3).

Lastly, the first research question asked about the relationship between narcissism and the motivation to emphasize social ties in profile pictures. A hierarchical regression containing the same control and predictor variables revealed that age, Facebook use, and self-esteem were not significant predictors of such a motivation. Narcissism was not found to be a predictor of the motivation to display social ties, $Fchange(1, 281) = 0.37$, $p = 0.546$.

The second research question asked whether the relationship between narcissism and the motivations behind profile picture choice was moderated by gender. In order to test this relationship, hierarchical regressions were conducted for each motivation type. The predictors in the analyses remained the same, except that a third step that incorporated the moderating variable and a fourth step with the interaction terms were added. The analyses did not reveal any significant interactions between levels of narcissism and gender on the motivation to select profile pictures that emphasized attractiveness, personality, or social ties (see Appendix Tables A1–A3).

TABLE 3. HIERARCHICAL REGRESSION FOR NARCISSISM IN PREDICTING MOTIVATIONS TO DISPLAY PERSONALITY

Variable	B	SE	β	R^2 change
Step 1				
Age	−0.04	0.03	−0.08	
Facebook use	0.09	0.05	0.10	
Self-esteem	0.03	0.01	0.14**	0.06**
Step 2				
Narcissism	0.05	0.01	0.20**	0.04**

**$p < 0.01$.

Discussion

This study set out to explore the relationship between narcissism and motivations behind the selection of profile pictures. Motivations were divided into three categories that emphasized physical, personal, and social factors, and the analyses revealed narcissism to be a predictor of the first two motivations. These findings are important, because they add to the research on the relationship between personality differences and self-presentation strategies on SNSs. The results that users with higher levels of narcissism have different motivations than those with low levels of narcissism when selecting profile pictures on Facebook, imply that personality might also influence motivations behind other behavior and usage of the site. The results are discussed in relation to the theoretical framework and existing literature.

The dynamic self-regulatory processing model posits that narcissism is both an internal and interpersonal process.[8] Narcissistic individuals not only have a highly positive concept of themselves, but also need constant external affirmation.[8] The findings of this study lend support to this model, as they imply that narcissistic individuals are highly motivated to display their positive traits on SNS. The results also imply that narcissistic individuals strive more than others to present the best possible image of themselves to their online audience.

The findings that narcissism is a predictor of the motivation to select images that emphasize the attractiveness and personality of the user lend support to the theoretical model and are in line with previous research conducted on narcissistic individuals. The motivation to emphasize looks and personality in profile pictures might be connected to the striving for positive feedback in the form of admiring comments and "likes." Narcissistic individuals tend to consider themselves as highly attractive,[18] and might consider the display of their looks as an easy way to gain admiration. Furthermore, they consider themselves as special and unique,[19] and seem, therefore, to be motivated to display pictures in which their personality, lifestyle, and activities are portrayed.

The study did not find a relationship between narcissism and the motivation to display social ties. The theoretical model used in this study proposes that narcissistic individuals consider others as an audience, without significant interpersonal interest.[8] This is supported by findings that narcissistic individuals do not seek approval from others,[23] and are not interested in emotional relationships.[32] Therefore, they might be less motivated than others to select pictures in which their friends, families, and significant others are portrayed, as such a selection indicates showing another person their importance. A possible explanation for the findings could be generally low levels of the motivation to display social ties in the sample ($M = 2.59$). Although previous research indicates the importance of the display of social connections on SNS,[12] the results of this study suggest that while such ties may frequently be displayed in profile pictures, the activity might not be based on a strong conscious motivation.

Finally, the study asked whether gender functioned as a moderator of the relationship between narcissism and motivations for image choice. In their discussion of the dynamic processing model, Morf and Rhodewalt point to possible gender differences in the manifestation of narcissistic behavior, as well as to the role of gender socialization that leads

to such differences.[8] The nonsignificant findings of gender as a moderator in this study might, therefore, be a result of the fact that the focus was on motivations and not on actual behavior. It could be possible that similar motivations, such as the striving to select attractive images and those that highlight one's personality, may result in varying behaviors in men and women. On SNSs, these differences may become visible in the actual profile pictures they select.

In summary, this study found narcissism to be a predictor of the motivations to select profile pictures that emphasize the attractiveness and personality of the user for both men and women. Nevertheless, several limitations should be addressed. A limitation is that the sample was collected from a student population, which could limit the generalizability of the results. Studies have shown that narcissism declines with age,[24] thus future research should control for this by collecting data from a more diverse population. A further limitation was that only three motivation types were analyzed. Taking into account other aspects that are possibly important in self-presentation, such as, for example, the wish to appear professional, might have allowed for a more faceted analysis of motivations for picture selection. The study controlled for self-esteem and Facebook use, but research shows that users have different motivations when using SNS.[33] Future research should also control for the motivations for using Facebook when analyzing motivations behind the choice of images emphasizing certain characteristics of the individual. A final limitation was that only underlying motivations of picture selection were analyzed, and that actual profile pictures were not taken into account. Future research should consider the relationship not only between narcissism and motivation behind picture choice, but also its relationship to actual profile pictures.

Notwithstanding these limitations, this study makes an important contribution, because it links narcissism to the types of motivations behind profile pictures selection on Facebook. To date, research has examined what factors users find important when selecting images for self-presentation[11,12] and how personality interacts with online behavior.[4–7] This study adds to this research by exploring how narcissism is related to which aspects users consider important when selecting pictures to present themselves to their networks. The findings suggest that individual personality differences play a role not only in online behavior, but also in underlying motivations that accompany such activities. Further research is necessary to investigate the relationship between personality differences and motivations for behavior, selection processes, and actions on SNSs. Profile pictures, especially, should be analyzed to examine the relationship between personality, motivation for picture selection, and actual picture choice. Such studies will present a clearer picture of the relationship between personality and self-presentation on SNSs.

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Appendix

APPENDIX TABLE A1. INTERACTION BETWEEN NARCISSISM AND GENDER IN PREDICTING MOTIVATIONS TO DISPLAY ATTRACTIVENESS

Variable	B	SE	β	R^2
Prior blocks				
Narcissism	0.04	0.02	0.19*	0.01*
Step 3				
Gender	0.2	0.15	0.16	0.01
Step 4				
Narcissism × gender	−0.02	0.02	−0.12	0.01

*$p < 0.05$.

APPENDIX TABLE A2. INTERACTION BETWEEN NARCISSISM AND GENDER IN PREDICTING MOTIVATIONS TO DISPLAY PERSONALITY

Variable	B	SE	β	R^2
Prior blocks				
Narcissism	0.05	0.02	0.20*	0.04**
Step 3				
Gender	−0.17	0.18	−0.11	0.02*
Step 4				
Narcissism × gender	−0.01	0.03	−0.03	0.01

*$p < 0.05$, **$p < 0.01$.

APPENDIX TABLE A3. INTERACTION BETWEEN NARCISSISM AND GENDER IN PREDICTING MOTIVATIONS TO DISPLAY SOCIAL TIES

Variable	B	SE	β	R^2
Prior blocks				
Narcissism	−0.01	0.03	−0.03	0.01
Step 3				
Gender	−0.04	0.23	−0.02	0.01
Step 4				
Narcissism × gender	0.05	0.04	0.17	0.01