

ISSN: 2584-0142

PSYCHOPEDIA
JOURNALSInternational Journal of
Interdisciplinary Approaches
in Psychology (IJIAP)

Exploring Psychological Correlates of Online Gaming Behaviour: Self-Esteem and Mental Well-Being in Adolescents

¹ Yashika, Student, M.A. Clinical Psychology, Chandigarh University

Yashikalohia6@gmail.com

² Dr Simplejit Kaur Dhanoa, Professor, Dept. of Psychology, Chandigarh University

mailto:drskdhanoa@gmail.com

Abstract: This study explored the psychological correlates of online gaming behaviour among adolescents, specifically focusing on gender differences. The study aimed to examine how self-esteem and mental well-being are related to online gaming behaviour among adolescents. A quantitative, cross-sectional design was employed, with a sample of 105 adolescents from private schools in the National Capital Region (NCR). Standardized measures were used, including the Internet Gaming Disorder Scale (IGDS), the Rosenberg Self-Esteem Scale, and Warwick-Edinburgh Mental Well-Being Scale. Analysis includes descriptive statistics, correlation test, and independent t-test. Findings revealed that higher scores on IGDS were significantly linked to lower self-esteem and mental well-being. Correlational analysis indicated that higher levels of online gaming behaviour were significantly associated with lower mental well-being in male participants, and no significant relationships were observed in female participants. Independent t-test revealed that male adolescents scored significantly higher on online gaming behaviour compared to females. These findings highlight the importance of psychological and social factors in understanding online gaming behaviour in adolescents and the need for gender-specific approaches in developing future interventions and research.

Keywords: *Adolescents, Online Gaming Behaviour, Gaming Addiction, Self-Esteem, Mental Well-Being, Gender Differences*

1. Introduction

Online gaming refers to playing video games over the internet, allowing players to interact with others in real-time. It has become a dominant form of digital entertainment, particularly among adolescents and young adults, due to its entertainment value and social connectivity. Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health (WHO, 2022). It is a critical developmental stage where significant physiological, psychological, and social changes take place, and prolonged use of video games in this vulnerable period can result in negative outcomes derailing these developmental processes (Smirni et al., 2021).

Erikson (1968) in his Psychosocial Developmental Theory defined adolescence as a stage of identity formation, where individuals experience “*identity vs. role confusion*,” navigating between self-exploration and societal expectations. Studies highlighted that 19% of adolescents were spending more than 3 hours on games, 18% were using video games with control, 20% of students were excessively using video games, and 17% of students fall under the addiction category (Navaneetham & Chandran, 2018; González-Bueso et al., 2018). These findings are supported by various other studies highlighting that 49% of adolescents neglected important activities to play online games and nearly 42.9% were classified as “Problematic Gaming”, in addition, 10.5% of them fell under the category of “Severe gaming addiction” (Nisha & Eljo, 2024; Alfaleh et al., 2024). While gaming offers cognitive and social benefits, excessive use of it has raised concerns about potential negative impacts on mental health, including diminished self-esteem, altered social connectedness, and compromised overall well-being.

Online Gaming Behaviour and Self-Esteem

Scerri et al. (2019) suggested that the association between gaming behaviour and need-fulfilment deficiencies could be explained through lower self-esteem and depression (Andreson et al., 2017). Further, studies have supported the results of a negative correlation between self-esteem, self-efficacy, happiness, and internet gaming addiction among adolescents (Akhouri et al., 2022; Belabbes et al., 2023; Teng et al., 2020; Adesanya et al., 2023). Various studies in the existing literature have tried to understand the relationship between self-esteem and online gaming behaviour among adolescents, but have limited focus on gender-specific studies. Addressing these gaps, this study aims to explore how self-esteem relates to online gaming behaviour while examining how gender influences these factors.

Online Gaming Behaviour and Mental Well-Being

Excessive use of the internet does have detrimental and pathological effects on the mental health of individuals, and excessive online gaming behaviour among adolescents has been increasingly linked to negative outcomes affecting mental well-being. Research suggested that excessive gaming may heighten the risk of developing symptoms of anxiety and depression, as adolescents often experience social isolation and reduced face-to-face interactions with peers and family members (Kuss & Griffiths, 2012). Additionally, adolescents heavily involved in gaming may struggle with emotional regulation and experience lower self-esteem due to poor academic performance or conflicts in personal relationships (Wartberg et al., 2019; Shrestha et al., 2024; Vander Neut et al., 2023 & Chamarro et al., 2024).

Gender Differences and Online Gaming

Gender plays a critical role in shaping how adolescents engage with online gaming. Existing literature has immensely supported this idea that boys are more likely to play video games frequently and identify as “gamers”, while girls use digital platforms more for social interactions and play casual games. Various studies have findings where males played more of fighting, role playing, shooting, and sports games online with friends, which might have positive effects on their social well-being, while females preferred casual and simulation games for relaxation and social interaction (Mandryk et al., 2020; Ewoldsen et al., 2012; Leonhard & Overå, 2021; Isorna-Folgar et al., 2024). There is a dearth of studies that focus specifically on female gamers in non-Western cultural settings, leaving a gap in understanding how gender may shape the psychological experiences tied to gaming. This study aims to address that gap by examining gender differences in gaming behaviour and its relationship to self-esteem and mental well-being. This study aims to examine the relationship between online gaming behaviour, self-esteem, and mental well-being, aiming to explore potential gender differences which remain inconclusive in previous studies.

1.1 Objectives

The following objectives were framed in the present study:

- To examine the interrelationship between online gaming behaviour, mental well-being, and self-esteem in adolescent boys and girls.
- To examine gender differences in the relationship between online gaming behaviour, mental well-being, and self-esteem in adolescents.

1.2 Hypothesis

Based on the objectives, the following hypotheses are proposed:

H1: There will be a significant negative or positive correlation between online gaming behaviour, mental well-being, and self-esteem in adolescents.

H2: There is a significant difference between male and female adolescents in the relationship between online gaming behaviour, mental well-being, and self-esteem.

2. Methodology

2.1 Research Design

This study employed a quantitative, correlational, and cross-sectional research design to examine the relationship between online gaming behaviour and its psychological correlates- self-esteem and mental well-being among adolescents. The design was selected to collect data at a single point in time and analyse patterns and associations across variables. In addition, a comparative analysis was conducted to explore potential gender differences in these psychological variables and online gaming patterns. The correlational component of the design enabled the identification of associations between these variables. Data were gathered using self-administered standardized questionnaires distributed to eligible adolescents, ensuring uniformity in measurement across participants. The cross-sectional design enabled data collection at a single point in time from school-going adolescents.

2.2 Participants

The study sample comprised 105 adolescents aged between 14 to 18 years, studying in private schools across the National Capital Region (NCR) of India. All the participants reported engaging in video gaming for approximately 2 to 3 hours daily on their personal electronic devices. A purposive sampling technique was used to select participants who met specific inclusion criteria aligned with the study's objectives.

Participants were excluded if they

- Did not fully complete the survey
- If parental consent was not provided
- Failed to meet the inclusion criteria
- Had a diagnosed psychological disorder or were undergoing medical or psychiatric treatment.

2.3 Test and Tools

- IGD-20 Test- The Internet Gaming Disorder Test (IGD-20 Test; Pontes et al., 2014)
- Rosenberg Self-Esteem Scale- (RSES; Rosenberg, 1965)
- Social Connectedness Scale–Revised- (SCS-R; Lee & Robbins, 1995)

- Warwick-Edinburgh Mental Well-Being Scale- (WEMWBS; Tennant et al., 2007)

2.4 Statistical Analysis

A sample of 105 adolescents was collected (N=105). Data analysis was done by collecting the arithmetic mean, Standard Deviation, and Correlations of the aforementioned variables using SPSS.

3. Results

A sample of 105 adolescents was collected (N=105). Data analysis was done by collecting the arithmetic mean, Standard Deviation, and Correlations of the aforementioned variables using SPSS.

Table 1: Demographic Characteristics of the Sample (N=105)

Variable	Category	Frequency (n)	Percentage %
Gender	Male	68	64.7
	Female	37	35.2
Age (in years)	Mean (SD)	–	15.59 (1.49)
School Type	Private	105	100.0

Note. Age is presented as Mean (Standard Deviation). All other variables are presented as frequencies and percentages.

The above table displays the descriptive statistics related to gender, age, and school type of participants. The mean age was found to be 15.59 (SD = 1.49). The minimum age was 14 years, and the maximum age was 18 years.

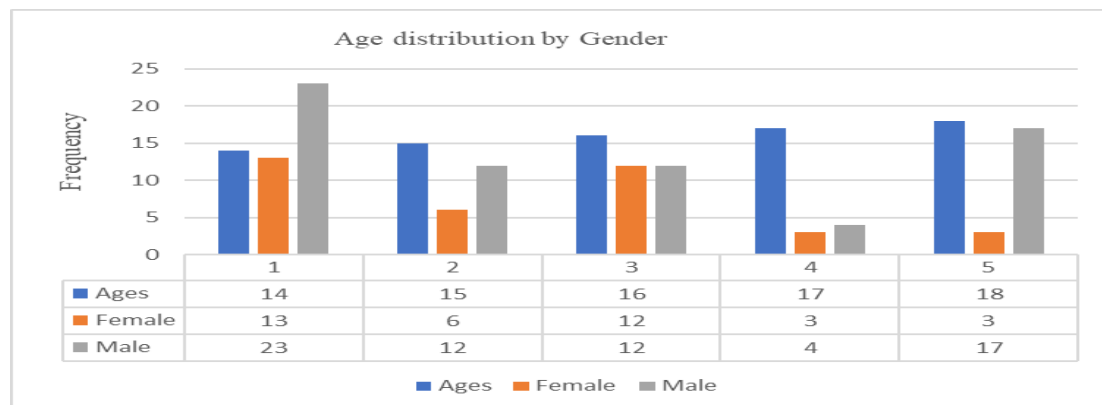


Figure 1: Shows the age distribution and the frequency range of the sample (N=105) along with gender distribution.

Table 2: *Descriptive Statistics for Key Study Variables (N=105)*

Variables	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
Online Gaming Behaviour	55.12	12.75	30.00	87.00
Self-Esteem	27.56	4.04	18.00	41.00
Mental Well-Being	47.39	10.81	25.00	80.00

The above table, Shows the mean scores and standard deviation of key variables of the study.

The above table displays the descriptive statistics related to key variables of the study i.e., Online Gaming Behaviour, Self-Esteem, and Mental Well Being. Mean score for online gaming behaviour was 55.12 (SD=12.75), with participant scores ranging from a minimum of 30.00 to a maximum of 87.00. The mean Self-Esteem score was 27.56 (SD=4.04), Mental Well-Being score was 47.39 (SD= 10.81).

Table 3: *Pearson Correlation Coefficients Between Key Variables (N=105)*

Variable	Gaming Behaviour	Self-Esteem	Mental Well-Being
Gaming Behaviour	1.00	-.17	-.24
Self-Esteem	-.17	1.00	.50
Mental Well-Being	-.24	.50	1.00

A Pearson product-moment correlation analysis was conducted to examine the relationship between Online Gaming Behaviour, Self-Esteem, and Mental Well-Being. Results showed a significant negative correlation between online gaming and self-esteem ($r = -.17$, $p < .05$), mental well-being ($r = -.24$, $p < .05$), suggesting that higher gaming behaviour is associated with lower levels of these psychosocial factors.

Table 4: *Correlational Matrix for Male Participants (N=68)*

Variable	Online Gaming Behaviour	Self-Esteem	Mental Well-Being
Online Gaming Behaviour	1.00	-0.15	-0.372
Self-Esteem	-0.15	1.00	-0.378
Mental Well-Being	-0.372	-0.378	1.00

Note: $p < 0.05$ indicated significance. $df = 66$ for all correlations.

Separate Pearson correlation analyses were conducted for male and female adolescents to examine the interrelationship between Online Gaming Behaviour, Self-Esteem, and Mental Well-Being. In male adolescents, Online Gaming Behaviour was negatively correlated with mental well-being ($r = -0.37$, $p = 0.002$), suggesting that higher gaming behaviour was associated with lower mental well-being. No significant correlation was found between online gaming behaviour and self-esteem ($r = -0.15$, $p = 0.21$).

Table 5: *Correlational Matrix for Female Participants (N=37)*

Variable	Online Gaming Behaviour	Self-Esteem	Mental Well-Being
Online Gaming Behaviour	1.00	-0.20	-0.05
Self-Esteem	-0.20	1.00	0.70
Mental Well-Being	-0.05	0.70	1.00

Note: $p < 0.05$ indicated significance. $df = 35$ for all correlations.

In female adolescents, no significant correlation was found between online gaming behaviour and self-esteem ($r = -0.20$, $p = 0.21$) or between online gaming behaviour and mental well-being ($r = -0.05$, $p = .74$).

Table 6: *Gender-Wise Comparison of Key Study Variables (N=105)*

Variable	Gender	Mean (M)	SD	t	p
Gaming Behaviour	Male	57.14	12.77	2.24	0.02
	Female	51.40	12.01		
Self-Esteem	Male	27.51	4.00	-.16	0.87
	Female	27.64	4.18		
Mental Well-Being	Male	47.45	10.00	.08	0.93
	Female	47.27	12.31		

Note: M =mean; SD = Standard Deviation. Independent samples t -tests were conducted to examine gender differences. P -values are two-tailed. A p -value $< .05$ indicates statistical significance.

An independent samples t -test was conducted to compare male and female participants on online gaming behaviour, self-esteem, and mental well-being. Results revealed a significant gender difference in online gaming behaviour, $t = 2.24$, $p = .02$, with

males ($M = 57.14$, $SD = 12.77$) scoring significantly higher than females ($M = 51.40$, $SD = 12.01$). This suggests that male adolescents engaged in more online gaming than their female counterparts. No significant gender differences were found for self-esteem, $t = -.16$, $p = 0.87$, or mental well-being, $t = 0.08$, $p = .93$. This indicates that males and females reported similar levels of self-esteem and mental well-being.

4. Discussion

The present study aimed to examine the interrelationship between online gaming behaviour, self-esteem, and mental well-being among adolescent boys and girls, as well as to explore gender differences in these relationships. Participants were approached using a purposive sampling technique, wherein adolescents aged 14 to 18 years who regularly engaged in video gaming were approached in informal settings (e.g., community areas, gaming centres, online groups, or through personal networks). Participants were told about their confidentiality rights and their responses would be used solely for academic research purposes. Data was collected using a self-report questionnaire, either in physical form or via Google Forms, and took approximately 15-20 minutes to complete. Participation was entirely voluntary, and individuals were informed of their right to withdraw from the study at any point they felt uncomfortable. This topic was chosen for the study, inspired by observing how prevalent online gaming has become among adolescents. Many adolescents lack awareness about the potential psychological impact of prolonged online gaming, which negatively impacts their mood, concentration, and social relations.

For the first hypothesis, correlation analyses revealed that online gaming behaviour is negatively associated with self-esteem and mental well-being, particularly for male adolescents prolonged gaming negatively impacts mental well-being and self-esteem. In contrast, these relationships were weaker or non-significant in female participants. These findings support the existing literature that claims that players with lower self-esteem were more likely to develop obsessive gaming patterns, and it helps them to engage in gaming, but does not contribute to a sense of purpose or fulfilment (Sibilla et al., 2021). Further, studies supported (Vander Neut et al., 2023) the relationship between problematic gaming and mental well-being factors, indicating adolescents who are intensive gamers have a lower level of social and mental well-being. Adolescents who exhibit problematic gaming behaviour have decreased psychosocial well-being characterized by anxious thoughts, withdrawn and depressed behaviour, social problems, and aggression (Pappa et al., 2016). Problematic gaming behaviour is associated with many psychological health problems like depression,

anxiety, disturbed sleep, fatigue, low self-esteem, and low life satisfaction, which might be due to poor well-being. This is supported by a study claiming that persons with poor well-being had 3 times higher problematic online gaming behaviour compared to those with normal well-being (Chandra et al., 2022).

For the second hypothesis, independent t-test was applied to examine the gender differences in the relationship between online gaming behaviour, self-esteem, and mental well-being, and the results revealed significant gender differences, with males reporting higher gaming behaviour than females. However, no significant gender differences were observed in self-esteem or mental well-being, indicating that these psychosocial factors may be consistent across genders in the population studied. The results support multiple existing literatures mentioning males are more likely to engage in online gaming and develop problematic gaming behaviour (Ferreira et al., 2020; Adesanya et al., 2023; Nogueira-López et al., 2023). Various studies have consistently indicated that boys/males are more likely to develop problematic gaming behaviours compared to females. This disparity can be attributed to a combination of psychological, social, and behavioural factors. For a long period, gaming culture, its design features have favoured male participation, and video gaming has been associated with stereotypical male characteristics like aggression and frequently containing sexual content (Lopez-Fernandez et al., 2019; Nogueira-López et al., 2023). A study done by (Lopez-Fernandez et al., 2019) mentioned that females are less encouraged to play video games due to negative expectations based on gender roles and their experiences during game play because of perceptions of female characters in gaming graphics which might feel as harassment to female gender and thereby limiting their numbers as gamers. There were no significant differences observed in self-esteem or mental well-being, indicating a potentially shifting trend in how psychological patterns function across genders. This study has tried to address the research gap by integrating multiple psychological constructs within a single framework to understand online gaming behaviour, especially within the Indian adolescent's context, which is still underrepresented in the global research arena.

References

- Adesanya, D. D., Akpunne, B., Adegbayi, A., & Charles-Akpunne, O. (2023). Self-esteem, family functioning and Internet Gaming Disorder among in-school adolescents. *Corpus Intellectual*, 2(3), 1–23.

- Akhouri, D., Madiha, M., Imam, K., & Kumar, S. (2022). Assessment of psychosocial factors of adolescents involved in internet gaming. *Journal of Education: Rabindra Bharati University*, 24(6), 62–72.
- Alfaleh, A., Alzahr, A., Alkattan, A., Alabdulkareem, K., & Ibrahim, M. H. (2024). Prevalence of video gaming disorder in Saudi Arabia: A school-based national study. *Journal of the Egyptian Public Health Association*, 99(1), 20.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- Anderson, E. L., Steen, E., & Stavropoulos, V. (2017). Internet use and problematic internet use: A systematic review of longitudinal research trends in adolescence and emergent adulthood. *International Journal of Adolescence and Youth*, 22(4), 430–454. <https://doi.org/10.1080/02673843.2016.1227716>
- Belabbes, I., Douk, K., Elmaataoui, Z., & Kisra, H. (2023). Problematic video game use in adolescents and psychosocial functioning. *European Psychiatry*, 66(S1), S724. <https://doi.org/10.1192/j.eurpsy.2023.1518>
- Chamarro, A., Díaz-Moreno, A., Bonilla, I., Cladellas, R., Griffiths, M. D., Gómez-Romero, M. J., & Limonero, J. T. (2024). Stress and suicide risk among adolescents: The role of problematic internet use, gaming disorder and emotional regulation. *BMC Public Health*, 24(1), 326.
- Chandra, R., Kumar, S., Bahurupi, Y., & Rawat, V. S. (2022). The association of problematic online gaming behavior with mental well-being and depressive symptoms among students of professional colleges in Rishikesh. *Cureus*, 14(2), e22077. <https://doi.org/10.7759/cureus.22077>
- Erikson, E. H. (1968). *Identity: Youth and crisis* (No. 7). W. W. Norton & Company.
- Ewoldsen, D. R., Eno, C. A., Okdie, B. M., Velez, J. A., Guadagno, R. E., & DeCoster, J. (2012). The influence of violent video games on aggression: A meta-analysis. *Aggression and Violent Behavior*, 17(4), 352–362.
- Fernandez, O. L., Williams, A. J., Griffiths, M. D., & Kuss, D. J. (2019). Female gaming, gaming addiction, and the role of women within gaming culture: A narrative literature review. *Frontiers in Psychiatry*, 10, 454.
- Ferreira, F. D. M., Bambini, B. B., Tonsig, G. K., Fonseca, L., Picon, F. A., Pan, P. M., ... & Gadelha, A. (2020). Predictors of gaming disorder in children and adolescents: a school-based study. *Brazilian Journal of Psychiatry*, 43, 289-292.

- González-Bueso, V., Santamaría, J. J., Fernández, D., Merino, L., Montero, E., & Ribas, J. (2018). Association between internet gaming disorder or pathological video-game use and comorbid psychopathology: A comprehensive review. *International Journal of Environmental Research and Public Health*, 15(4), 668.
- Isorna-Folgar, M., Mateo-Orcajada, A., Failde-Garrido, J. M., Dapia-Conde, M. D., & Vaquero-Cristóbal, R. (2024). Influence of gender, parental control, academic performance and physical activity level on the characteristics of video game use and associated psychosocial problems in adolescents. *Behavioral Sciences*, 14(12), 1204.
- Kaye, L. K., Kowert, R., & Quinn, S. (2017). The role of social identity and online social capital in competitive online gaming. *Computers in Human Behavior*, 74, 215–223.
- Kuss, D. J., & Griffiths, M. D. (2012). Internet gaming addiction: A systematic review of empirical research. *International Journal of Mental Health and Addiction*, 10(2), 278–295. <https://doi.org/10.1007/s11469-011-9318-5>
- Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The Social Connectedness and the Social Assurance scales. *Journal of Counseling Psychology*, 42(2), 232–241. <https://doi.org/10.1037/0022-0167.42.2.232>
- Leonhardt, M., & Overå, S. (2021). Are there differences in video gaming and use of social media among boys and girls? —A mixed methods approach. *International Journal of Environmental Research and Public Health*, 18(11), 6085.
- Mandryk, R. L., Frommel, J., Armstrong, A., & Johnson, D. (2020). How passion for playing World of Warcraft predicts in-game social capital, loneliness, and wellbeing. *Frontiers in Psychology*, 11, 2165.
- Navaneetham, J., & Chandran, J. (2018). Video game use among schoolchildren and its impact on the study habits. *Indian Journal of Social Psychiatry*, 34(3), 208.
- Nisha, K. R., & Eljo, D. J. O. J. G. (2024). Examining gender disparities in adolescent online gaming addiction. *South Eastern European Journal of Public Health*, 1337–1345. <https://doi.org/10.70135/seejph.vi.2>
- Nogueira-López, A., Rial-Boubeta, A., Guadix-García, I., Villanueva-Blasco, V. J., & Billieux, J. (2023). Prevalence of problematic Internet use and problematic gaming in Spanish adolescents. *Psychiatry Research*, 326, 115317.
- Pappa, E., Apergi, F. S., Ventouratou, R., Janikian, M., & Beratis, I. N. (2016). Online gaming behavior and psychosocial well-being in Greek adolescents. *The European Journal of Social and Behavioural Sciences*, 15(1), 1988-1998.

- Pontes, H. M., Király, O., Demetrovics, Z., & Griffiths, M. D. (2014). The conceptualization and measurement of DSM-5 Internet Gaming Disorder: The development of the IGD-20 Test. *PLOS ONE*, 9(10), e110137. <https://doi.org/10.1371/journal.pone.0110137>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.
- Scerri, M., Anderson, A., Stavropoulos, V., & Hu, E. (2019). Need fulfilment and internet gaming disorder: A preliminary integrative model. *Addictive Behaviors Reports*, 9, 100144.
- Shrestha, I., Pun, D., Basnet, I., Koirala, K., & Mahat, D. (2024). Adolescents in the gaming zone: A study on depression, anxiety, loneliness. *International Journal of Applied Educational Research*, 2(6), 439–454.
- Sibilla, F., Musetti, A., & Mancini, T. (2021). Harmonious and obsessive involvement, self-esteem, and well-being. A longitudinal study on MMORPG players. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 15(3), Article 1. <https://doi.org/10.5817/CP2021-3-1>
- Smirni, D., Garufo, E., Di Falco, L., & Lavanco, G. (2021). The playing brain. The impact of video games on cognition and behavior in pediatric age at the time of lockdown: A systematic review. *Pediatric Reports*, 13(3), 401–415.
- Teng, Z., Pontes, H. M., Nie, Q., Xiang, G., Griffiths, M. D., & Guo, C. (2020). Internet gaming disorder and psychosocial well-being: A longitudinal study of older-aged adolescents and emerging adults. *Addictive Behaviors*, 110, 106530.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*, 5, 63. <https://doi.org/10.1186/1477-7525-5-63>
- Thakur, P. C., Sharma, M. K., Mohan, V., Kommu, J. V. S., Anand, N., & Marimuthu, P. (2023). Gaming among female adolescents: Profiling and psychopathological characteristics in the Indian context. *Frontiers in Psychiatry*, 14, 1081764.
- Van Der Neut, D., Peeters, M., Boniel-Nissim, M., Klanšček, H. J., Oja, L., & van den Eijnden, R. (2023). A cross-national comparison of problematic gaming behavior and well-being in adolescents. *Journal of Behavioral Addictions*, 12(2), 448–457. <https://doi.org/10.1556/2006.2023.00010>
- Wartberg, L., Kriston, L., Zieglermeier, M., Lincoln, T. M., & Kammerl, R. (2019). A longitudinal study on psychosocial causes and consequences of internet gaming disorder in adolescence. *Psychological Medicine*, 49(2), 287–294. <https://doi.org/10.1017/S003329171800082X>

World Health Organization. (2019). *International classification of diseases for mortality and morbidity statistics* (11th rev.).

World Health Organization. (2022). *Adolescence: A period of transition*. <https://www.who.int>