

Association between Social Media Addiction, Aggression, and Self-Centeredness among Children in Peshawar

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Abstract

Introduction: In the digital era, social media has become an integral part of daily life, particularly among children and adolescents. While these platforms offer opportunities for communication and learning, excessive and uncontrolled use has raised concerns regarding their potential adverse psychological and behavioral consequences. Social media addiction has emerged as a growing public health issue, with increasing evidence linking it to aggression, narcissistic tendencies, and emotional dysregulation among young users. **Objective:** The present study aimed to investigate the association between social media addiction and (a) aggression and (b) self-centeredness among school-going children in Peshawar. **Methods:** A quantitative correlational study with a cross-sectional design was conducted using a mixed-methods framework. A total of 360 children aged 11–15 years were recruited from secondary schools in Peshawar using a stratified convenience sampling technique. Data were collected using the Social Media Addiction Scale (SMAS), Buss-Perry Aggression Questionnaire (BPAQ), and Narcissistic Personality Inventory for Children (NPIC). Statistical analysis was performed using descriptive statistics and Pearson's correlation coefficient. **Results:** Findings revealed a significant positive correlation between social media addiction and aggression ($r = .46, p < .01$) as well as self-centeredness ($r = .41, p < .01$). Higher levels of aggression were observed among children aged 11–14 years compared to those aged 14–15 years. Overall, 80% of participants demonstrated high social media addiction scores, 71% exhibited elevated aggression levels, and 74% showed prominent narcissistic traits among those with high social media addiction. **Conclusion:** The study highlights a strong association between excessive social media use and adverse behavioral traits in children. These findings underscore the urgent need for early screening, parental monitoring, and school-based interventions to promote healthier digital behaviors.

Keywords: Social media addiction, aggression, self-centeredness, narcissism, children, Peshawar

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Introduction

The rapid expansion of digital technology has transformed the social landscape of children and adolescents worldwide. Social media platforms such as Facebook, Instagram, TikTok, and WhatsApp have become primary modes of communication and self-expression. Although these platforms facilitate connectivity and access to information, excessive and uncontrolled usage may result in behavioral addiction, commonly referred to as social media addiction (Ko et al., 2009). Social media addiction is characterized by compulsive use, preoccupation, tolerance, withdrawal symptoms, and functional impairment (American Psychiatric Association [APA], 2013). Children are particularly vulnerable due to their ongoing cognitive, emotional, and social development. Research suggests that problematic social media use is associated with emotional instability, impulsivity, aggression, and narcissistic personality traits (Haddad et al., 2021).

Aggression among children is a multifaceted behavioral issue encompassing physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). Exposure to violent content, cyberbullying, and social comparison on social media platforms may exacerbate aggressive tendencies. Furthermore, self-centeredness and narcissistic traits—such as grandiosity, entitlement, and lack of empathy—have been linked to excessive online self-presentation and validation-seeking behaviors (Pearson & Hussain, 2015).

Despite the growing global literature, there is limited empirical evidence from Pakistan examining the psychological correlates of social media addiction among children. Therefore, this study aims to bridge this gap by exploring the association between social media addiction, aggression, and self-centeredness among school-going children in Peshawar.

Aims and Objectives

1. To assess the level of social media addiction among children aged 11–15 years.
2. To determine the level of aggression among the study participants.
3. To assess self-centeredness (narcissistic traits) among children.
4. To examine the association between social media addiction and aggression.
5. To examine the association between social media addiction and self-centeredness.

Methodology

Study Design

A quantitative correlational study with a cross-sectional design was employed. A mixed-methods approach was adopted to strengthen data interpretation, though the primary analysis remained quantitative.

Study Population

The study population comprised school-going children aged 11–15 years enrolled in secondary schools in Peshawar, Pakistan.

Sample Size and Sampling Technique

A total sample of 360 participants was calculated using Raosoft sample size calculation software, assuming a 95% confidence interval and a 5% margin of error. Participants were selected using a stratified convenience sampling method to ensure representation across age groups and schools.

Inclusion Criteria

- Children aged 11–15 years
- Enrolled in secondary school education
- Ability to understand and respond to questionnaires
- Informed consent from parents/guardians and assent from children



Exclusion Criteria

- Children with diagnosed psychiatric or neurodevelopmental disorders
- Children not using social media platforms

Research Instruments

1. **Social Media Addiction Scale (SMAS):** Used to assess the level of addictive social media use.
2. **Buss-Perry Aggression Questionnaire (BPAQ):** Measures physical aggression, verbal aggression, anger, and hostility.
3. **Narcissistic Personality Inventory for Children (NPIC):** Assesses self-centeredness and narcissistic traits in children.

All instruments demonstrated acceptable reliability and validity in previous studies.

Data Collection Procedure

Data were collected after obtaining ethical approval from the institutional review board. Permission was obtained from school authorities, and informed consent was secured from parents/guardians. Questionnaires were administered in a classroom setting under researcher supervision.

Ethical Considerations

The study adhered to ethical principles outlined in the Declaration of Helsinki. Confidentiality and anonymity were maintained, and participants were informed of their right to withdraw at any stage without penalty.

Data Analysis

Data were analyzed using SPSS (version XX). Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic variables. Pearson's correlation coefficient was applied to determine associations between social media addiction, aggression, and self-centeredness. A p-value of $< .01$ was considered statistically significant.

Results

Demographic Characteristics

A total of 360 children aged 11–15 years participated in the study. The sample included students from multiple secondary schools in Peshawar, representing early and middle adolescence. The majority of participants were active users of at least one social media platform on a daily basis.

Table 1 presents the age-wise distribution of the participants.

Table 1: Age Distribution of Participants (N = 360)

Age Group (years)	Frequency (n)	Percentage (%)
11–12	132	36.7
13–14	148	41.1
14–15	80	22.2
Total	360	100

Levels of Social Media Addiction, Aggression, and Self-Centeredness

Descriptive analysis indicated a high prevalence of problematic social media use among participants. A substantial proportion of children scored above the cutoff values on the Social Media Addiction Scale, Buss-Perry Aggression Questionnaire, and Narcissistic Personality Inventory for Children.

Table 2 summarizes the overall levels of the main study variables.

Table 2: Distribution of Social Media Addiction, Aggression, and Self-Centeredness

Variable	High Level n (%)	Moderate Level n (%)	Low Level n (%)
Social Media Addiction	288 (80.0)	52 (14.4)	20 (5.6)
Aggression	256 (71.1)	68 (18.9)	36 (10.0)

Variable	High Level n (%)	Moderate Level n (%)	Low Level n (%)
Self-Centeredness (NPIC)	266 (73.9)	64 (17.8)	30 (8.3)

Correlation Analysis

Pearson's correlation analysis was conducted to examine the relationship between social media addiction, aggression, and self-centeredness. Results demonstrated statistically significant positive correlations among the study variables.

Table 3 presents the correlation matrix.

Table 3: Correlation Between Social Media Addiction, Aggression, and Self-Centeredness

Variables	1	2	3
1. Social Media Addiction	1		
2. Aggression	.46**	1	
3. Self-Centeredness	.41**	.38**	1

Note. $p < .01$.

The findings indicate a moderate positive correlation between social media addiction and aggression ($r = .46$, $p < .01$), as well as between social media addiction and self-centeredness ($r = .41$, $p < .01$). This suggests that increased addictive use of social media is associated with higher levels of aggressive behavior and narcissistic traits among children.

Age-Wise Comparison of Aggression Levels

Age-wise analysis revealed that younger participants (11–14 years) exhibited higher aggression scores compared to older participants (14–15 years).

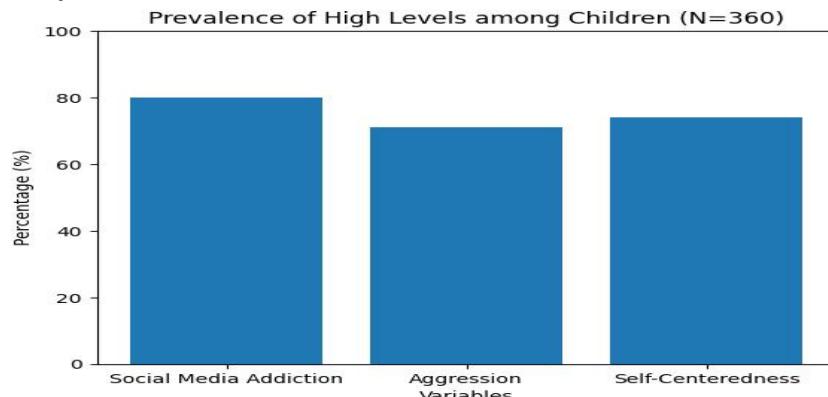
Table 4: Aggression Levels Across Age Groups

Age Group (years)	High Aggression n (%)	Moderate n (%)	Low n (%)
11–12	102 (77.3)	20 (15.2)	10 (7.5)
13–14	114 (77.0)	24 (16.2)	10 (6.8)
14–15	40 (50.0)	24 (30.0)	16 (20.0)

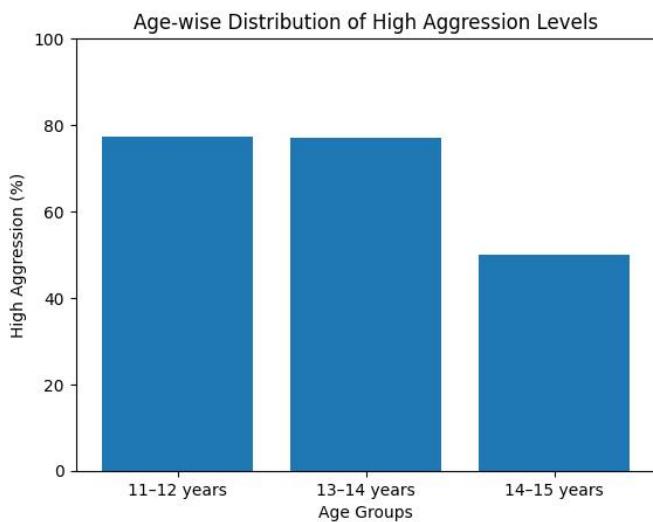
This pattern indicates a decline in aggressive behavior with increasing age.

Graphical Representation of Results

To enhance interpretation, graphical representations were developed. A bar graph illustrated the prevalence of high social media addiction, aggression, and self-centeredness, showing social media addiction as the most prevalent variable (80%), followed by self-centeredness (74%) and aggression (71%).



Additionally, a scatter plot depicting the relationship between social media addiction and aggression demonstrated a clear positive linear trend, further supporting the correlational findings.



Discussion

The findings of the present study indicate a significant association between social media addiction and maladaptive behavioral traits among children. The positive correlation between social media addiction and aggression is consistent with previous research suggesting that excessive online engagement may increase irritability, frustration, and aggressive behavior (Haddad et al., 2021).

Similarly, the association between social media addiction and self-centeredness supports the notion that frequent online self-presentation and validation-seeking behaviors may foster narcissistic tendencies (Pearson & Hussain, 2015). Younger adolescents exhibiting higher aggression may reflect developmental vulnerabilities and limited emotional regulation skills. These findings emphasize the need for parental supervision, digital literacy programs, and school-based mental health interventions to mitigate the adverse effects of excessive social media use.

Conclusion

This study provides empirical evidence linking social media addiction with aggression and self-centeredness among children in Peshawar. The results highlight the importance of early identification and intervention to promote healthier digital habits and psychological well-being among children.

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