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ONLINE GAMING ADDICTION, NARCISSISM, AND CYBERBULLYING PERPETRATION AMONG YOUNG PAKISTANI ADULTS: A COMPARATIVE STUDY

Original Article

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ABSTRACT

Background: Online gaming has become an integral part of youth culture, with both violent and non-violent games exerting psychological effects on players. Research indicates significant associations between gaming addiction, narcissistic traits, and cyberbullying. However, specific comparisons between violent (e.g., PUBG) and non-violent (e.g., online Ludo) game players remain underexplored in Pakistan, where digital gaming continues to grow among young adults. Understanding these behavioral outcomes is essential for informing mental health and cyber-awareness interventions.

Objective: This study aimed to examine and compare levels of online gaming addiction, narcissism, and cyberbullying perpetration between PUBG and online Ludo players among Pakistani young adults.

Methods: A cross-sectional correlational design was adopted. Data were collected from 250 Pakistani college and university students aged 18–30 years through purposive sampling. The Gaming Addiction Scale for Adolescents (GASA), Narcissistic Personality Inventory (Short Form), and the cyberbullying perpetration subscale of the Cyberbullying Perpetration and Victimization Questionnaire were used. Statistical analyses included Pearson product-moment correlation and independent samples t-tests.

Results: The study comprised 126 PUBG players (50.4%) and 124 Ludo players (49.6%), with a mean age of 22.18±1.95 years. A significant positive correlation was found between online gaming addiction and narcissism ($r = .18$, $p < .01$), gaming addiction and cyberbullying perpetration ($r = .37$, $p < .01$), and narcissism and cyberbullying perpetration ($r = .44$, $p < .01$). PUBG players scored significantly higher on narcissism ($M = 13.96$, $SD = 1.81$) than Ludo players ($M = 12.66$, $SD = 3.68$; $t = 3.54$, $p = .001$). No significant mean differences were observed in online gaming addiction ($t = .14$, $p = .88$) or cyberbullying perpetration ($t = .71$, $p = .47$).

Conclusion: The findings underscore significant psychological implications of online gaming, particularly regarding narcissism in violent game players. These results highlight the need for digital literacy programs and emotional regulation interventions targeting Pakistani youth.

Keywords: Adolescent Behavior, Cyberbullying, Internet Gaming Disorder, Narcissism, Online Gaming, Pakistan, Violence.

INTRODUCTION

Online gaming addiction has emerged as a modern behavioral health concern, particularly among youth and young adults, due to its pervasive influence on psychological well-being and social functioning. Defined as the compulsive or excessive engagement with online games to the extent that it causes clinical distress, gaming addiction is now widely recognized as a behavioral addiction rather than a mere impulse control disorder (1). This phenomenon has been described using various terminologies including Internet gaming disorder, pathological video gaming, problematic gaming, and Internet gaming addiction (2,3). Individuals suffering from gaming addiction often display an inability to regulate their gaming habits, leading to disruption in multiple domains of life including academics, sleep, interpersonal relationships, and even mental health stability (4). In severe cases, consequences such as social withdrawal, emotional numbing, and suicidal ideation have been reported, indicating the seriousness of the issue (5). Parallel to this, narcissism—characterized by grandiosity, excessive self-admiration, and heightened self-importance—has also been increasingly examined in the context of online behavior. Research has identified narcissism as a personality trait that may predispose individuals to problematic gaming, with studies suggesting that narcissistic tendencies are significantly associated with both aggression and excessive online gaming behaviors (6). For instance, one large-scale study involving over 1,400 online gamers found a robust positive association between narcissistic traits and the intensity of gaming addiction (7). Interestingly, conflicting findings have emerged in recent literature, with some studies suggesting that specific games like PUBG may be linked with higher narcissistic tendencies and aggression, while others like Ludo may serve as a platform for social engagement and emotional buffering, potentially reducing these tendencies (8).

Another growing area of concern is the link between online gaming and cyberbullying. Cyberbullying entails the use of digital platforms to harass, demean, or threaten others and has become increasingly prevalent in gaming communities (9). The anonymity afforded by online environments and the often-competitive, aggressive nature of multiplayer games have been shown to contribute to normalized bullying behaviors, especially among young males (10). Pathological gamers in particular have been found to not only experience but also perpetrate cyberbullying, often in association with narcissistic traits and poor emotional regulation (11). While previous studies have established the individual and interrelated impacts of gaming addiction, narcissism, and cyberbullying, there remains a notable gap in literature concerning comparative analyses of these variables across specific gaming platforms (12). In particular, limited empirical evidence exists that differentiates the psychological and behavioral outcomes of playing PUBG—a highly immersive and competitive battle royale game—versus Ludo, a more socially-oriented digital board game. No prior research has investigated how these dynamics manifest among young adults in Pakistan, a demographic particularly immersed in digital gaming culture. To address this gap, the present study seeks to examine and compare levels of online gaming addiction, narcissism, and cyberbullying perpetration among Pakistani young adults who play either PUBG or Ludo. By doing so, the study aims to generate insights that could inform culturally relevant interventions and promote healthier digital engagement patterns. The objective of this study is to explore the associations among online gaming addiction, narcissism, and cyberbullying perpetration, and to identify any significant mean differences in these variables between Ludo and PUBG players in the Pakistani context.

METHODS

The present study utilized a cross-sectional correlational design to investigate the relationships among online gaming addiction, narcissistic traits, and cyberbullying perpetration in young adults. A purposive sampling technique was employed to recruit participants aged 18 to 30 years, of both genders, who were currently enrolled in colleges or universities within Pakistan. Eligibility criteria further required participants to be Pakistani citizens and to have consistently played either PUBG or Ludo as online games for at least the past year. Individuals not meeting the specified age range, lacking sufficient gaming experience with either of the two games, or not enrolled in higher education were excluded from the study. Standardized psychometric tools were used for data collection. Online gaming addiction was assessed using the Gaming Addiction Scale for Adolescents (GASA), a 21-item scale, which uses a 5-point Likert format ranging from “never” (1) to “very often” (5) (1). The original scale has a reported Cronbach’s alpha of 0.94, while in the current sample, internal consistency reliability was 0.75, indicating acceptable reliability. Narcissistic traits were measured using the 16-item Narcissistic Personality Inventory (NPI-16), which uses a forced-choice dichotomous response format rather than a Likert scale, thereby allowing for more accurate differentiation between narcissistic and non-narcissistic traits (2). This scale demonstrated a Cronbach’s alpha of 0.72 in this study. Cyberbullying perpetration was assessed through the cyberbullying perpetration subscale of the Cyberbullying Perpetration and Victimization Questionnaire, which includes 20 items rated on a 5-point Likert scale and has demonstrated strong internal consistency (Cronbach’s alpha = 0.93) (3).

Ethical standards were rigorously observed throughout the research process. Formal approval for the study was obtained from the Institutional Review Board, adhering to the principles outlined by the American Psychological Association (APA) 7th edition ethical code. Prior to data collection, informed consent was obtained from all participants following a comprehensive briefing on the study's aims, procedures, confidentiality assurances, and voluntary participation rights. Participants were assured of anonymity, the right to refuse or withdraw at any time without penalty, and the absence of any psychological or physical risk associated with participation. Permissions to use all standardized assessment tools were obtained from the original authors or publishers. Demographic data including age, gender, and level of education were collected alongside the main variables. Participants were clearly oriented regarding the study's purpose to reduce bias in self-reporting. All data were handled with integrity and confidentiality, and findings were accurately reported, ensuring scientific transparency and adherence to ethical research practices.

RESULTS

The study included a total of 250 participants, with nearly equal distribution between PUBG players (n = 126, 50.4%) and Ludo players (n = 124, 49.6%). The average age of the participants was 22.18 years (SD = 1.95). The majority of the sample comprised male participants (n = 185, 74%), while female participants made up 26% (n = 65). Regarding educational attainment, 173 participants (69.2%) had completed intermediate education, 63 participants (25.2%) were at the bachelor's level, and 14 participants (5.6%) had attained a master's degree. Correlation analysis using the Pearson product-moment correlation coefficient revealed a statistically significant positive relationship between online gaming addiction and narcissism ($r = .18$, $p < .01$), and between online gaming addiction and cyberbullying perpetration ($r = .37$, $p < .01$). Additionally, a strong and significant correlation was found between narcissism and cyberbullying perpetration ($r = .44$, $p < .01$), indicating that higher levels of narcissism were associated with increased likelihood of engaging in cyberbullying behaviors. An independent samples t-test was conducted to assess mean differences between PUBG and Ludo players across the three measured variables. For online gaming addiction, PUBG players had a mean score of 18.65 (SD = 5.86), while Ludo players had a similar mean of 18.55 (SD = 4.97), with the difference not reaching statistical significance ($t = .14$, $p = .88$). In terms of narcissism, PUBG players scored significantly higher (M = 13.96, SD = 1.81) compared to Ludo players (M = 12.66, SD = 3.68), and this difference was statistically significant ($t = 3.54$, $p = .001$). For cyberbullying perpetration, PUBG players had a mean score of 58.46 (SD = 9.71) while Ludo players scored slightly lower (M = 57.53, SD = 10.87); however, this difference was also not statistically significant ($t = .71$, $p = .47$).

Table 1: Characteristics of Participants (N= 250)

Sample Characteristics	f	%	M	SD
PUBG players for at least last one year	126	50.4		
Ludo players for at least last one year	124	49.6		
Age			22.18	1.95
Gender				
Men	185	74		
Women	65	26		
Education				
Intermediate	173	69.2		
Bachelor	63	25.2		
Masters	14	5.6		

Note: f=frequency, %=Percentage, M=Mean, SD=Standard deviation

Table 2: Correlation among study variables (N=250).

Variables	1	2	3	M	SD
1. Online Gaming Addiction	-	.18**	.37**	18.60	5.43
2. Narcissism		-	.44**	13.32	2.96
3. Cyber bullying Perpetration			-	58	10.29

Note. **p<.01

Table 3: Mean differences between online Ludo and PUBG players (N=250)

Variables	PP (126)		OLP (124)				
Variables	M	SD	M	SD	T (248)	P	Cohen's d
OGA	18.65	5.86	18.55	4.97	.14	.88	5.44
Narcissism	13.96	1.81	12.66	3.68	3.54	.001	2.89
CP	58.46	9.71	57.53	10.87	.71	.47	10.30

Note. M= mean, SD= Standard Deviation, PP= PUBG Players, OLP= Online Ludo Players, CP= Cyberbullying Perpetration
*p<.05. **p<.01, ***p<.001

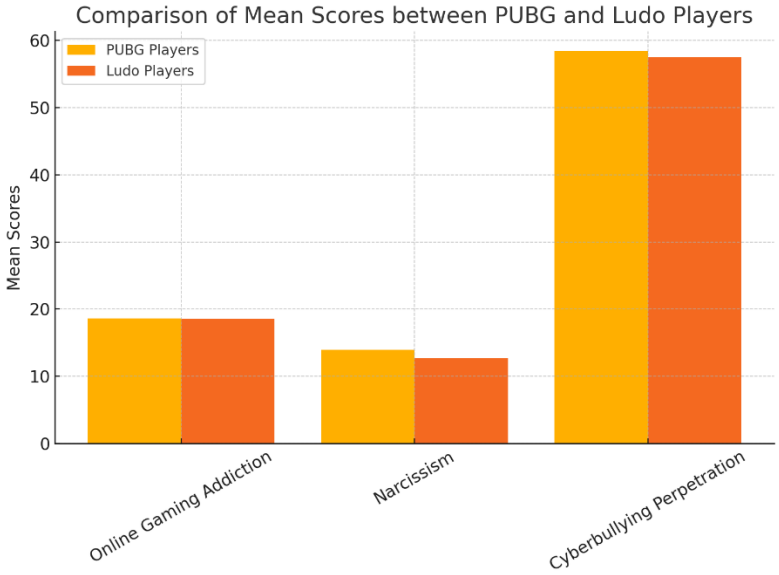

Figure 1 Comparison of Mean Scores between PUBG and Ludo Players

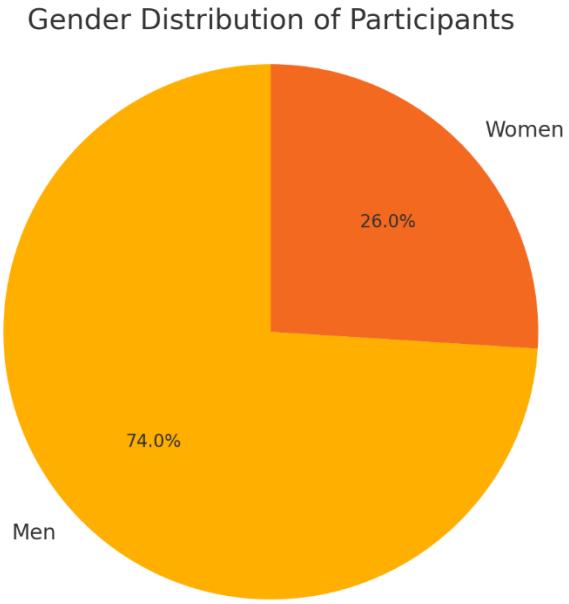

Figure 2 Gender Distribution of Participants

DISCUSSION

The findings of this study offer important insights into the psychological dynamics of online gaming among young adults in Pakistan, specifically in the context of Ludo and PUBG players. The results supported the first hypothesis, revealing significant and positive associations between online gaming addiction, narcissism, and cyberbullying perpetration. These findings align with existing literature, which has consistently reported interrelationships among problematic internet use, narcissistic traits, and online aggression (13,14). The observed associations likely stem from the interactive nature of online games, where heightened anonymity, competitive pressure, and impulsive gratification reinforce maladaptive behavioral patterns. Online gaming may intensify self-centered tendencies in individuals with predisposed narcissistic traits, while simultaneously desensitizing them to the social consequences of their behavior, thus facilitating cyberbullying in anonymous digital spaces (15,16). The second hypothesis received partial support, as significant mean differences were observed only in narcissism scores, with PUBG players demonstrating higher levels of narcissistic traits compared to Ludo players. This result is consistent with literature that links violent or action-based games with elevated narcissistic tendencies, likely due to the self-aggrandizing, dominance-oriented mechanics embedded in such games (17,18). However, the lack of statistically significant differences in online gaming addiction and cyberbullying perpetration between PUBG and Ludo players suggests that these problematic behaviors may not be exclusive to aggressive gaming environments. The widespread and habitual nature of both games among Pakistani youth might account for the similar levels of behavioral disturbance observed, regardless of game type.

One of the strengths of this study lies in its comparative analysis of two popular online games within a localized context, addressing a gap in current literature. By focusing on a Pakistani young adult sample, the study contributes culturally relevant evidence to the discourse on digital behavioral health. Furthermore, the use of validated psychometric tools enhanced the reliability of the findings. However, several limitations must be acknowledged. The relatively small and demographically narrow sample, restricted to college and university students, limits the generalizability of the results to the broader population. The purposive sampling strategy, while appropriate for targeted data collection, may have introduced selection bias. The unequal distribution of participants across educational levels, primarily from intermediate backgrounds, may have confounded group comparisons, particularly since no subgroup analysis (e.g., one-way ANOVA) was conducted to control for these differences. Moreover, the extensive length of the scales might have contributed to participant fatigue, potentially affecting response accuracy. A more balanced set of concise instruments could enhance engagement and data integrity in future studies. Another methodological limitation was the absence of effect size reporting for all t-test comparisons; where effect sizes were included, at least one appeared implausibly large and may indicate a calculation or typographical error requiring correction.

The findings carry several important implications for mental health and behavioral intervention strategies. Encouraging the reintegration of structured routines, promoting emotional regulation techniques such as deep breathing and progressive muscle relaxation, and increasing parental involvement may reduce problematic gaming and associated behaviors (19,20). Interventions targeting digital literacy and cyber awareness, particularly in academic institutions, could empower youth to navigate online environments more responsibly. Additionally, mental health professionals and educators can utilize these findings to design evidence-based seminars and awareness programs tailored to reduce the psychological impact of compulsive gaming. Future research should adopt a more inclusive sampling approach, incorporating individuals from diverse socioeconomic and occupational backgrounds to improve representativeness. Stratified sampling and the application of inferential statistics to examine subgroup differences across education or age groups would also strengthen future findings (21). Longitudinal research designs may further elucidate causal relationships between gaming behaviors and psychosocial outcomes, allowing for better-targeted preventive strategies. Through these enhancements, future investigations can build upon the present study's findings and contribute more robust evidence to the field of behavioral health in digital gaming.

CONCLUSION

In conclusion, this study highlighted meaningful psychological dynamics between online gaming addiction, narcissistic traits, and cyberbullying among young adults in Pakistan, offering the first comparative insight between Ludo and PUBG players. While narcissism emerged as significantly higher in PUBG players, no substantial differences were observed between the two groups in terms of addiction or cyberbullying perpetration. These findings underscore the nuanced role of game type in shaping behavioral outcomes and emphasize the importance of addressing emotional regulation and digital behavior awareness among youth. The study's contributions are particularly valuable for educators, mental health professionals, and policymakers aiming to design culturally relevant interventions that promote healthier gaming habits and reduce the negative psychosocial impacts associated with excessive online gaming.

AUTHOR CONTRIBUTION

Author	**Contribution**
Muhammad Sajjad Shahid*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Faraheem Batool	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Mujahid Khan	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Shah Jahan Ashraf	Contributed to Data Collection and Analysis

Author	Contribution
	Has given Final Approval of the version to be published
Saira Jabeen	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Aurang Zaib Ashraf Shami	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published
Qurat Ul Ain	Contributed to study concept and Data collection Has given Final Approval of the version to be published
Adnan Yousafzai	Writing - Review & Editing, Assistance with Data Curation

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