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EXPLORING THE INTERPLAY IN GAMING ADDICTION, SOCIAL BEHAVIOR, SLEEP DEPRIVATION AND ACADEMIC PERFORMANCE AMONG UNIVERSITY STUDENTS

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ABSTRACT

The current study aims to explore the relationship between Gaming Addiction, Social Behavior, Sleep Deprivation, and Academic Performance among University Students. These variables are essential in the modern era due to their impact on students' well-being and academic success. The sample size for the study was calculated by G power formula and 250 university students (101 men and 149 women) aged 18-25 from various universities in Faisalabad was selected using a convenient sampling technique. The variables were measured using the Gaming Addiction Questionnaire (Douglas Gentile, 2009), Social Behavior Questionnaire (Ledley et al., 1997), Sleep Quality Scale (Healthy Performance, 2020), and Academic Performance Scale (McGregory et al., 2015). A correlational research design was employed, and data was analyzed using SPSS version 26. Descriptive statistics, correlation, and t-tests were used to evaluate the hypotheses. The results indicated that gaming addiction is positively and significantly related to social behavior, while gaming addiction negative association with sleep deprivation, and academic performance. These findings suggest that gaming addiction is associated with poorer sleep quality and lower academic performance, while also impacting social behavior among university students. No significant gender differences were found in terms of gaming addiction, social behavior, sleep deprivation, and academic performance. The study highlights the importance of addressing gaming addiction, sleep deprivation, and their effects on social behavior to improve the academic performance and overall well-being of university students. To conclude, the present research study creates awareness among researchers, educational psychologists, and parents that excessive internet gaming addiction may affect social behavior, sleep quality and academic performance among university students.

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INTRODUCTION

Online gaming is a prominent way to spend with time and variety of participants worldwide is rapidly growing. Nevertheless, extensive gaming on the web might leads to gaming addiction. Addiction to online gaming can be described as chronic as well repetitive using online resources to play video games that

produce considerable harm or as suffering within the life of the user (Rosendo-Rios et al., 2020). Presently, it is critical to recognize that addiction to online gaming is an umbrella term which is often employed to describe extreme and adverse playing activity specific to game played online and lacking stated diagnostic criteria, as opposed to internet gaming addiction that is widely recognized as a clinical condition (Petry et al., 2014).

People of various ages can get addicted to video games for a variety of reasons, including societal influences, game addiction mechanics, and personal characteristics. Game addiction is also influenced by the home environment, as well as technology advancements by game businesses. Many parents choose to give their children electronic devices to replace themselves (Kaur, 2020).

A phenomenon known as games has existed alongside humans for all of recorded human history. Playing games entertains people and helps them unwind by removing them from their everyday activities. The preparation of children for adult duties is a significant role of games. As more people use the Internet, game quality has also begun to shift. Among the games that the Internet community offers to people are web-based, multiplayer online games and simulation games (Adanır et al., 2017).

Around the world, playing video games is a common pastime. Although most people find gaming to be useful (Granic et al., 2014), some gamers have negative outcomes from excessive gaming, which makes gaming troublesome for a small percentage of players. These unfavorable effects include somatization, sadness, anxiety, loneliness, low life quality, sleep disturbances, and subpar academic performance (Männikkö et al., 2017). Over the past few years, the prevalence of sleep difficulties has increased along with the amount of gaming (Pallesen et al., 2014).

Furthermore, since the detrimental effects of problematic gaming are comparable to those of people who have sleep issues (depression, a lower quality of life, and subpar academic performance), knowledge of the sleep habits of problematic gamers may help to clarify the phenomenon of problematic gaming. Gaming may affect sleep through a variety of potential pathways. According to the media displacement theory (Bulck, 2000), playing video games could either directly replace sleep by the player choosing to play instead of sleeping or indirectly by the player ignoring activities that are necessary for maintaining proper sleep hygiene (physical activity).

THEORETICAL AND CONCEPTUAL FRAMEWORK

Current research examines the relationships among gaming addiction (GA), social behavior (SB), sleep deprivation (SD), and academic performance (AP). Psychological factors like anxiety and depression may mediate these effects, with personal (age, gender) and contextual (parental engagement, peer influence) factors also involved. While online gaming can help socially vulnerable individuals connect, excessive gaming leads to poor time management and academic neglect, with sleep deprivation impairing cognitive functions vital for success. The Humoral theory suggests a chemical buildup causes fatigue, though evidence is limited (Canavan, 1986).

MATERIAL AND METHODS

Study Design

The present quantitative research used a correlational research strategy. A correlational study is a type of study design that looks at the relationships across two or more variables (Health, 2018).

Sampling Technique

Convenient sampling was used in the current research investigation to obtain data. A sort of non-probability or non-random sampling, convenience sampling, study participants based on pragmatic factors like ease of access, close proximity, availability at a specific time, or willingness to participate (Dornyei, 2007).

Procedure

The research board's advance study's synopsis and methodology were accepted by Riphah International University in Faisalabad. Students at the Faisalabad Agricultural University, the University of Faisalabad, the Government College Women University, and Riphah International University provided the data for this study. A consent form and a demographic sheet were distributed to university students, and after 30 minutes, the forms were collected. University students were fully informed and given an explanation of the purpose of the study prior to the distribution of the questionnaire. Students at universities were informed that the data they provided would be kept private and used exclusively for educational purposes. University students were first given a translated version of the questionnaires in Urdu to prevent confusion, and then they received additional explanation. Complete instructions on how to complete the questionnaire were given to the university students. The questionnaire were filled out and the consent form signed by only willing university students. After completion of data participants were thanked for their participation and cooperation.

RESULTS

Statistical Procedure for the Social Sciences (SPSS- 26) version was used for data analysis. Descriptive analysis, reliability analysis and correlations statistics tool were used.

Table 1: *Frequencies & Percentages of Demographic Variables (N = 250).*

Variables		*f*	*%*
Gender	Male	101	40.4
	Female	149	59.6
Age	18 – 22	231	92.4
	23 – 30	19	7.6
Qualification	BS/MA/MSc	208	83.2
	MS/MPhil	42	16.8
Family System	Joint	108	43.2
	Nuclear	142	56.8
Occupation	Student	214	85.6

	Employed	36	14,4
Father Occupation	Businessman	59	23.6
	Lawyer	74	29.6
	Teacher/Lecturer/Professor	96	38.4
	Other	21	8.4
Mother Occupation	House wife	216	86.4
	Employed	34	13.6

Table 1 displays the distribution of respondents, with male participants comprising 40.4% (101 individuals) and female participants making up 59.6% (149 individuals), resulting in a total frequency distribution of 100%. The age distribution shows that 231 respondents (92.4%) are aged 18–22 years, while 19 respondents (7.6%) fall within the 23–30 years category. Educational backgrounds reveal that 208 respondents (83.2%) have a BS/MA/MSc, while 42 (16.8%) hold an MS/MPhil. Regarding family systems, 108 respondents (43.2%) belong to a joint family, whereas 142 (56.8%) are from nuclear families. Occupational distribution indicates that 214 respondents (85.6%) are students, and 36 (14.4%) are employed. The fathers' occupations include 59 businessmen (23.6%), 74 lawyers (29.6%), 96 teachers/lecturers/professors (38.4%), and 21 in other professions (8.4%). For mothers, 216 are housewives (86.4%), while 34 are employed (13.6%).

Table 2: *Cronbach's Alpha for the Research Measures (N = 250).*

Scales	α	*Items*
Gaming Addiction Questionnaire	.63	11
Social Behavior Questionnaire	.71	27
Sleep Quality Scale	.66	18
Academic Performance Scale	.86	8

Note: α = Chronbach's Alpha.

Based on the data presented in Table 2, the reliability of the variables was assessed. The Gaming Addiction Questionnaire demonstrated a decent reliability with Cronbach's alpha value of .627. Similarly, the Social Behavior Scale also showed good reliability, with a Cronbach's alpha value of .714, which is considered acceptable as it exceeds 0.5. Additionally, the Sleep Quality Scale exhibited a reliability of .658, while the Academic Performance Scale demonstrated a high reliability of .856, indicating a very satisfactory level. The Cronbach's Alpha value serves as a measure of reliability in statistical analysis. The variables Gaming Addiction, Social Behavior, Sleep Deprivation and Academic Performance all contribute to a reliable and confidence outcome in the current research.

Table 3: *Inter correlation between Gaming Addiction and Social Behavior Among University students (N = 250)*

Variables	1	2
1.Gaming Addiction	-	0.76**
2.Social Behavior	-	-

Note: **. Correlation is significant at the 0.01 level (2 - tailed).

Based on the data in the table, it shows a positive and significant correlation between Gaming Addiction and Social Behavior (r = 0.76**, p < .01), this suggests that Gaming Addiction is indeed positively related to Social Behavior among University Students. Consequently, our hypothesis is supported and accepted.

Table 4: *Inter correlation between Gaming Addiction and Sleep Deprivation (N = 250)*

Variables	1	2
1. Gaming Addiction	-	-0.319**
2. Sleep Deprivation	-	-

Note: ***. Correlation is significant at the 0.01 level (2 - tailed).*

Based on the table provided, it shows a positive and significant negative correlation between Gaming Addiction and Sleep Deprivation (r = -.319**, p < .01). This indicates that Gaming Addiction negatively associated with Sleep Deprivation among University Students. As a result, our hypothesis is supported and accepted.

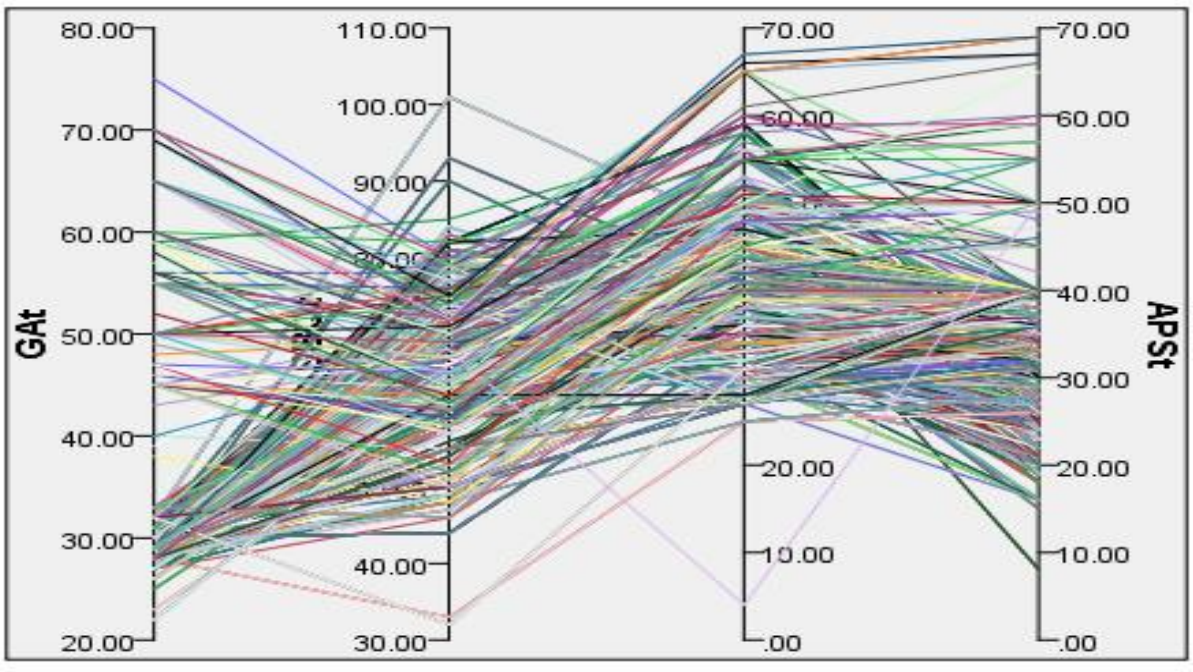
Table 5: *Inter correlation between Gaming Addiction and Academic Performance (N = 250)*

Variables	**1**	**2**
Gaming Addiction	-	-.488**
Academic Performance	-	-

Note: **. Correlation is significant at the 0.01 level (2 - tailed).

Based on the data in that table, it shows negative and significant correlation between Gaming Addiction and academic performance (r = -.488**, p < .01), This suggest that Gaming Addiction reduce academic performance among University Students.

Figure 1: *Three-D Scatter Plot Showing the Relationship between Gaming Addiction, Social Behavior, Sleep Deprivation and Academic Performance among University Students. (N=250)*



The three-dimensional scatter plot illustrates the relationship between gaming addiction, social behavior, sleep deprivation, and academic performance among university students (N=250). Each point represents an individual student's data, with the X-axis measuring gaming addiction, the Y-axis representing social behavior, and the Z-axis indicating sleep deprivation. The color and size of the points denote academic performance, where larger and darker points indicate lower academic performance and smaller, lighter points indicate higher academic performance. The plot reveals a positive correlation between gaming addiction and social behavior, while the plot highlights how increased gaming addiction correlate with poorer sleep quality and reduced academic performance.

DISCUSSION

The first hypothesis is about gaming addiction and social behavior between university students. The statement describes as there is a significant relationship between gaming addiction and social behavior among university students. The findings showed a strong and favorable correlation between gaming addiction & social behavior among university students as previous study explored the same findings (Turpin, 1986).

Next concern was that university students' with video games addiction leads lack of sleep. The findings demonstrated a strong and positive correlation between university students' gaming addiction and sleep deprivation. Previous research has also examined a potential relationship between these factors (Fossum et al., 2014). Therefore, playing video games on the internet more often could lead to poorer quality sleep.

The third concern was to see relationship in university students' academic achievement and gaming addiction. According to the current study, there is a connection between video game addiction and poorer academic performance. These findings in line with a number of other research that looked at the possible long-term effects of video game addiction and consequences of behavior (Gentile et al., 2011; Ream et al., 2011).

Previously many researchers conducted to see the relationship between academic achievement and internet gaming disorder in teens from Lebanon. According to the IGD-20 Test, 9.2% of research participants had an internet gaming disorder. Compared to earlier studies, this one found a higher prevalence of computer gaming problem, with rates ranging from 1.2% in Germany (Rehbein et al., 2015) to 14.6% in the United Kingdom (Lopez-Fernandez et al., 2014). The school GPA of the internet gaming disorder group in this study was much lower than the GPAs of the RIGD and CGG, and it was below the passing mark. According to other studies, scholastic attainment was lower in Singapore among those with internet gaming disorder (Choo et al., 2010), Norway (Brunborg et al., 2014), and Germany (Rehbein et al., 2015).

LIMITATIONS

- The study may have had a limited sample size, which may not be representative of the entire student population.

- The study may not have had a control group, making it difficult to compare the effects of gaming addiction on academic achievement.
- The study may have only measured academic achievement through grades, which may not capture other important aspects of academic success.

IMPLICATION AND RECOMENDATIONS

Current study findings can be helpful not only for students but also for parents and educational management to understand the issues related to gaming addiction there should be some time fix and some rules for gaming so that students performance can be improve. By acknowledging these limitations, future research can build upon the study's findings and address these limitations to provide a more comprehensive understanding of the relationship between gaming addiction, social behavior, sleep deprivation, and academic achievement by:

- Setting limits on gaming time
- Encouraging physical activity and outdoor play
- Encouraging social activities and extracurricular involvement
- Providing access to counseling and therapy

Educating students about the risks of gaming addiction

REFERENCES

Adanır, S. A., Doğru, H., & Özatalay, E. (2017). Oyuna adanmış bir yaşam: Bir olgu sunumu üzerinden internet oyun oynama bozukluğuna kısa bir bakış. *Türk Aile Hek. Derg, 20*(2), 85-90.

Brunborg, G. S., Mentzoni, R. A., & Frøyland, L. R. (2014). Is video gaming, or video game addiction, associated with depression, academic achievement, heavy episodic drinking, or conduct problems? *Journal of Behavioral Addictions, 3*(1), 27-32.

Bulck, V. D. J. (2000). Is television bad for your health? Behavior and body image of the adolescent "Couch Potato". *Journal of Youth and Adolescence, 29*, 273-288.

Canavan, T. (1986). The functions of sleep. *Nursing, 3*(9), 321-324.

Choo, H., Gentile, D., Sim, T., Li, D. D., Khoo, A., & Liau, A. (2010). Pathological video-gaming among Singaporean youth. *Annals Academy of Medicine Singapore,* 39(11), 822–829. Doi:10.1556/jba.3.2014.002.

Dornyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.

Fossum, I.N.; Nordnes, L.T.; Storemark, S.S.; Bjorvatn, B.; Pallesen, S. (2014). The association between use of electronic media in bed before going to sleep and insomnia symptoms, daytime sleepiness, morningness, and chronotype. *Behav. Sleep Med.* 12, 343–357. Doi:10.1080/15402002.2013.819468.

Gentile, D. A., Choo, H., Liau, A., Sim, T., Li, D., Fung, D., & Khoo, A. (2011). Pathological video game use among youth: A two-year longitudinal study. *Pediatrics, 127*(2), e319-e329.

Granic, I., Lobel, A., & Engels, R. C. (2014). The benefits of playing video games. *American Psychologist, 69*(1), 66-78.

Health, W. (2018). *Psychology Research Methods.* Cambridge University Press; 134-156.

Kaur, S. (2020). Internet gaming addiction: A gender-based study of Indian adolescents. *International Journal of Indian Psychology, 8*(2), 49-52. Doi:10.25215/0802.007.

Lopez-Fernandez, O., Honrubia-Serrano, M. L., Baguley, T., & Griffiths, M. D. (2014). Pathological video game playing in Spanish and British adolescents: Towards the exploration of Internet gaming disorder symptomatology. *Computers in Human Behavior,* 41, 304–312. doi:10.1016/j.chb.2014.10.011.

Männikkö N, Ruotsalainen H, Miettunen J, Pontes HM, Kääriäinen M. (2017). Problematic gaming behaviour and health-related outcomes: a systematic review and meta-analysis. *J Health Psychol, 25*, 67–81.

Pallesen S, Sivertsen B, Nordhus IH, Bjorvatn B. (2014). A 10-year trend of insomnia prevalence in the adult Norwegian population. *Sleep Med, 15*, 173–9.

Petry, N. M., Rehbein, F., Gentile, D. A., Lemmens, J. S., Rumpf, H. J., Mößle, T., Bischof, G., Tao, R., Fung, D. S. S., Gorges, G., Auriacombe, M., Ibáñez, A. G., Tam, P., & O'Brien, C. P. (2014). An international consensus for assessing Internet gaming disorder using the new DSM-5 approach. *Addiction, 109(9,)* 1399 -406. doi: 10.1111/add.12457.

Ream, G. L., Elliott, L. C. & Dunlap, E. (2011). Playing video games while using or feeling the effects of substances: Associations with substance use problems. *International Journal of Environmental Research and Public Health,* 8, 3979– 3998. Doi:10.3390/ijerph8103979.

Rehbein, F., Kliem, S., Baier, D., Mößle, T., & Petry, N. M. (2015). Prevalence of Internet gaming disorder in German adolescents: Diagnostic contribution of the nine DSM 5 criteria in a state wide representative sample. *Addiction,* 110(5), 842–851. doi:10.1111/add.12849.

Rehbein, F., Kliem, S., Baier, D., Mößle, T., & Petry, N. M. (2015). Prevalence of Internet gaming disorder in German adolescents: Diagnostic contribution of the nine DSM 5 criteria in a state wide representative sample. *Addiction,* 110(5), 842–851. doi:10.1111/add.12849.

Rosendo-Rios, V., Trott, S., & Shukla, P. (2020). Systematic literature review online gaming addiction among children and young adults: A framework and research agenda. *Addictive Behaviors, 129*, 107238. doi.org/10.1016/j.addbh.2022.107238.

Turpin, G. (1986). Psychophysiology of sleep. *Nursing, 3*(9), 313-320.