


## Relationship between Narcissism and Selfie Posting Behavior; Mediating Role of Loneliness and Self-esteem among Adolescents

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<p><b>Keywords:</b> Narcissism, Selfie posting behavior, Loneliness, Self-esteem.</p>	<p style="text-align: center;"><b>ABSTRACT</b></p> <p><i>Narcissism is characterized by an abnormally high sense of self-importance that leads to different mental health issues. The current study was aimed at observing the mediating role of loneliness and self-esteem between narcissism and selfie-posting behavior among adolescents. To examine the psychometric properties of scales, a sample of 300 students was collected and further divided into two groups of male (n = 193) and female (n = 107) participants by using a convenient sampling strategy. The age range of participants was from 18 to 35 years old. Urdu-translated versions of the Narcissistic Personality Inventory by Raskin and Hall (1988), the Selfitis Scale by Amna Amjad (2017), the UCLA Loneliness Scale by Russell, Peplau, and Cutrona (1980), and the Rosenberg Self-Esteem Scale by Rosenberg (1965) were used to analyze the constructs of this study. The findings of the current study show a significant relationship between variables such as narcissism that is positively correlated with selfie-posting behavior, loneliness, and self-esteem. Regression analysis revealed that narcissism significantly predicts selfie-posting behavior. Mediation analysis shows the significant mediation of loneliness between narcissism and selfie-posting behavior. Mediation results are non-significant in the case of self-esteem. The implications of the current study suggest the need for interventions to deal with loneliness and alleviate the potentially detrimental effects of narcissism on the behaviors associated with selfie posting. These interventions may encourage healthy online behaviors among adolescents by encouraging social bonds and lowering loneliness. Further limitations of the study are discussed, and suggestions for future research are provided.</i></p>
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**1 Introduction**

The act of taking selfies and posting them on social media platforms has become extremely popular in the current, digital age, especially among young people. Researchers are trying to understand the basic psychological principles that underlie the behavior of posting selfies and they have started to get interested in this area. Selfie-posting behavior has been linked to narcissism, which is characterized by an exaggerated feeling of self-importance and a persistent demand for praise. As a form of self-expression and self-representation, taking selfies has grown in popularity. (Lobo & Gowda, 2016; Unmetric, 2014). According to the self-presentation theory, people control how they see themselves to affect how others see them. Selfies are used as a means of self-expression and self-representation to create an idealized self-image for their online audience (Lee & Sung, 2016). Selfies are seen as a way for people to express themselves and keep memories alive (Unmetric, 2014). However, issues regarding the problems of uploading selfies have been raised. Selfies can be deemed selfish, according to some authors, because people get preoccupied with their beauty and ignore those around them (Wickel, 2015). Furthermore, narcissistic personality traits have been linked to selfie addiction, which harms relationships with others (Fox & Rooney, 2015). According to interpersonal theory, people with narcissistic qualities have difficulty forming interpersonal relationships because they are egocentric and create a complicated network of interactions between these characteristics (Pincus & Ansell, 2003). It has been found that narcissism, which is characterized by an obsession with oneself and a need for other people's approval, has an impact on selfie-posting behavior. To win others' admiration and approval, individuals with high narcissism scores reportedly post selfies on social media regularly.

Additionally, research has shown that men are more likely than women to take selfies, suggesting a connection between behavior and narcissism (Sorokowski et al., 2015). Understanding the relationship between narcissism, selfie-posting behavior, and its possible impacts on people's wellness is vital in the present social media era.

Furthermore, Self-esteem and narcissism are two distinct personality qualities with various behavioral implications. In contrast to narcissism, which is related to seeking external validation and upholding an excessive self-view, self-esteem is more strongly linked to people's evaluative attitude towards themselves (Miller & Campbell, 2008). Narcissism frequently causes various addictions and can have a negative effect on interpersonal connections (Fox & Rooney, 2015). On the other hand, a high feeling of one's worth is often associated with psychological and mental health outcomes (Biolcati, 2017). Self-esteem's importance in the context of narcissism and selfie-posting conduct can enhance our understanding of why people engage in this behavior and the potential impacts they may have on their psychological well-being.

Loneliness is another issue that is connected to social networking and information sharing on websites like Facebook (Ehrenberg et al., 2008; O'Day & Heimberg, 2021). One of the characteristics of loneliness is social isolation. For lonely persons who are seeking relief from their loneliness, taking selfies can work as therapy them (Steinfeld et al., 2008) and they are involved in social engagement. Selfie sharing on social media and receiving feedback from friends may

enhance self-disclosure and social engagement, both of which may be especially important for lonely people (Steinfeld et al., 2008). The reasons why people engage in this behavior and the potential benefits of selfies in reducing feelings of loneliness can be better understood by examining the relationship between loneliness and selfie-posting behavior.

The current study intends to investigate how loneliness and self-esteem mediate the relationship between adolescent narcissism and selfie-posting behavior. This study aims to provide a greater knowledge of the underlying processes that contribute to teenage selfie practices by examining these psychological mechanisms.

### **1.1 Significance of the study**

The goal of the current study is to examine the connections between adolescent narcissism, selfie-taking behavior, loneliness, and self-esteem. A potential predictor of selfie-posting behavior has been found as narcissism (Fox & Rooney, 2015), and comprehending its impact on teenagers' participation in this behavior can offer insight into the motivations behind online self-presentation and self-expression. Adolescents experience a lot of loneliness, and it's been discovered that using social media too much makes it worse (Primack et al., 2017). Understanding how loneliness mediates the correlation between narcissism and selfie-posting behavior can highlight the possible mechanisms through which these elements interact. This information can help us comprehend how adolescents' psychological health is affected by the digital era. In addition, adolescents' overall psychological health and development depend greatly on their level of self-esteem. Insights into how people with varying degrees of self-esteem display themselves and look for approval on social media can be gained by looking at the mediating function that self-esteem plays in the relationship between narcissism and selfie-posting behavior.

### **1.3 Research Hypotheses**

1. Narcissism, loneliness, self-esteem, and selfie-posting behavior will have a strong positive correlation
2. Narcissism would be a significant positive predictor of loneliness, self-esteem, and selfie-posting behavior.
3. Loneliness would act as a mediator between narcissism and the practice of sharing selfies.
4. Self-esteem would act as a mediator between narcissism and the behavior of sharing selfies.

## **2 Method**

The cross-sectional research design was adopted in the current study, and a convenient sampling technique was used to get the data.

### **2.1 Sample**

A sample of university students ( $N = 300$ ) was drawn from different universities in different cities of Pakistan. The sample was divided into males ( $n = 193$ ) and females ( $n = 107$ ). The sample size was selected by using the G-Power.

### **2.2 Instruments**

*Narcissistic Personality Inventory (Ames et al., 2006)*. It is used to measure narcissism. It is a shorter version of the NPI-40 and has demonstrated strong internal consistency. Participants were encouraged to choose the statement on the scale that best describes their identification out of the 16 pairs of statements that make up the scale. These phrases include i.e. "I like to be the center of attention," as well as "I like having authority over people." The responses were added together to produce a single index, which had a standard deviation of 4.04 and an average score of 4.09 ( $\alpha = 0.87$ ).

**Selfitis Scale (Ciplak, 2021).** It is used to measure the selfie disorder. It is a 5-point Likert scale and the response format is from strongly disagree to strongly agree. It comprises 27 items and the alpha reliability of this scale is .93. There is no reverse-coded item. A high score shows a high level of posting behavior.

**Revised UCLA Loneliness Scale (Russell et al., 1980).** It is a 20-item scale. It was constructed to assess the feelings of social isolation and loneliness. It is a 4-point Likert scale and participants are directed to rate each item on a scale from Never to Often.

**Rosenberg Self-esteem Scale (Rosenberg, 1965).** This scale contains 10 items that measure universal self-worth having both types of negative and positive feelings about themselves. This scale is based on a one-dimensional concept. Each item is answered on a 4-point rating scale from strongly agree to strongly disagree. Item numbers 2,5,6,8, and 9 are reversely coded.

### 3 Procedure

For this study, data was collected online using Google Forms. Permission from the scales’ authors was obtained to ensure the use of scales appropriately. Participants were provided detailed information regarding the nature and objectives of the study. Written consent was shared with each participant before their participation. Clear instructions were regarding filling out the form accurately. Additionally, a demographic sheet was included at the beginning of each questionnaire to collect necessary information about the characteristics of the participants. At the end of the data collection, participants were sincerely thanked for their valuable cooperation.

### 4 Results

**Table 1**  
*Psychometric Characteristics of the Scales*

Scales	Items	M	SD	Range	$\alpha$
Narcissistic Personality Inventory	16	23.66	3.98	18-32	.82
Rosenberg Self-esteem scale	10	24.35	05.29	10-37	.77
Selfitis Scale	27	65.17	16.29	23-124	.87
Revised UCLA Loneliness Scale	20	50.58	11.27	22-77	.89

Note. N =300

Table 1 shows the mean, standard deviation, alpha reliability, and range of study variables. The findings indicate excellent internal consistency of the scales.

**Table 2**  
*Correlation Coefficient among Study Variables*

Sr. No	Variables	1	2	3	4
1	Narcissism	-	.44**	.52**	.49**
2	Self-esteem	-	-	.62**	.29**

3	Loneliness	-	-	-	.40**
4	Selfie posting	-	-	-	-

Note. N =300

\*\*p < .01

Table 2 shows the association among study variables. Results indicate narcissism has a significant positive relationship with self-esteem, loneliness, and selfie posting+ behavior while self-esteem also has a positive and significant relationship with loneliness and self-posting behavior. In addition, loneliness significantly and positively correlated with selfie-posting behavior.

**Table 3**  
*Multiple Regression Analysis (Enter Method) Predicting Selfie Posting Behavior from Narcissism, loneliness, and self-esteem*

Predictor	Outcome	
	Selfie posting behavior	
	Model B	95% CI LL, UL
Constant	13.17*	[2.95, 23.38]
Narcissism	1.60***	[1.12, 2.07]
Loneliness	.29**	[.10, .48]
Self-esteem	0.02	[-.41, .37]
<i>R</i> <sup>2</sup>	.	.27
<i>F</i>		37.01***

Note. N =300

\*\*\*p < .001, \*\*p < .01, \*p<.05

Multiple regression is computed with Selfie posting behavior as outcome variable and Narcissism, loneliness, and self-esteem as predictor variables. The findings revealed that narcissism ( $\beta = .39, p < .001$ ) and loneliness ( $\beta = .20, p < .01$ ). significantly and positively predicts Selfie posting behavior while the self-esteem shows non-significant prediction ( $\beta = .02, p > .05$ ). The value of  $R^2 = .27$  indicates 27% variance in the dependent variable with (F(3,297)=37.01,p<.001).

**Table 4**  
*Standardized Path Coefficients for Direct and Indirect Effects of Narcissism on Selfie Posting Behavior through Loneliness*

Paths	Outcome Variable	Predictor Variable	B	95%CI	
				LL	UL
a	loneliness	Narcissism	1.48***	1.21	1.75
b	Selfie posting behavior	Loneliness	.29***	.12	.45

c	Selfie posting behavior	Narcissism	1.59***	1.12	2.06
d	Selfie posting behavior	Narcissism through loneliness	.42	.17	.66

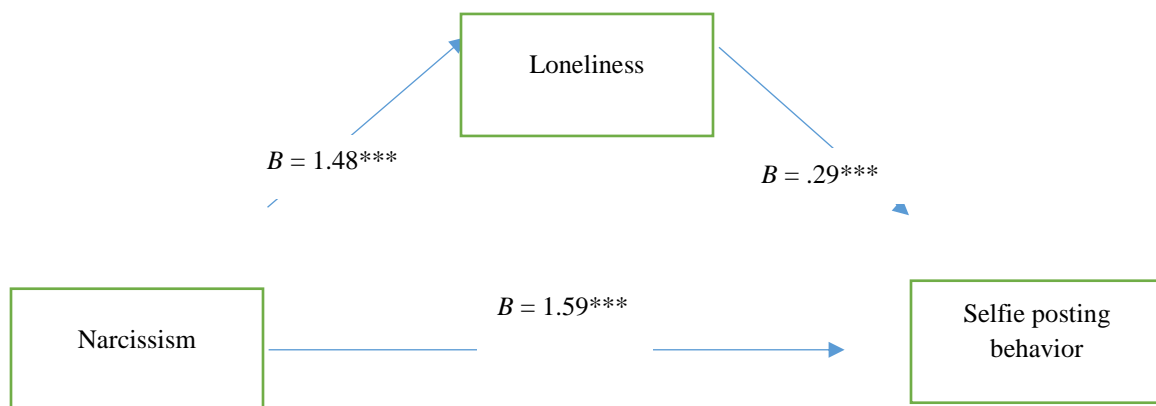
Note.  $N = 300$ , CI = confidence interval; LL = lower limit; UL = upper limit

\*\*\* $p < .001$ .

Table 4 indicates that narcissism is a positive predictor of loneliness ( $B = .148$ ;  $t = 10.66$ ;  $p < .001$ ) and loneliness is a positive predictor of selfie posting behavior ( $B = .29$ ;  $t = 3.40$ ;  $p < .001$ ). When narcissism and loneliness both variables are entered into the predictor list, the overall model becomes significant with  $F = (2, 297) 55.70$ ;  $p < .001$ , and the value of  $R^2 = .27$  shows that the predictor accounts for 27 % variance in selfie posting behavior. In Addition, the direct effect of narcissism on selfie posting behavior is also significant ( $B = 1.59$ ;  $t = 6.71$ ;  $p < .001$ ). Whereas, as the values of the upper and lower limit of path d suggest, the indirect effect of narcissism on selfie posting behavior through loneliness significantly indicates the partial mediating effect. Figure 1 gives a pictorial representation of the results.

**Figure 1.**

*The mediating role of Loneliness between Narcissism and Selfie Posting Behavior*



Indirect effect, path d,  $B = .42$

Note. \*\*\* $p < .001$ . \* $p < .05$

**Table 5**

*Standardized Path Coefficients for Direct and Indirect Effects of Narcissism on Selfie Posting Behavior through Self-esteem*

Paths	Outcome Variable	Predictor Variable	B	95%CI	
				LL	UL
a	Self-esteem	Narcissism	.59***	.44	.72
b	Selfie posting behavior	Self-esteem	.28	-.06	.62

c	Selfie posting behavior	Narcissism	1.85***	1.41	2.30
d	Selfie posting behavior	Narcissism through Self-esteem	.16	-.019	.099

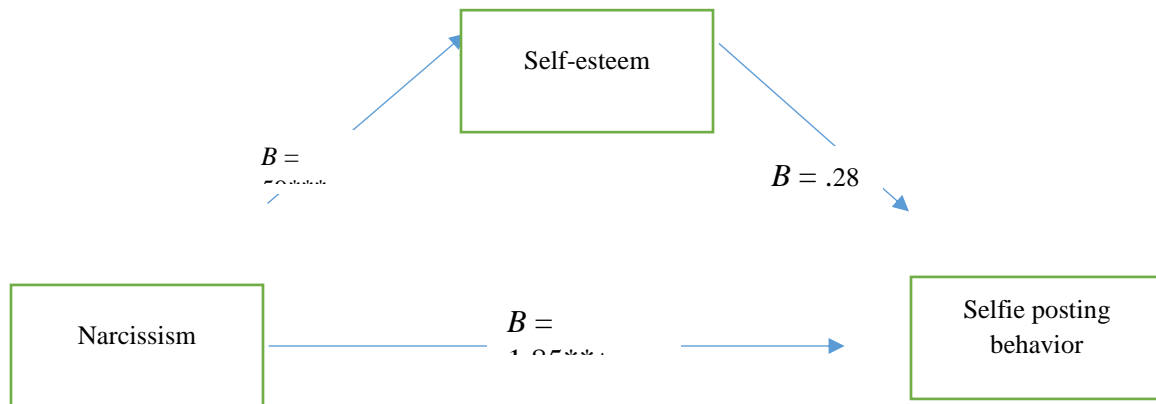
Note.  $N = 300$ , CI = confidence interval; LL = lower limit; UL = upper limit

\*\*\* $p < .001$ .

Table 5 indicates that narcissism is a positive predictor of self-esteem ( $B = .59; t = 8.50; p < .001$ ) while self-esteem is a non-significant predictor of selfie posting behavior ( $B = .28; t = 1.60; p > .05$ ). When narcissism and self-esteem both variables are entered in predictor list, the overall model becomes significant with  $F = (2, 297) 49.74, p < .001$  and the value of  $R^2 = .20$  shows that predictor accounts 20 % variance in selfie posting behavior. In Addition, the direct effect of narcissism on selfie posting behavior is also significant ( $B = 1.85; t = 8.12; p < .001$ ) whereas, as the values of the upper and lower limit of path d don't suggest the indirect effect of narcissism on selfie posting behavior through self-esteem.

**Figure 2.**

*The mediating role of Self-esteem between Narcissism and Selfie Posting Behavior*



Indirect effect, path d,  $B = .42$

Note. \*\*\* $p < .001$ . \* $p < .05$

## 5 Discussion

The current study was aimed at investigating the mediating role of loneliness and self-esteem between narcissism and selfie-posting behavior. The findings showed a positive and significant relationship between narcissism, loneliness, self-esteem, and selfie-posting behavior (see Table 2). People who frequently take and post selfies may have narcissistic traits, meaning they have a strong focus on themselves and seek attention from others. A study conducted in Western culture has found similar results (Fox & Rooney, 2015; Sorokowski et al., 2015; Wickel, 2015). Furthermore, there is a correlation between selfie-posting behavior and feelings of loneliness. People who experience loneliness, perceive a lack of companionship, and lack emotional support are more likely to engage in selfie posting as a means to seek attention and lessen their feelings of isolation.

The outcomes of the current study also support another hypothesis that narcissism significantly predicts selfie-posting behavior among adolescents. This suggests that individuals with narcissistic traits may engage in frequent selfie-posting behavior on social media platforms to seek attention. Recent studies have provided evidence that narcissism strongly predicts engagement in selfie-posting behaviors (Arpaci et al., 2018; Fox & Rooney, 2015). However, it is important to note that this relationship may be influenced by gender. Numerous research findings have consistently shown a significant and positive relationship between narcissism and the occurrence of posting selfies (Sorokowski et al., 2015; Wickel, 2015).

However, the mediating roles of loneliness provide valuable insights into the underlying mechanisms driving the relationship between independent and dependent variables (see Table 4). The findings demonstrate that loneliness partially mediates the association between narcissism and selfie-posting behavior, indicating that individuals high in narcissism may turn to selfie-posting as a means of seeking defense, connection, and lessening feelings of loneliness. Some studies propose that lonely individuals find pleasure in using social networking sites (SNSs) and posting pictures, and consider it valuable to remain connected with others (Morahan-Martin & Schumacher, 2003). Conversely, lonelier users tend to spend more time on platforms like Facebook in search of companionship and emotional support (Ehrenberg et al., 2008).

Moreover, it was hypothesized that self-esteem also acts as a mediator. The results of the current study show a non-significant mediation of self-esteem (see Table 5). As shown in the figure (see Figure 2), narcissism is significantly related to self-esteem, but self-esteem is not significantly linked with self-posting behavior. Numerous studies, such as the work conducted by Campbell (2001), have highlighted the similarities between narcissism and self-esteem. Scholars have attributed the strong correlation between these two constructs to the shared characteristic of having a high self-opinion among both narcissists and individuals with high self-esteem (Campbell et al., 2002). Better social self-esteem is correlated with selfie presentation and self-preoccupation (Ansari & Azhar, 2022). As previously mentioned, the mask model predicts that narcissists will score highly on tests of explicit self-esteem due to their grandiosity (Bosson et al., 2008). On the other hand, it is not always necessary that people with high self-esteem are fond of posting selfies on social media. It is crucial to talk about how narcissism is correlated with high self-esteem, although self-esteem may not directly predict selfie-posting behavior (Campbell et al., 2002). Selfie posting is a technique used by those with greater levels of narcissism to boost self-esteem and win social acceptance. According to Fox and Rooney (2015) research, self-esteem may not be a reliable indicator of selfie-posting behavior.

## **6 Conclusion and Recommendations**

In conclusion, this research has examined the complex relationships between narcissism, loneliness, self-esteem, and selfie-posting behavior. The results showed a significant correlation between the occurrence of uploading selfies and narcissism, indicating that people who display narcissistic qualities are more susceptible to doing so. This is supported by the popular self-presentation theory, which indicates that narcissistic people may be more motivated to actively manage and project a well-curated self-image. The findings also show how loneliness mediates this link and can motivate narcissists to publish photos online to feel less socially isolated. Interpersonal theory confirms the results of the current study that those who exhibit narcissistic features may find it difficult to form social bonds, which leads to loneliness. The relationship between narcissism and selfie-posting behavior did not seem to be significantly moderated by self-esteem, indicating that self-esteem is not the primary factor determining the influence of narcissism on selfie-posting.



The study emphasizes the usefulness of understanding selfie-posting motivations, particularly in relation to adolescent narcissistic traits, loneliness, and self-esteem. It implies that, by identifying these elements, interventions that encourage healthy self-expression and emotional well-being can be created. The results may help to prevent excessive selfie posting and, on the other hand, promote good self-esteem for parents, educators, and mental health professionals. The study also suggests that social media platforms can implement measures to encourage responsible selfie use and contribute to a healthier digital environment. The research contributes to existing literature on digital media use and adolescent development, providing insights into strategies to promote positive online behaviors and decrease the potential negative effects.

### **6.1 Limitations/ Further Research**

This study's primary drawback is that it employs a cross-sectional research methodology. The results of this study were unable to identify a cause-and-effect link between variables as a result of the research methodology. The only information provided by this study is the relationships between the study variables. Since participants were not individually contacted throughout the data collection process, there is a possibility that the responses are inaccurate. The research was a survey, which does not yield as much detailed information as qualitative research. Therefore, the information acquired was neither comprehensive nor enriched. The study's sample size should be large. The results of the current study cannot be applied to the entire population due to the limited sample size.

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