Journal of Health and Rehabilitation Research 2791-156X JHRR

Original Article

Ludo Star Game Addiction, Social Connectedness and Psychological Well-Being in University Students of Lahore, Pakistan

Sobia Bashir1, Muhammad Sajjad Shahid*1, Maryam Bibi2, Sara Mukhtar3

1 Department of Psychology, Lahore Garrison University, Lahore, Pakistan

2 Department of Psychology, Faculty of Humanities and Social Sciences, University of Central Punjab, Lahore, Pakistan.

3 Institute of Applied Psychology, University of the Punjab, Lahore, Pakistan

*Corresponding Author: sajjadkhansajjad565@gmail.com

Keywords: Ludo Star Game Addiction, Psychological Well-Being, Social Connectedness, University Students, Gaming Addiction, Mental Health, Mobile Gaming, SPSS, Mediation Analysis.

Abstract

Background: The increasing prevalence of online gaming among university students has raised concerns about its potential impact on psychological well-being. Ludo Star, a popular mobile game in Pakistan, has been associated with both positive and negative effects on social and mental health. Understanding the relationship between Ludo Star game addiction, social connectedness, and psychological well-being is crucial for developing effective interventions.

Objective: This study aimed to investigate the relationship between Ludo Star game addiction and psychological well-being, with social connectedness as a mediator, among university students in Lahore, Pakistan.

Methods: A correlational research design was employed, utilizing a non-probability purposive sampling strategy to select 300 university students (157 men, 143 women) aged 18-25 years who regularly played Ludo Star. The Gaming Addiction Scale, Revised Social Connectedness Scale, and Psychological Well-being Scale were used to measure the study variables. Ethical considerations adhered to the Helsinki Declaration, and informed consent was obtained from all participants. Data analysis included descriptive statistics, correlation analysis, mediation analysis, and independent sample t-tests using SPSS version 25.

Results: Ludo Star game addiction was positively correlated with social connectedness ($r = .15$, $p < .01$) but negatively correlated with psychological well-being ($r = -.12$, $p < .05$). Social connectedness was also negatively correlated with psychological well-being ($r = -.21$, $p < .01$). Mediation analysis showed that social connectedness significantly mediated the relationship between Ludo Star game addiction and psychological well-being ($\beta = -.08$, 95% CI: -.05 to -.007). Independent sample t-tests revealed no significant gender differences in the study variables.

Conclusion: The study highlighted the dual-edged nature of Ludo Star game addiction, where increased social connectedness does not translate to better psychological well-being. Interventions should focus on promoting balanced gaming habits and enhancing awareness of the potential psychological risks associated with excessive gaming.

1 Introduction

Gestational The increasing engagement of university students in online gaming has become a significant area of interest, particularly in the context of its psychological and social implications. The trend of online games has been on the rise in recent years, with many young individuals in Pakistan favoring the convenience of digital platforms for games that were traditionally played in physical settings. Among these, Ludo Star stands out as a popular choice due to its easy accessibility and familiar gameplay. This study aims to investigate the relationship between Ludo Star game addiction and psychological well-being, with a particular focus on the mediating role of social connectedness among university students in Lahore.

Addiction, defined as an unhealthy compulsion to engage in specific behaviors, poses significant concerns due to its impact on various aspects of life, including social and emotional well-being (1). Gaming addiction, in particular, is characterized by excessive and obsessive use that often leads to social and emotional issues, highlighting the need for a deeper understanding of its effects (2). The phenomenon of gaming addiction encompasses several dimensions, including recurrence, dispute, abstinence, relevance, mood change, and acceptance,

which together influence the individual's overall well-being (3). The psychological implications of gaming addiction are profound, often resulting in decreased cognitive function, increased stress, low self-esteem, depression, isolation, and even suicidal thoughts (4).

The role of social connectedness, defined as a subjective psychological link to others, is crucial in understanding the dynamics of gaming addiction and its impact on well-being (5). Social connectedness influences various factors such as social networks and life satisfaction, and it is particularly relevant for adolescents and young adults who frequently use gaming as a medium for social interaction (6). Studies have shown that social connectedness can enhance well-being and reduce anxiety and depression among adolescents engaged in gaming activities (7). However, excessive gaming can also disrupt these social bonds, leading to negative psychological outcomes (8).

Psychological well-being is an essential factor for academic success and mental health, relying on elements such as self-esteem, problem-solving abilities, and social connections (9). The proliferation of mobile gaming platforms like Android and iOS has further complicated the social dynamics, making it imperative to explore the interplay between gaming addiction, social connectedness, and psychological well-being (10). Research indicates that personality traits such as self-control and narcissism significantly influence the propensity for gaming addiction, thereby affecting social and psychological outcomes (11).

This study is grounded in the need to address a gap in the literature regarding the mediating role of social connectedness in the relationship between gaming addiction and psychological well-being. Previous studies have largely focused on the direct effects of gaming addiction, with limited exploration of how social interactions within gaming contexts influence mental health (12). By focusing on Ludo Star, a game with deep cultural roots and widespread popularity in Pakistan, this research aims to provide insights that are both contextually relevant and broadly applicable.

Recent data underscores the growing prevalence of gaming addiction among young people, with significant variations observed across different regions and demographics (13). The immersive nature of online gaming, both consciously and unconsciously, contributes to its addictive potential, necessitating a comprehensive examination of its effects on mental health (14). For instance, a study conducted across six Asian countries found varying rates of internet addiction among teenagers, with significant implications for their mental health and social behavior (15). Similarly, research in China has linked extensive gaming hours to adverse mental health outcomes, further highlighting the global relevance of this issue (16).

The objective of this research is to operationalize gaming addiction in the context of Ludo Star and to explore its impact on psychological well-being through the mediator of social connectedness among university students in Lahore. This approach not only addresses the immediate effects of gaming addiction but also considers the broader social interactions that may mitigate or exacerbate these effects. Through a rigorous methodological framework, including correlational research design and purposive sampling, this study aims to contribute to the existing body of knowledge with findings that have practical implications for mental health professionals, educators, and policymakers.

By shedding light on the complex interplay between gaming addiction, social connectedness, and psychological well-being, this study seeks to inform interventions that promote healthier gaming habits and enhance mental health outcomes among young adults. The findings are expected to provide a basis for developing strategies to address the negative consequences of gaming addiction while leveraging the positive aspects of social connectedness to support psychological well-being.

2 Material and methods

The study utilized a correlational research design to explore the relationship between Ludo Star game addiction and psychological well-being, mediated by social connectedness, among university students in Lahore, Pakistan. A non-probability purposive sampling strategy was employed to select a sample of N=300 university students, comprising 157 men and 143 women aged between 18 and 25 years, all of whom regularly played the Ludo Star game on their mobile phones.

Participants were recruited based on specific inclusion criteria, which required them to be university students within the specified age range, owning mobile phones with the Ludo Star game installed. Exclusion criteria included students outside the age range, those who did not play Ludo Star, and individuals who were not university students. This approach ensured a targeted and relevant sample for the study objectives.

The assessment measures used in the study included the Gaming Addiction Scale (GASA), the Revised Social Connectedness Scale (SCS-R), and the Psychological Well-being Scale. The GASA, developed by Lemmens, Valkenburg, and Peter, is a 29-item Likert scale ranging from never (1) to very often (5), with a Cronbach's reliability coefficient of 0.94 (1). The SCS-R, a 20-item scale developed by Lee, scores items from 1 (strongly disagree) to 6 (strongly agree), with a Cronbach alpha of 0.92 (2). Items 3, 6, 7, 9, 11, 13, 15, 17, 18, and 20 were reverse-scored in this study. The Psychological Well-being Scale, developed by Ryff and Keyes, comprises 18 items scored from 1 to 7, with

higher scores indicating greater well-being. The Cronbach alpha for this scale ranged from 0.87 to 0.93 in the original validation studies (3).

Ethical considerations were strictly adhered to in accordance with the Helsinki Declaration. Prior to data collection, permission was obtained from the authors of the assessment measures. Institutional approval was also secured from the relevant authorities at the participating universities. Participants were briefed about the study's objectives and provided informed consent, ensuring their voluntary participation. They were assured of their anonymity and confidentiality, with the right to withdraw from the study at any point without any repercussions. The study ensured that no psychological or physical harm was caused to participants, and all data collected was reported accurately and cited properly.

Data collection was conducted through structured questionnaires distributed to participants. The demographic form included questions about gender, age, and education level, ensuring a comprehensive collection of participant characteristics. The completion of the survey took approximately 20 minutes, and participants were appreciated for their contribution to the study.

Data analysis was performed using SPSS version 25. Descriptive statistics were calculated to summarize the demographic characteristics of the sample. Correlation analyses were conducted to examine the relationships between Ludo Star game addiction, social connectedness, and psychological well-being. Mediation analysis was performed to assess the indirect effect of Ludo Star game addiction on psychological well-being through social connectedness. Additionally, independent sample t-tests were conducted to compare mean scores between male and female participants on the study variables.

The methodological rigor of this study, combined with ethical adherence and thorough data analysis, aimed to provide a comprehensive understanding of the impact of Ludo Star game addiction on psychological well-being among university students in Lahore, with significant implications for future research and practical interventions.

3 Results

The results section provides a detailed analysis of the relationships between Ludo Star game addiction, social connectedness, and psychological well-being among university students in Lahore, Pakistan. The data were analyzed using SPSS version 25, with the following findings presented in a structured format.

The sample consisted of 300 university students, including 157 men (52%) and 143 women (48%), with an age mean of 22.13 years (SD = 1.95). The majority of the participants were bachelor's students (84%), with the remaining 16% pursuing master's degrees.

Table 1: Demographic Characteristics of the Sample

Characteristic	n	%	M	SD
Men	157.0	52.0		
Women	143.0	48.0		
Age			22.13	1.95
Bachelor	252.0	84.0		
Master	48.0	16.0		

Correlation Analysis

Correlation analysis was performed to explore the relationships between Ludo Star game addiction, social connectedness, and psychological well-being. The results are presented in the table below.

Table 2: Correlation Analysis

Scale/Subscale	M	SD	1	2	3
Ludo Star game addiction	74.22	6.75	-	.15**	-.12*
Social connectedness	66.87	18.18	.15**	-	-.21**
Psychological well-being	68.12	20.0	-.12*	-.21**	-

Note. **p < .01, *p < .05.

The table shows a significant positive correlation between Ludo Star game addiction and social connectedness (r = .15, p < .01). However, Ludo Star game addiction and social connectedness both show significant negative correlations with psychological well-being (r = -.12, p < .05; r = -.21, p < .01, respectively).

A mediation analysis was conducted to assess whether social connectedness mediates the relationship between Ludo Star game addiction and psychological well-being. The regression coefficients are presented in the table below. The mediation analysis revealed that Ludo Star game addiction positively predicted social connectedness (β = .40, SE = .15, p = .009).

Table 3: Mediation Analysis

Antecedent	Consequent	β	SE	p	Bootstrap 95% CI
LSGA (X)	SC (M)	.40**	.15	.009	
SC (M)	PW (Y)	-.25	.16	.12	
Constant	PW (Y)				
R2		.02			
F		6.8			

Note: LSGA = Ludo Star game addiction, SC = Social Connectedness, PW = Psychological Well-being. **p < .01, *p < .05.

However, Ludo Star game addiction did not significantly directly predict psychological well-being (β = -.25, SE = .16, p = .12). Social connectedness significantly negatively predicted psychological well-being (β = -.21, SE = .06, p < .001). The indirect effect of Ludo Star game addiction on psychological well-being through social connectedness was significant, as indicated by the bootstrap confidence intervals.

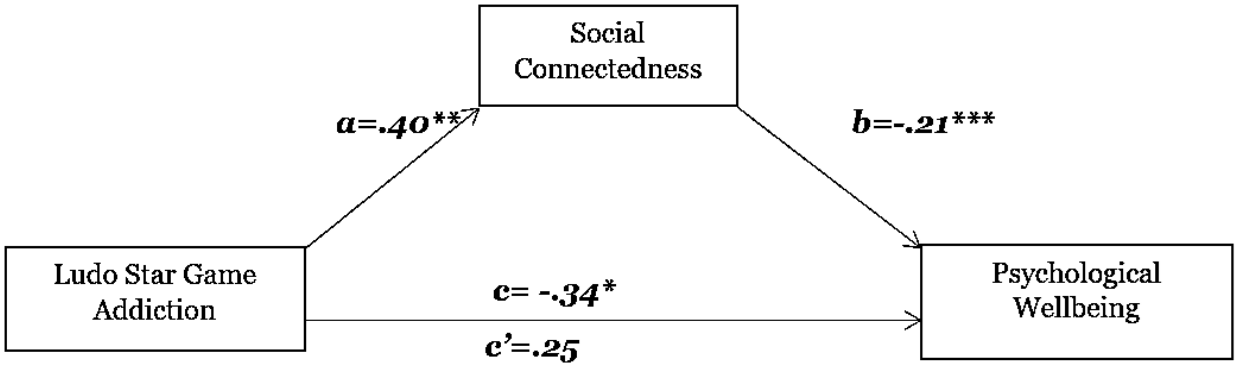

Figure 1 Schematic Connection between Ludo Star Game Addiction, Social Connectedness and Psychological Wellbeing

An independent sample t-test was conducted to compare the mean scores of men and women on Ludo Star game addiction, social connectedness, and psychological well-being. The results are presented in the table below.

Table 4: Independent Sample t-Test

Variable	Gender	M	SD	t (298)	p	Cohen's d
Ludo Star game addiction	Men	74.53	6.69	0.82	.40	0.09
Ludo Star game addiction	Women	73.88	6.82			
Social connectedness	Men	67.39	15.15	0.49	.62	0.05
Social connectedness	Women	66.32	21.05			
Psychological well-being	Men	67.0	21.69	-1.05	.29	0.03
Psychological well-being	Women	66.39	18.0			

No significant differences were found between men and women in terms of Ludo Star game addiction, social connectedness, and psychological well-being. However, men scored slightly higher on all study variables compared to women.

These findings provide a comprehensive understanding of the relationships between Ludo Star game addiction, social connectedness, and psychological well-being among university students in Lahore, highlighting the significant mediating role of social connectedness.

4 Discussion

The study aimed to investigate the relationship between Ludo Star game addiction and psychological well-being, with social connectedness as a mediator, among university students in Lahore, Pakistan. The results provided significant insights into the dynamics of gaming addiction and its impact on mental health, highlighting both direct and indirect effects.

The correlation analysis revealed a significant positive relationship between Ludo Star game addiction and social connectedness, indicating that students who were more addicted to the game tended to feel more socially connected. This finding aligned with previous research suggesting that online gaming can enhance social bonds and provide a sense of community (1). However, the study also found significant negative relationships between both Ludo Star game addiction and psychological well-being, and social connectedness and psychological well-being. These results suggested that while gaming might foster social connections, it simultaneously detracts from overall psychological well-being, corroborating earlier studies that linked gaming addiction to poor mental health outcomes such as increased stress, depression, and anxiety (2, 3).

The mediation analysis further illuminated these relationships by demonstrating that social connectedness significantly mediated the relationship between Ludo Star game addiction and psychological well-being. Specifically, while Ludo Star game addiction positively influenced social connectedness, the latter had a negative impact on psychological well-being. This nuanced finding echoed the complexity observed in the literature, where the social benefits of gaming are often overshadowed by its detrimental effects on mental health (4). The indirect effect of gaming addiction through social connectedness underscored the dual-edged nature of online gaming, providing both social benefits and psychological costs.

The independent sample t-test revealed no significant gender differences in Ludo Star game addiction, social connectedness, and psychological well-being, although men scored slightly higher on all variables. This finding was consistent with some previous studies that suggested men are more prone to gaming addiction and its associated social and psychological effects (5, 6). However, the lack of significant gender differences in this study suggested that gaming addiction's impacts are broadly similar across genders in this population, necessitating a more inclusive approach to addressing these issues.

One of the strengths of this study was its focus on a specific and culturally relevant game, Ludo Star, which provided contextual insights that are often overlooked in broader studies of gaming addiction. The use of validated scales for measuring gaming addiction, social connectedness, and psychological well-being also ensured the reliability and validity of the findings. Additionally, the mediation analysis added depth to the understanding of how gaming addiction affects mental health, revealing the indirect pathways through social connectedness.

However, the study had several limitations. The use of a cross-sectional design precluded any causal inferences, and the reliance on self-reported data might have introduced response biases. The sample was limited to university students in Lahore, which might not be representative of the broader population, and the purposive sampling technique might have further restricted the generalizability of the findings. The study's focus on a specific age group and educational level also limited its scope.

Future research should address these limitations by employing longitudinal designs to establish causal relationships and using more diverse and representative samples. Expanding the study to include a wider age range and different educational backgrounds could provide a more comprehensive understanding of gaming addiction's impact. Additionally, qualitative research could offer deeper insights into the personal experiences of gamers, complementing the quantitative findings.

In conclusion, this study contributed to the growing body of literature on gaming addiction by elucidating the complex interplay between Ludo Star game addiction, social connectedness, and psychological well-being among university students in Lahore. The findings underscored the importance of considering both the social benefits and psychological costs of online gaming, offering valuable implications for mental health interventions and policies. Promoting balanced gaming habits, enhancing awareness about the potential risks, and fostering alternative social and recreational activities could mitigate the negative impacts of gaming addiction on mental health.

5 Conclusion

In conclusion, the study highlighted the dual-edged nature of Ludo Star game addiction, demonstrating that while increased social connectedness is a benefit, it does not necessarily lead to improved psychological well-being. This finding underscores the importance of interventions that promote balanced gaming habits and raise awareness about the potential psychological risks associated with excessive gaming. Effective strategies should aim to mitigate the negative impacts on mental health while still allowing individuals to enjoy the social aspects of gaming. By fostering a balanced approach to gaming, these interventions can help maintain the social benefits while reducing the adverse effects on psychological well-being. Mental health professionals, educators, and policymakers should collaborate to develop comprehensive programs that educate young people about responsible gaming and provide support for those struggling with gaming addiction.

6 References

1. Lemmens JS, Valkenburg PM, Peter J. Development and Validation of a Game Addiction Scale for Adolescents. Media Psychology. 2009;12(1):77-95.
2. Lee RM, Draper M, Lee S. Social Connectedness, Dysfunctional Interpersonal Behaviors, and Psychological Distress: Testing a Mediator Model. Journal of Counseling Psychology. 2001;48(3):310.
3. Ryff CD, Keyes CL. The Structure of Psychological Well-Being Revisited. Journal of Personality and Social Psychology. 1995;69(4):719.
4. Afriwilda MT, Mulawarman M. The Effectiveness of Motivational Interviewing Counseling to Improve Psychological Well-Being on Students With Online Game Addiction Tendency. Islamic Guidance and Counseling Journal. 2021;4(1):106-15.
5. Ahn D, Shin DH. Observers Versus Agents: Divergent Associations of Video Versus Game Use With Empathy and Social Connectedness. Information Technology & People. 2016;29(3):474-95.
6. Almuhanna N, Alotaibi H, Al-Matham R, Al-Twairesh N, Al-Khalifa H. UMSG: An Extended Model to Investigate the Use of Mobile Social Games. IEEE Access. 2019;7:80277-86.
7. André F, Broman N, Håkansson A, Claesdotter-Knutsson E. Gaming Addiction, Problematic Gaming and Engaged Gaming–Prevalence and Associated Characteristics. Addictive Behaviors Reports. 2020;12:100324.
8. Billieux J, Schimmenti A, Khazaal Y, Maurage P, Heeren A. Are We Overpathologizing Everyday Life? A Tenable Blueprint for Behavioral Addiction Research. Journal of Behavioral Addictions. 2015;4(3):119-23.
9. Charlton JP, Danforth ID. Distinguishing Addiction and High Engagement in the Context of Online Game Playing. Computers in Human Behavior. 2007;23(3):1531-48.
10. Cheung G, Bala S, Lyndon M, Ma'u E, Rivera Rodriguez C, Waters DL, et al. Impact of the First Wave of COVID-19 on the Health and Psychosocial Well-Being of Māori, Pacific Peoples and New Zealand Europeans Living in Aged Residential Care. Australasian Journal on Ageing. 2022;41(2):293-300.
11. Domoff SE, Foley RP, Ferkel R. Addictive Phone Use and Academic Performance in Adolescents. Human Behavior and Emerging Technologies. 2020;2(1):33-8.
12. Fioravanti G, Dèttore D, Casale S. Adolescent Internet Addiction: Testing the Association Between Self-Esteem, the Perception of Internet Attributes, and Preference for Online Social Interactions. Cyberpsychology, Behavior, and Social Networking. 2012;15(6):318-23.
13. Gandaputra SA, Waluyo I, Efendi F, Wang JY. Insomnia Status of Middle School Students in Indonesia and Its Association With Playing Games Before Sleep: Gender Difference. International Journal of Environmental Research and Public Health. 2021;18(2):691.
14. Glaser P, Liu JH, Hakim MA, Vilar R, Zhang R. Is Social Media Use for Networking Positive or Negative? Offline Social Capital and Internet Addiction as Mediators for the Relationship Between Social Media Use and Mental Health. New Zealand Journal of Psychology (Online). 2018;47(3):12-18.
15. Goh C, Jones C, Copello A. A Further Test of the Impact of Online Gaming on Psychological Well-Being and the Role of Play Motivations and Problematic Use. Psychiatric Quarterly. 2019;90(4):747-60.
16. Griffiths M. A 'Components' Model of Addiction Within a Biopsychosocial Framework. Journal of Substance Use. 2009;10(4):191-7.
17. Hannah M, Sidani S. Outcomes of Social Connectedness for Older Adults: A Scoping Review. Journal of Clinical Nursing. 2017;26(11-12):1492-1505.
18. Huda H, Rahman T, Taher R, Anwar A, Priota J, Uddin MR. Online Gaming Addiction Among Bangladeshi Youth: A Case Study From Gamers' Perspectives. International Journal of Adolescence and Youth. 2020;25(1):553-72.
19. Jose PE, Rayan N, Pryor J. Does Social Connectedness Promote a Greater Sense of Well-Being in Adolescence Over Time? Journal of Research on Adolescence. 2012;22(2):235-51.
20. Kim EJ, Namkoong K, Ku T, Kim SJ. The Relationship Between Online Game Addiction and Aggression, Self-Control and Narcissistic Personality Traits. European Psychiatry. 2008;23(3):212-8.
21. Kim N, Hughes TL, Park CG, Quinn L, Kong ID. Altered Autonomic Functions and Distressed Personality Traits in Men Adolescents With Internet Gaming Addiction. Cyberpsychology, Behavior, and Social Networking. 2016;19(11):667-73.
22. Kuss DJ, Griffiths MD. Internet Gaming Addiction: A Systematic Review of Empirical Research. International Journal of Mental Health and Addiction. 2012;10(2):278-96.
23. Kuss DJ, Griffiths MD. Online Gaming Addiction in Children and Adolescents: A Review of Empirical Research. Journal of Behavioral Addictions. 2012;1(1):3-22.
24. Lemmens JS, Valkenburg PM, Peter J. Psychosocial Causes and Consequences of Pathological Gaming. Computers in Human Behavior. 2011;27(1):144-52.

25. Li H, Wang S. The Role of Cognitive Distortion in Online Game Addiction Among Chinese Adolescents. Children and Youth Services Review. 2013;35(9):1468-75.
26. Mak KK, Lai CM, Watanabe H, Kim DI, Bahar N, Ramos M, et al. Epidemiology of Internet Behaviors and Addiction Among Adolescents in Six Asian Countries. Cyberpsychology, Behavior, and Social Networking. 2014;17(11):720-8.
27. Mitchell SM, Jahn DR, Guidry ET, Cukrowicz KC. The Relationship Between Video Game Play and the Acquired Capability for Suicide: An Examination of Differences by Category of Video Game and Gender. Cyberpsychology, Behavior, and Social Networking. 2015;18(12):757-62.
28. Pontes HM. Investigating the Differential Effects of Social Networking Site Addiction and Internet Gaming Disorder on Psychological Health. Journal of Behavioral Addictions. 2017;6(4):601-10.
29. Roothman B, Kirsten DK, Wissing MP. Gender Differences in Aspects of Psychological Well-Being. South African Journal of Psychology. 2003;33(4):212-8.
30. Savci M, Aysan F. Social-Emotional Model of Internet Addiction. Psychiatry and Clinical Psychopharmacology. 2017;27(4):349-58.
31. Su W, Han X, Yu H, Wu Y, Potenza MN. Do Men Become Addicted to Internet Gaming and Women to Social Media? A Meta-Analysis Examining Gender-Related Differences in Specific Internet Addiction. Computers in Human Behavior. 2020;113:106480.
32. Sun X, Li X. Video Game Time and Psychosocial Well-Being in Chinese Children: The Mediating Role of Self-Esteem. Journal of Child and Family Studies. 2024;33(1):1-12.
33. Williams D, Yee N, Caplan SE. Who Plays, How Much, and Why? Debunking the Stereotypical Gamer Profile. Journal of Computer-Mediated Communication. 2008;13(4):993-1018.
34. Yuan K, Cheng P, Dong T, Bi Y, Xing L, Yu D, et al. Cortical Thickness Abnormalities in Late Adolescence With Online Gaming Addiction. PloS One. 2013;8(1).
35. Zhu S, Zhuang Y, Lee P, Li JCM, Wong PW. Leisure and Problem Gaming Behaviors Among Children and Adolescents During School Closures Caused by COVID-19 in Hong Kong: Quantitative Cross-Sectional Survey Study. JMIR Serious Games. 2021;9(2).

Disclaimers	
Author Contributions	Sobia Bashir planned the study, conducted the literature review, and wrote the methodology section. Muhammad Sajjad Shahid collected data, performed statistical analyses, and wrote the results and discussion sections. Maryam Bibi critically reviewed and edited the manuscript. Sara Mukhtar assisted with data collection and SPSS analysis. All authors read and approved the final manuscript.
Conflict of Interest	The authors declare that there are no conflicts of interest.
Data Availability	Data and supplements available on request to the corresponding author.
Funding	NA
Ethical Approval	Institutional Review Board (IRB) respective study placement.
Trial Registration	NA
Acknowledgments	NA

~ JHRR, ISSN: 2791-156X ~