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Association between Selfie Addiction and Narcissistic Tendencies among Students at the University of Karbala: A Cross-Sectional Study

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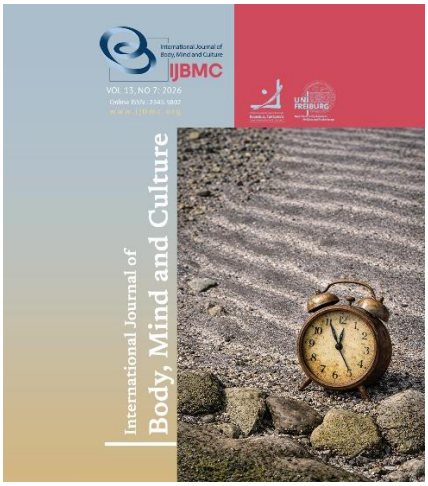

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ABSTRACT

Objective: The frequent taking of selfies in universities has garnered increasing research attention due to its potential association with specific personality traits. This study aims to explore the association between narcissistic tendencies and selfie addiction among Iraqi university students and to determine the extent to which narcissistic tendencies contribute to explaining the variation in addiction levels.

Methods and Materials: A descriptive cross-sectional correlational design was used to assess 418 undergraduate students from the University of Karbala during the 2025-2026 academic year, using a convenience sampling method. Data were collected via a questionnaire that included demographic characteristics, a narcissistic personality scale, and a selfie addiction scale. Statistical analyses were performed using Spearman's rank correlation coefficient and simple linear regression after ensuring the data's suitability for parametric and non-parametric tests.

Findings: The results showed that 8.6% of participants met the criteria for selfie addiction, while 58.1% exhibited moderate levels of narcissism. A statistically significant positive correlation was found between narcissistic tendencies and selfie addiction ($r=0.513$, $p<0.01$). Furthermore, the regression model indicated that narcissistic tendencies explained 34.3% of the variance in selfie addiction ($R^2=0.343$, $\beta=0.586$). The inference results did not show statistically significant differences attributable to demographic variables in this sample.

Conclusion: The findings suggest a strong association between narcissistic tendencies and compulsive selfie-taking behavior, potentially reflecting a need for self-affirmation through digital means. However, these results are limited to a sample from a single university and rely on self-report methodology, warranting caution when generalizing.

Keywords: Selfie Addiction, Narcissism, University Students, Social Media, Iraq.

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Introduction

Modern life is increasingly influenced by digital interaction following the technological advancements of the 21st century. (Yamin, 2019). Social media has become a major platform connecting people globally and contributing to the shaping of modern cultural values. Ideals are integrated into every corner of daily life 2023.

New evidence in Iraq suggests that excessive use of social media is linked to a number of psychological outcomes, such as decreased life satisfaction and increased stress levels. Mohammed (2020) linked social media addiction to lower life satisfaction in Baghdad, while broader smartphone dependency spikes stress and degrades sleep quality (Mahmoud & Mohamed, 2025). Digital habits carry costs. Asghar et al. (2024) confirmed that intense emotional investment in these platforms predicts poor academic performance. Investigating specific compulsions like selfie addiction is necessary to understand the narcissistic drivers behind these outcomes.

This phenomenon offers instant gratification through social validation mechanisms such as likes and comments. However, excessive engagement in this behavior has raised psychological concerns (Verma et al., 2020). New evidence in Iraq suggests that excessive use of social media is linked to many psychological outcomes, such as decreased life satisfaction and increased stress levels Although the American Psychiatric Association (Chinnarasri et al., 2021) has not formally recognized selfie addiction as a separate mental disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), academic research has increasingly addressed compulsive selfie-taking as a behavioral problem related to self-esteem (Gawade, 2019).

Psychological research now focuses on how these digital habits tie into narcissism. Taking selfies is a way for people with narcissistic traits to regulate themselves. Narcissists, who are characterized by a sense of grandiosity and a desire for the admiration of others, tend to use social media as a means of self-promotion and maintaining their image (Dalimunthe & Sihombing, 2020; Mehdizadeh, 2010; Sari, 2021).

Frequent selfie posts link directly to narcissism. Those who upload photos often show much higher narcissistic tendencies (Hernowo & Mashoedi, 2018; Sung et al., 2016).

Despite widespread global interest, there is a lack of empirical research exploring how the collective values of Iraqi society influence the relationship between narcissism and increased digital media use. Previous studies in Iraq have primarily focused on smartphone addiction in general, resulting in a lack of understanding of the specific narcissistic factors underlying selfie addiction among university students. Therefore, this study aims to explore the relationship between selfie addiction and narcissistic tendencies at the University of Karbala, and to test the hypothesis that higher levels of narcissistic traits are associated with higher levels of selfie addiction.

Methods and Materials

Study Design

This research employed a comprehensive descriptive correlational approach. This model was specifically chosen to estimate the prevalence of selfie addiction and to reveal how narcissistic traits are associated with this behavior among current students. While regression analysis was used to explore differences explained by narcissism, the comprehensive nature of this design allows for an immediate assessment of these correlations without the need to establish a permanent causal relationship. The study was conducted at the University of Karbala in Iraq. Data were collected midway through the 2025-2026 academic year, a period characterized by normal academic activity and the absence of final exam pressures. The aim was to ensure that students' digital behaviors and psychological responses reflected their usual daily routines, rather than intense academic stress. The University of Karbala was chosen as the study site because it is a major academic center in Iraq, boasting a diverse student body from over 20 colleges encompassing medical, scientific, and humanities disciplines. This diversity is a key element of the sampling strategy employed, ensuring the participation of individuals from varied social, demographic, and academic backgrounds, thus providing a broader perspective on the prevailing digital habits among Iraqi youth.

Participants and Sampling

The target population comprised undergraduate students enrolled in the 2025-2026 academic year. A non-probability convenience sampling method was employed because it is easy to apply in a university setting, and the researchers acknowledge that this may limit the possibility of generalizing the results to a wider range of Iraqi students.

Participants were selected from public spaces frequented by students, such as libraries, cafes, and university campuses across various colleges. The researcher interacted directly with students, providing a brief overview of the research and encouraging interested individuals to join. Student eligibility was verified through a preliminary question confirming they had an active social media account within the past 30 days and a smartphone with a front-facing camera. Inclusion criteria included being an undergraduate student, owning a smartphone with a front-facing camera, and having active social media accounts. Graduate students or those who did not meet the criteria for active use of social media were excluded from the final analysis in order to maintain the focus on the experience of undergraduate students.

450 questionnaires were distributed, of which 418 were valid and complete and received for analysis. The response rate was 92.8%. All questionnaires underwent data cleaning to remove incomplete questionnaires and ensure the accuracy of the statistical results. The final sample consisted of 418 students.

Instruments

The study used self-reported criteria, including a narcissistic personality scale and a selfie addiction measure. To minimize common-sense bias, participants' identities and privacy were fully guaranteed, and Fortnite was used to categorize high achievers as stress-driven and socially affluent. Which consists of three parts:

Socio-Demographic Characteristics: Items included age, gender, marital status, income, residence, and academic specialization. Although this survey covers key demographic groups, the tool lacks measurements of qualitative digital behavior indicators. For example, it doesn't measure the number of hours individuals spend daily on social media, nor does it identify the most popular platforms like Instagram or TikTok. This is because simply keeping up with updates may not accurately reflect the extent of digital engagement associated with narcissism.

Narcissistic Personality Scale (NPS): Adopted from Chinnarasri et al. (2021) and translated into Arabic using a standard forward-backward translation process. It consists of 26 items rated on a 4-point Likert scale. Total scores were calculated continuously for regression analysis. For descriptive categorization, scores were divided into low, moderate, and high based on established statistical tertiles for this population. The scale demonstrated high internal consistency in the pilot study (alpha = 0.855) and remained robust in the final sample (alpha = 0.862).

Selfie Addiction Scale: Developed by Al-Shraiyfeen & Al-Waheybi (2018). It comprises 25 items across seven dimensions. While a mean cutoff score of ≥ 0.5 in three dimensions can indicate categorical addiction, the overall continuous sum score of all items was computed and utilized for the linear regression analysis to capture the full spectrum of the behavior. Reliability was high in both the pilot (alpha = 0.859) and the final sample (alpha = 0.871).

To mitigate Common Method Bias (CMB) inherent in self-report measures, participants were assured of complete anonymity and the items of the scales were clearly separated. Content validity was evaluated by a panel of 12 experts in the fields of psychiatric-mental health nursing and clinical psychology yielding a satisfactory Content Validity Index (CVI > 0.85). Prior to statistical analysis the data were cleaned and double-checked for entry accuracy using IBM SPSS (v.26). A pilot study (N=33) was conducted to assess reliability. Cronbach's Alpha was 0.859 for the Selfie Addiction Scale and 0.855 for the Narcissistic Personality Scale, indicating high internal consistency.

Ethical Considerations and Data Collection Procedures: Formal ethical approval was obtained from the Scientific Research Ethical Committee at the College of Nursing, University of Baghdad (Approval Reference No: [7], Date: [3\11\2025]).

Before participation, students were briefed about the study's purpose and informed that participation was entirely voluntary. Written informed consent was obtained from each participant. The self-administered questionnaires took approximately 10 to 15 minutes to complete under conditions that ensured privacy and confidentiality. Data were collected using self-

administered questionnaires**.** Participants at the university were contacted to gather data. Initial approval was given by the President of the University of Karbala, followed by approval from the deans of all colleges. To ensure consistent data collection across the various colleges of the University of Karbala, the researcher followed a standardized protocol. This included distributing questionnaires at close intervals and providing uniform oral and written instructions to all participants. Furthermore, the classrooms were designed to provide quiet environments conducive to student focus and independent response, thus minimizing variations in surrounding conditions across different disciplines. The researcher interacted directly with students in classrooms and on campus grounds to distribute questionnaires. The researcher provided clear guidance and answered questions without influencing students' responses, which helped maintain consistency in data collection across different colleges. The researcher interacted directly with students in classrooms and on campus grounds to distribute questionnaires. The researcher provided clear guidance and answered questions without influencing students' responses, which helped maintain consistency in data collection across different colleges.

Data Analysis

Statistical analysis was performed using IBM SPSS (v.26). Descriptive statistics (frequencies, percentages, means, and standard deviations) summarized the variables. Prior to inferential analyses, regression assumptions were strictly verified: linearity was assessed via scatterplots; homoscedasticity and normality of residuals were confirmed using a normal P-P plot; and independence of observations was verified using the Durbin-Watson statistic. Bivariate relationships were examined using Pearson's correlation for continuous variables. Simple Linear Regression was utilized to determine the variance explained by narcissism. To examine categorical associations without violating statistical assumptions due to small cell counts, some sub-categories of motives were merged, and a Chi-Square test of independence was applied. For all tests 95% Confidence Intervals Hernandez et al. (2025) were reported where applicable, and exact p-values were documented unless $p < .001$.

Findings and Results

The participants included 418 students with a mean age of 21.67± 3.66 years. The majority were female (57.4%). There were no missing data in the final analyzed sample. Regarding the main variables, 8.6% of students were classified as addicted to selfies based on the categorical cutoff criteria, while the majority (58.1%) showed moderate levels of narcissism (Table 1). Preliminary analyses indicated no significant differences in selfie addiction scores based on demographic variables (age, gender); therefore, these were not included as covariates in the primary regression model.

Table 1

Socio-Demographic Characteristics and Descriptive Statistics of Study Variables (N=418)

Variable	Category	n (%)
Age (Years)	< 20 years	131 (31.3%)
	20 – 22 years	162 (38.8%)
	23 – 25 years	85 (20.3%)
	≥ 26 years	40 (9.6%)
Mean ± SD= 21.67 ± 3.66		
Gender	Male	178 (42.6%)
	Female	240 (57.4%)
Selfie Addiction (Categorical)	Non-Addicted	382 (91.4%)
	Addicted	36 (8.6%)
Narcissism Level (Tertiles)	Low	121 (28.9%)
	Moderate	243 (58.1%)
	High	54 (12.9%)

n: Frequency; %: Percentage; SD: Standard Deviation. The continuous mean score for total Selfie Addiction was 0.196 ± 0.208 and for Narcissism was 37.26 ± 14.50.

The primary objective was to assess the association between narcissism and selfie addiction. First, correlation analysis revealed a strong, statistically significant positive association between continuous selfie addiction scores and narcissism scores (r = 0.513, 95% CI [0.435, 0.582], p < .001) (Table 2).

Table 2

Pearson Correlation between Narcissism and Selfie Addiction

Variables	Pearson r	95% Confidence Interval	Sig. (p-value)
Selfie Addiction & Narcissism	.513**	[0.435, 0.582]	< .٠٠١

***. Correlation is significant at the 0.01 level (2-tailed).*

Subsequently, Simple Linear Regression was conducted (Table 3). Preliminary diagnostics confirmed that the data met the assumptions of independent errors (Durbin-Watson = 1.85) and non-zero variances. The overall model was statistically significant (F = 217.378, p< .001). The Adjusted R2 value of 0.341 indicates that narcissistic traits statistically explain 34.1% of the variance in selfie addiction behaviors. The unstandardized regression coefficient (B = 0.198, 95% CI [0.171, 0.224]) demonstrates that every one-unit increase in the narcissism score is associated with a 0.198-unit increase in the selfie addiction score. The standardized coefficient (β = 0.586) confirms the strong positive direction of this relationship.

Table 3

Simple Linear Regression Analysis Explaining Variance in Selfie Addiction

Model	Unstandardized B	95% CI for B	Std. Error	Standardized (β)	t-value	Sig. (p)	R2
(Constant)	-2.046		.514	-	-3.979	.000	.341
Narcissism Score	.198		.013	.586	14.744	< .٠٠١	

Dependent Variable: Continuous Selfie Addiction Total Score.
Predictor: Narcissistic Personality Score.
Adjusted R2= 0.341, F = 217.378, p < .001

Further analysis explored the underlying motives for taking selfies. To ensure sufficient cell frequencies for the Chi-square test related categories (Look better and Increase confidence) were merged into a single "Self-Enhancement" category. The results (Table 4) demonstrated a significant statistical association between the motivation for taking selfies and addiction levels ($\chi 2$= 15.700, p = .008). Participants motivated by Self-Enhancement had a higher proportional rate of addiction compared to those motivated by fun or capturing memories.

Table 4

Association between Selfie Motives and Addiction Levels

Primary Motive	Non-Addicted n (%)	Addicted n (%) (%)	$\chi 2$ Value	P-Value
Self-Enhancement	129 (80.6%)	31 (19.4%)	15.700	.008**
Attention seeking	7 (87.5%)	1 (12.5%)		
Fun/Memories	216 (96.0%)	9 (4.0%)		

*** Correlation is significant at the 0.01 level*

Discussion and Conclusion

The results showed a statistically significant positive relationship with narcissism explaining 34.1% of the variance in selfie addiction scores. Rather than assuming a strict causal mechanism, this is consistent with the theoretical framework that views excessive selfie posting as a factor associated with narcissistic self-regulation. Individuals with high narcissistic traits may rely on external validation to maintain their self-image using digital platforms where likes and comments provide the validation needed to stabilize their fluctuating self-esteem.

The relationship between narcissism and selfie addiction transcends geographical boundaries. Our Iraqi data are similar to the structural analysis of Mexican youth (Sánchez-Domínguez et al., 2025). The search for validation is universal. Digital dependence stems from shared psychological needs not cultural isolation.

Our correlation coefficient (r = 0.513) reflects global trends. Fox & Rooney (2015) identified the traits of the "dark triad" as predictors of male social media use habits, while Khan et al. (2025) and Halpern et al. (2016) linked the frequency of photo editing to the pursuit of likes. Digital dependency fuels narcissism. Our findings suggest that within this specific student sample as narcissistic traits increase the dependency on selfies as a validation tool strengthens.

Regarding behavioral motives, addiction rates reached 17.9% among students seeking to "boost their self-esteem" compared to only 4.0% among those preserving their memories (Table 4). Intention determines the risk. This significant gap suggests that the desire for validation is a more accurate predictor of addiction than simply taking photos.

Data did not highlight significant gender differences in selfie addiction scores, This stands in contrast to a recent parallel study by Hassan et al. (2025) found significantly higher selfie engagement among female students at the University of Baghdad contrasting with the gender parity seen here. Sample variations between Karbala and Baghdad likely cause this split. Context drives these results. Both datasets still highlight substantial moderate-to-heavy usage among Iraqi youth. Heavy addiction ranged from 8.6% in our group to 17.7% in the Baghdad study confirming the behavior pervades universities regardless of demographics.

Limitations

Despite these findings, several significant limitations must be acknowledged. First, the cross-sectional design of the study inherently precludes any causal inferences; while narcissism and selfie addiction are associated, the nature of this relationship cannot be definitively established. Second, the reliance on a convenience sample from a single university limits the generalizability of the results to young people in general. Third, the use of self-report measures introduces the potential for social bias and common-sense bias. Finally, the simple linear regression model used in this study did not account for other potential variables reported in previous studies, such as daily screen time, specific platform types, baseline self-esteem, or concurrent levels of anxiety and depression.

Conclusion

The study concludes that narcissistic personality traits are a significant behavioral correlate of selfie addiction among the sampled university students. The urge to compulsively take and post selfies is closely associated with underlying psychological traits for self-presentation. Due to the observational nature of this study, these findings highlight a complex psychological association rather than a deterministic causal pathway.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Declaration of Helsinki, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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