Indian Journal of Clinical Psychology
Vol. 50, No. 2, 62-65
Original Research Article

Time Spent On Playing Online Games: A Comparative Study of Problematic and Non-Problematic Gamers

Mahima Sahi[1] and Geeta Bhagat[2]

ABSTRACT

Aim: Over the last few decades researchers have been intrigued by the increasing incidence of Problematic Gaming among adolescents and a large body of recent literature is focused on the amount of time *"Gen Z"* likes to spend on playing Online Games. However, whether the "Time Spent" on playing Online Games is a significant criterion for classifying gaming as "Problematic" remains unclear. Objective: For this purpose, the current investigation attempts to study the association between "Time spent on playing games" and 'Problematic Gaming" among adolescents. Methods and Material: The sample comprised of 300 adolescents (150 males and 150 females) in the age range of 14-16 years from various schools of Chandigarh, Mohali and Panchkula (India). The Problematic Online Gaming Questionnaire-Short Form, POGQ-SF was administered and demographic information was collected from the participants using multiple choice questions including time spent on playing online games. Data was analysed using the Pearson Chi-Square test. Results: Results revealed a significant difference in the Time Spent on playing Online Games between Problematic and Non-Problematic gamers over the Weekend ($p<.05$). Findings from the current study, thus, could be used heuristically to consider "Time Spent" on playing games as an important criterion for classifying gaming as "Problematic".

Keywords: *Time spent, Problematic Gaming, Adolescents*

INTRODUCTION

Online Gaming culture has been gaining popularity among the adolescents over the last few years, wherein, gaming is amongst the most favoured recreational activities for the younger generations **(**Andre et al., 2020). A recent U.S. based study reported that 70% of those who play games are below 18 years of age (Entertainment Software Association, 2018). And even though gaming is associated with multiple social, cognitive and motor benefits (Nuyens et al., 2018), there is always a risk of gaming to become "Problematic" (Andre et al., 2020) and resulting in multiple negative health consequences (Kumar et al., 2021).

Problematic Gaming, thereby, is understood as a consistent pattern of gaming that starts to interfere with the routine functioning of the individual **(**Demetrovics et al., 2012). According to Van Rooij et al. (2011) and Kuss and Griffiths (2012), there are two key aspects of Problematic Gaming:

a. Individuals continue to engage in gaming activity despite knowing about its negative consequences and that often results in interpersonal difficulties for the individual

b. A substantial amount of time is spent on gaming activities, wherein, gaming starts to interrupt the routine of the individual

Recent studies by Kumar et al. (2021) highlight that the "time" individuals spend on playing games is associated with pathological health consequences such as musculoskeletal, psychosomatic along with anxious and depressive conditions (Hellstrom et al., 2015). This implies that the "number of hours" an individual spends on playing games is closely associated with "Problematic" patterns of gaming. Contrary to this idea, earlier studies of Griffiths (2009), posited that the "time spent" on playing games, in fact, should not be considered as an essential a criterion for classifying gaming as "Problematic". Further, Lee and Leeson (2015) depict that even though the "Time Spent" on playing games is a strong risk condition for Problematic Gaming behaviours it still cannot be considered a clear "indicator" of Problematic Gaming.

This paradox generates curiosity to dive deeper into the subject matter and explore if "Time Spent" on playing games is significantly associated with "Problematic Gaming" behaviour amongst adolescents. This would further help in generating intervention strategies that attempt to reduce the number of hours spent on gaming and consequently the pathological effects of playing online games.

METHOD

Aim & Objective: The increasing popularity of the time spent on playing Online Games amongst social scientific researchers has generated an interest to explore the association between Time Spent on Playing Online Games and Problematic Gaming. For this purpose, the current investigation aims to study the association between "Time spent on Gaming" and 'Problematic Gaming" behavior amongst adolescents.

Hypothesis: Based on the review of literature, following hypotheses were proposed:

1. Problematic Gamers were expected to spend more Time on Playing Online Games as compared to Non-Problematic Gamers on Weekdays.

[1] Research Scholar, Department of Psychology, Panjab University, Chandigarh
[2] Assistant Professor & Head, Department of Psychology, Mehr Chand Mahajan DAV College for Women, Sector 36-A, Chandigarh

2. Problematic Gamers were expected to spend more Time on Playing Online Games as compared to Non-Problematic Gamers on Weekends.

Procedure:

Sample

The sample comprised of 300 adolescents (150 males and 150 females) in the age range of 14-16 years. For this purpose, subjects were contacted from various schools in Chandigarh, Mohali and Panchkula. Participants were selected using a purposive sampling technique and demographic information was also obtained from the participants.

Tests and Tools

Following standardized tests and tools were used to assess Problematic Gaming and Time Spent on Playing Online Games-

1. **Problematic Online Gaming Questionnaire Short-Form (POGQ-SF) (**Demetrovics et al., 2012): The test comprised of 12 questions associated with preoccupation, overuse, immersion, interpersonal conflict, social isolation and withdrawal. To each item there is a graded response (1= never to 5= always). According to Papay et al., (2013) a respondent scoring 32 or above from a maximum possible score of 60 was to be classified as a Problematic Gamer and consequently the one scoring below 32 as a Non-Problematic Gamer. The test has good internal consistency (Cronbach's alpha = .91) and high discriminant validity (.75).
2. **Time Spent on Playing Online Games**: The Time Spent on playing online games was recorded along with the demographic information, using two multiple choice questions i.e. "How many hours do you play online games on a *Weekday*?" and "How many hours do you play online games on a *Weekend*?" Each question had four options to choose from i.e. "less than 2 hours", "2-4 hours", "4-8 hours" and "more than 8 hours per day".

Statistical Analysis

Keeping in view the objectives and the hypotheses of the current study descriptive frequencies and percentages along with Pearson Chi-square test were administered using the SPSS software package.

RESULTS

Table 1: Frequency and Percentage of Time Spent on Gaming (Weekday) (n=300)

No. of Hours	Problematic Gamers		Non-Problematic Gamers		All	
	N	%	N	%	N	%
Less than 2 hours	118	78.70%	135	90.00%	253	84.30%
2-4 hours	26	17.30%	13	8.70%	39	13.00%
4-8 hours	4	2.70%	1	0.70%	5	1.70%
More than 8 hours	2	1.30%	1	0.70%	3	1.00%
All	150	100.00%	150	100.00%	300	100.00%

Table 2: Pearson Chi Square Results of Time Spent on Gaming (Weekday) for Comparing Problematic and Non-Problematic Gamers (N= 300)

Time Spent on Gaming	Problematic Gamers	Non-Problematic Gamers	Chi Square	P value
Less than 2 hours	118	135	7.609	0.06
2-4 hours	26	13		
4-8 hours	4	1		
More than 8 hours	2	1		
Total	150	150		

P<.05*, p<.01**

Table 3: Frequency and Percentage of Time Spent on Gaming (Weekend) (n=300)

No. of Hours	Problematic Gamers		Non-Problematic Gamers		All	
	N	%	N	%	N	%
Less than 2 hours	90	60.00%	113	75.30%	203	67.70%
2-4 hours	47	31.30%	31	20.70%	78	26.00%
4-8 hours	12	8.00%	4	2.70%	16	5.30%
More than 8 hours	1	0.70%	2	1.30%	3	1.00%
All	150	100.00%	150	100.00%	300	100.00%

Table 4: Pearson Chi Square Results of Time Spent on Gaming (Weekend) for Comparing Problematic and Non-Problematic Gamers (N= 300)

Time Spent on Gaming	Problematic Gamers	Non-Problematic Gamers	Chi Square	P value
Less than 2 hours	90	113	10.221	0.02*
2-4 hours	47	31		
4-8 hours	12	4		
More than 8 hours	1	2		
Total	150	150		

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

DISCUSSION

The current investigation aimed to evaluate the association between "Time spent on Gaming" and 'Problematic Gaming" behavior amongst adolescents. For this purpose, descriptive frequencies and percentages of Time Spent on Gaming by Problematic and Non-Problematic gamers were calculated along with calculation of Pearson Chi-square.

Results from Table 1, depict the frequency and percentage of Time Spent on Gaming by Problematic and Non-Problematic Gamers on Weekdays. As per the findings 1.30% of Problematic Gamers spent "more than 8 hours" playing games compared to 0.70% of Non-Problematic Gamers. And 2.70% of Problematic Gamers spend "4-8 hours" in comparison to 0.70% of Non-Problematic Gamers on playing games. While 17.30% of Problematic Gamers spend "2-4 hours" on gaming compared to 8.70% of Non-Problematic Gamers. Lastly, 78.70% of Problematic Gamers spend "less than 2 hours" playing Online Games compared to 90% of Non-Problematic Gamers. These findings, thus, suggest that a higher percentage of Problematic Gamers spend a greater number of hours playing Online Games as compared to Non-Problematic Gamers on Weekdays. Also, the only category in which the percentage of Non-

Problematic Gamers was higher than Problematic Gamers was the "less than 2 hours" category which further stands consonant with the hypothesis of the investigation.

Further, results from Table 2, depict the chi-square analysis of Time Spent on Gaming (Weekday) and as per the findings no significant difference was observed between the Time Spent on playing Online Games (Weekdays) of Problematic and Non-Problematic Gamers i.e. X^2= 7.609. Therefore, the hypothesis that "Problematic Gamers spend more Time on Playing Online Games as compared to Non-Problematic Gamers on Weekdays" was rejected.

Results from Table 3, depict the frequency and percentage of Time Spent on Gaming by Problematic and Non-Problematic Gamers on the Weekend. As per the findings 0.70% of Problematic Gamers spend "more than 8 hours" playing games compared to 1.30% of Non-Problematic Gamers. And 8% of Problematic Gamers spend "4-8 hours" playing online games in comparison to 2.70% of Non-Problematic Gamers. While 31.30% of Problematic Gamers spend "2-4 hours" on gaming compared to 20.70% of Non-Problematic Gamers. Lastly, 60% of Problematic Gamers spend "less than 2 hours" playing Online Games compared to 75.30% of Non-Problematic Gamers. This implies, that a higher percentage of Problematic Gamers spend "2-4" hours and "4-8" hours playing Online Games as compared to Non-Problematic Gamers on the Weekends. While a lesser percentage of Problematic Gamers spend "less than 2 hours" playing Online Games on the weekend in comparison to Non-Problematic Gamers.

Since, a higher percentage of Problematic Gamers spend more time playing Online Games in comparison to Non-Problematic Gamers on the Weekend, Pearson Chi-Square analysis was also administered to find the association between "Time Spent on Gaming" and "Problematic Gaming" behaviour on the Weekend. As evident from the Chi-Square analysis in Table 4, significant difference was observed between Problematic and Non-Problematic Gamers Time Spent on playing Online Games (Weekend), i.e. X^2= 10.221 ($p<.05$). Therefore, the hypothesis that "Problematic Gamers spend more Time on Playing Online Games as compared to Non-Problematic Gamers on the Weekend" was supported.

The findings from the current investigation also stand consonant with the literary review, wherein, studies of Choo et al. (2010); King et al. (2010) suggest that the amount of time gamers spend on playing games is critical for classifying gaming as Pathological or Non-Pathological. Further, a recent study of Sincek et al. (2017) depicted that Problematic Gamers spend more than 5 hours on playing games every day that further causes them to be at a higher risk of experiencing negative consequences such as bullying and cyberbullying as compared to Non-Problematic Gamers. The findings of Manniko et al. (2017) were also consonant with the above studies, wherein, their findings highlighted that there was a positive association between "Time Spent on Gaming" and "Problematic Gaming" behaviour amongst adolescents who on an average spent one hour playing action, casual and digital games. **Further, Nakayama et al. (2020)** posited that Problematic Gamers woke-up and slept at later hours in comparison to Non-Problematic Gamers and that spending time "weekly" on gaming at a younger age was a potential risk factor of Problematic Gaming behaviour amongst adolescents. From the above listed studies, it can thus be implied that 'Time Spent on playing Online Games' does have "negative" consequences for gamers and can contribute to Problematic Gaming behaviours.

CONCLUSION

The current investigation, therefore, supplements the previous findings by depicting a "significant association" between Time Spent on Gaming and Problematic Gaming Behaviour amongst adolescents. But a limitation of the study was that "Time Spent" on gaming was recorded categorically instead of using a continuous scale which limited the results to provide a "range" over the "exact" number of hours a Problematic Gamer would spend on playing games in comparison to a Non-Problematic Gamer. So future studies should attempt to overcome this limitation by using more specific means to measure Time Spent on playing Games.

The current study can, therefore, be considered one amongst the preliminary works that have attempted solidify the supposition that Problematic Gaming and Time Spent on playing Games are positively associated. Results from this study could also provide cues for intervention based researches that may target to reduce the interval of time adolescents spend on playing games and consequently minimize their Problematic Gaming behaviours.

REFERENCES

Andre, F., Broman, N., Hakansson., A., & Claesdotter-Knutsson, E. (2020). Gaming addiction, problematic gaming and engaged gaming – Prevalence and associated characteristics. *Addictive Behaviors Reports, 12*, 100324. https://doi.org/10.1016/j.abrep.2020.100324

Choo, H., Gentile, D. A., Sim, T., Li, D., Khoo, A., & Liau, A. K. (2010). Pathological Video-Gaming among Singaporean Youth. *Annals Academy of Medicine Singapore, 39*(11), 822-829. https://www.ncbi.nlm.nih.gov/pubmed/21165520

Demetrovics, Z., Urbán, R., Nagygyörgy, K., Farkas, J., Griffiths, M. D., Pápay, O., Kokonyei, G., Felvinczi, K., & Oláh, A. (2012). The development of the Problematic Online Gaming Questionnaire (POGQ). *PLoSONE, 7*(5), Article e36417. https://doi.org/10.1371/journal.pone. 0036417

Entertainment Software Association [ESA] (2018). Essential Facts About the Computer and Video Game Industry. Retrieved on March 18, 2020, from http://www.theesa.com/article/essential-facts-computer-video-game-industry-2018/

Griffiths, M. D. (2009). The Role of Context in Online Gaming Excess and Addiction: Some Case Study Evidence. *International Journal of Mental Health and Addiction, 8*(1), 119-125. https://doi.org/10.1007/s11469-009-9229-x

Hellström, C., Nilsson, K. W., Leppert, J., & Åslund, C. (2015). Effects of adolescent online gaming time and motives on depressive, musculoskeletal, and psychosomatic symptoms. *Upsala Journal of Medical Sciences, 120*, 263-75.

King, D. L., Delfabbro, P. H., & Griffiths, M. D. (2010). Recent innovations in video game addiction research and theory. *Global Media Journal (Australian Edition), 4*(1). https://www.researchgate.net/publication/255786701

Kumar, P., Patel, V. K., Tiwari, D. S., Vasavada, D. A., Bhatt, R. B., & Chanpa, N. B. (2021). Gaming pattern, prevalence of problematic gaming, and perceived stress level among the Indian medical graduate. *Journal of Mental Health and Human Behavior, 26* (1), 68-73.

Kuss, D. J., & Griffiths, M. D. (2012). Online gaming addiction in children and adolescents: a review of empirical research. *Journal of Behavioral Addictions, 1*(1), 3–22. https://doi.org/10.1556/JBA.1.2012.1.1

Lee, B. W. & Leeson, P. R. C. (2015). Online gaming in the context of social anxiety. *Psychology of Addictive Behaviors, 29*(2), 473-482. https://psycnet.apa.org/doi/ 10.1037/adb0000070

Männikkö, N., Ruotsalainen, H., Demetrovics, Z., Lopez-Fernandez, O., Myllymäki, L., Miettunen, J., & Kääriäinen, M. (2017). Problematic gaming behavior among Finnish junior high school students: Relation to socio-demographics and gaming behavior characteristics. *Behavioral Medicine, 44*(4), 324-334. https://doi.org/10. 1080/08964289.2017.1378608

Nakayama, H., Matsuzaki, T., Mihara, S., Kitayuguchi, T., & Higuchi, S. (2020). Relationship between problematic gaming and age at the onset of habitual gaming. *Pediatrics International, 62*(11), 1275-1281. https://doi.org/10.1111/ped.14290

Nuyens, F. M., Kuss, D. J., Lopez-Fernandez, O., & Griffiths, M. D. (2018). The empirical analysis of non-problematic video gaming and cognitive skills: A systematic review. *International Journal of Mental Health and Addiction, 17* (2), 389-414. https://doi.org/10. 1016/j.abrep.2020.100324

Pápay, O., Urbán, R., Griffiths, M., Nagygyörgy, K., Farkas, J., Kökönyei, G., Felvinczi, K., Olah, A., Elekes, Z., & Demetrovics, Z. (2013). Psychometric properties of the Problematic Online Gaming Questionnaire Short-Form and prevalence of problematic online gaming in a national sample of adolescents. *Cyberpsychology, Behavior, and Social Networking, 16*(5), 340-348. https://doi.org/10. 1089/cyber.2012.0484

Sincek, D., Humer, J. T., & Duvnjak, I. (2017). Correlates of Problematic Gaming- Is There Support for Proneness to Risky Behavior? *Psychiatria Danubina, 29*(3), 302-312. https://doi.org/10.24869/psyd.2017.302

Van Rooij, A. J., Schoenmakers, T. M., Vermulst, A. A., Van Den Eijnden, R. J., & Van De Mheen, D. (2011). Online video game addiction: Identification of addicted adolescent. *Cyber Psychology & Behavior, 10*(5), 717–721. https://doi.org/10.1089/cpb.2007.9963