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Exploring the E-Gaming Addiction and its Impact on General Health and Social-Emotional Well-being of Undergraduate Students

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ABSTRACT

Initially, electronic gaming (E-games) primarily served as a form of entertainment. However, excessive engagement with these games has led to addiction, resulting in physical and socio-emotional well-being challenges for some individuals. This study aimed to assess the impact of E-gaming addiction on the overall health and socio-emotional well-being of undergraduate students who were attending online classes due to the closure of educational institutions amid the COVID-19 pandemic. A cross-sectional survey involving 320 undergraduate students from the University of Sargodha, Pakistan, was conducted using Google Forms. Data analysis revealed a moderate negative impact of E-gaming addiction on general health, as well as a negative impact on socio-emotional well-being. These findings suggest that students with higher levels of online gaming addiction experienced health issues and exhibited weaker socio-emotional well-being. To address this, it is essential for parents and educators to encourage students to engage in alternative, healthy, and socially interactive activities, thereby redirecting their habits towards more positive behaviors.

Keywords: E-gaming addiction, general health, social-emotional wellbeing

INTRODUCTION

Twenty-first century is the digital era, majority of students at secondary, intermediate, and tertiary level using internet for getting worldwide information. The deadly COVID-19 has added value in the use of the internet which affected tremendously on entire system of education because learning shifted virtually and whole responsibilities for educational learning leaves to students. Various education tasks including assignments, learning modules, activities, creative exercises, presentations, etc. were given to students virtually (Caratiquit & Pablo, 2021).

In Pakistan, the first case of COVID-19 virus was reported on February 27, 2020 (WHO, 2019). and frequency of infected persons was increasing day by day. Initially, Government of Pakistan closed educational institutions for two weeks and for monitoring the spread of corona virus the National Command and Operation Center (NCOC) was established. NCOC watched the situation and on May 31, 2020, recommended completely shut down of education institutions to minimize the transmission of the COVID-19 virus. However, to continue the process of education at home, the Ministry of Federal Education and Professional Training took initiative in collaboration with Knowledge Platform, SABAQ, Taleemabad and SABAQ Foundation brought students from class 1 to 12 Ed-Tech platform and implemented online learning systems. Resultantly excessive use of internet was observed, and people boosted their intake of all forms of digital entertainment, notably online gaming, while being forced to stay at home (Johnson, 2021).

Lockdown caused by the COVID-19, played role in promoting social media platforms have been using viable options to communicate with relatives, friends, and other worthwhile persons. It is used for a variety of purposes, including chit-chat, blogging, and gaming. Nevertheless, it has been observed that frequent use of the internet for enjoyment impacted students' socialization habits. They ignore interaction to others even within home with family members which results in low social skills (Anierobi et al., 2021).

Internet use is becoming an addiction for more and more individuals. They are also developing an addiction to play internet games, these games are becoming increasingly well-liked among the younger generation and dominating on a worldwide scale (Iowa State University, 2011). For instance, online gaming activity has increased by 75%. This frequent engagement towards internet and social media, consequently, has increased the risk of E-game addiction among students (De-Pasquale et al., 2021), Wan & Chiou (2006) further added online gaming is one of the most addicting internet pastimes.

Addiction has been considered as a frequent physical dependency on using a computer that negatively affects user's ability to control internet use to the point of causing relational, occupational, health, and social emotional wellbeing problems (Young, 2007). Social emotional wellbeing refers to an individual's ability to manage their emotions, build and maintain positive relationships, and navigate social situations effectively. It encompasses a range of factors that impact an individual's overall mental health, including their sense of purpose, connection to others, and self-esteem. Social emotional wellbeing is essential for leading a fulfilling life and achieving success in various areas, such as work, education, and personal relationships (Raith et al.,2021). Research revealed that online game addiction is becoming an increasingly prevalent problem in society. As more people spend time playing video games, there is a growing concern about the impact this activity can have on social and emotional wellbeing. While many people play games for fun and entertainment, others find themselves unable to control their gaming habits, leading to addiction (Babic et al., 2017). One of the main ways that online game addiction can impact social well-being is by isolating

individuals from others. Gamers can become so absorbed in the world of the game that they lose touch with the real world, withdrawing from social activities and relationships. This can lead to feelings of loneliness and depression, as individuals struggle to find connections outside of the virtual world (Zhang & Kaufman, 2017).

Several studies have observed that online games have severe effects, especially on student's health consequences, sleeping patterns, social anxiety, loneliness, study habits and time management (Syracuse University, 2007). These distracted from their behavior, educational enactment, health, and other non-game life activities. Many studies investigate that frequent playing e-games effects on health conditions of gamer and his social emotional wellbeing (Jackson et al., 2011; Roschelle et al., 2000).

Researchers indicating that e-games, losing track of assignments, skipping classes, nodding off in class, receiving lower grades, neglecting a course, losing interactions, and quitting other social circles (clubs as well as sports) (Huang & Cappel, 2005; Kim et al., 2002). Furthermore, the attraction to online games causes many problems related to mental health, physical health, and social emotional wellbeing among adolescents. It includes the effects of games on inducing rage and violence, fatness, and epilepsy (fits), as well as the effects of social interaction, school engagement, academic performance, and other somatic and intellectual harm (Ng & Wiemer-Hastings 2005). Numerous studies have been undertaken to examine the impact of online game addiction on physical and psychological health, including anxiousness, melancholy (sadness), and decreased social functioning, in light of the rising prevalence of game addiction among teenagers and young adults.

Literature clearly indicated that gaming no doubt is a popular leisure activity that is enjoyed by people of all ages and particularly students. Students argued that games are sources for enjoyment, relieve their stress after studies, take a break from studies, or stay away from real-life problems. They are unaware that addiction of games has many bad effects on their health, behavior, learning and social emotional wellbeing. Therefore, researchers wished to get insight into the effect of e-gaming addiction on students' mental health and social-emotional wellbeing.

Materials and Methods

Research Design

Quantitative research paradigm focuses on collecting numerical data and using it to understand specific event or generalize it across groups of individuals (Babbie, Earl 2010). So that, under the umbrella of quantitative research paradigm, a causal research design was employed to analyze the phenomena in terms of direct influence of E-gaming addiction on general health and social emotional wellbeing of Undergraduate students.

Participants

The study was initiated at University of Sargodha, three hundred twenty undergraduate students, out of which one hundred forty boys and one hundred eighty girls were participated.

Three-hundred-fifty questionnaires were sent to Undergraduate students via Google forms out of which thirty were deemed incomplete and subsequently discarded from analysis.

Instrument

To collect relevant data, a self-developed questionnaire was used which entailed four parts, the first part carried background information of respondents, the second part used to measure E-gaming addiction, third to gauge general health, and the fourth part about the measurement of students' academic performance. E-gaming addiction was measured with the help three factors including intension to play (6 items), social interaction (6 items), time flexibility (6 items). General health was assessed by four factors including somatic symptoms (6 items), anxiety (7 items), insomnia (7 items), social dysfunction (6 items). Lastly, three indicators were including for examining the students' academic performance such as time management (7 items), study engagement (5 items) and study habits (6 items). In the questionnaire five-point Likert scale ranging from 1 (never) to 5 (always) was used for measuring the constructs. The fourth portion was used to measure social-emotional wellbeing with the help of four factors including "perceived stress" (6 items), "self-efficacy" (7 items), "loneliness" (7 items), and "social support" (6 items). To quantify the constructs a five-point Likert type scale ranging from 1 (never) to 5 (always) was used in which 1 signifies "Never", 2 signifies "Rarely", 3 signifies "Sometimes", 4 signifies "Very often", and 5 signifies "Always". To confirm the questionnaire was trustworthy, the reliability and validity were performed using a pilot study and experts' opinions. The Cronbach's alpha coefficient for the whole questionnaire was found to be 0.87, however, for addiction to online game and social-emotional wellbeing it was found to be .86, and .88 respectively. All Cronbach's alpha coefficient values were acceptable to achieve the objectives of this study (Obiedat et al., 2016).

Ethical Consideration

Participants privacy was ensured and given them liberty to fill or not to fill the Google form.

Statistical Analysis

Data analysis was carried out using SPSS for Windows Version 23.0. Descriptive and inferential statistics were used to measure the impact. To measure the level of E-gaming addiction, mental health and social-emotional wellbeing, the mean score was distributed into three parameters including 1.00 to 2.33 (low), 2.34 to 3.66 (moderate), and 3.67 to 5.00 (high). However, impact was determined through correlation coefficient value.

Results

Level of E-Gaming addiction

Table 1 Descriptive statistics about level of E-gaming addiction

Factors	N	Mean	SD	Level
Intension to play		2.43	1.42	
Social Interaction	320	2.37	1.40	Moderate
Time Flexibility		2.63	1.44	
Overall		2.47	1.42	

Scoring criteria: Low (1.00-2.33), Moderate (2.34-3.66), and High (3.67-5.00)

Table-1 reveals that the total items' mean ratings of undergraduate students' responses towards E-gaming addiction ranged from 2.37 to 2.63 on a scale of 1 to 5. The overall mean score was found to be 2.47 (SD = 1.42) and based on scoring criteria the mean value lies in the range of moderate level. Therefore, a moderate level of E-gaming addiction among undergraduate students as per their self-reported data, was found.

General Health Level

Table 2 Descriptive statistics about level of General Health

Factors	N	Mean	SD	Level
Somatic Symptoms		3.53	1.33	
Anxiety		3.58	1.35	
Insomnia	320	3.88	1.30	High
Social Dysfunction		3.79	1.29	
Overall		3.69	1.31	

Scoring criteria: Low (1.00-2.33), Moderate (2.34-3.66), and High (3.67-5.00)

Table-2 indicates that the total items' mean ratings of undergraduate students' responses towards general health ranged from 3.79 to 3.88 on a scale of 1 to 5. The overall mean score was found to be 3.69 (SD = 1.31) and based on scoring criteria the mean value lies in the range of High level. Therefore, a high level of general health of undergraduate students as per their self-reported data, was found.

Level of Social-emotional Well-being

Table 3 Descriptive statistics about level of Social-emotional Well-being

Factors	N	Mean	SD	Level
Perceived stress		3.13	1.23	
Self-efficacy		3.36	1.17	
Loneliness	322	3.07	1.08	High
Social support		3.16	1.20	
Overall		***3.18***	***1.17***	

Scoring criteria: Low (1.00-2.33), Moderate (2.34-3.66), and High (3.67-5.00)

Table-3 depicts that the total items' mean ratings of undergraduate students' responses towards social-emotional well-being ranged from 3.07 to 3.36 on Likert type scale of 1 to 5. The overall mean score was found to be 3.18 (SD = 1.17) and based on scoring criteria the mean value lies in the range of moderately high level. Therefore, a moderately high level of the social-emotional well-being of undergraduate students as per their self-reported data was found.

Impact of E-gaming addiction on General health

Table 4 Pearson correlation between E-gaming addiction and General health

		E-gaming addiction	General Health
E-gaming addiction	Pearson correlation	1	-.34
	Sig. (2-tailed)		.000
	N	320	319
General Health	Pearson correlation	-.34	1
	Sig. (2-tailed)	.000	
	N	319	319

The data on Table-4, shows that a negative correlation was found between E-gaming addiction and general health condition of undergraduate students with the coefficient of 34% (r = - .34; $p < .05$, $N=320$). Moreover, the value of r = -.34 indicates moderate impact of E-gaming addiction on general health conditions. It implies that if there higher the level of E-gaming addiction thereby resulting in lower the level of undergraduate students' health condition.

Table 5 Linear Regression analysis between E-gaming addiction and General Health

Variables	B	Beta	SE	
Constant	.13		5.00	
E-gaming addiction	-.83	-.34	.097	
Dependent variable = General Health		R^2 =.18	N= 320	*P<.001*

According to Table-5, when the independent variable is constant, students' general health was predicted to decrease by 0.13%. However, students E-gaming addiction (independent variable) is predicted to decrease general health (dependent variable) by -.83%. That shows that for any additional unit of students E-gaming addiction, their general health is predicted to decrease by 0.83%. Based on the obtained results, E-gaming addiction have significant negative impact on the general health of students. The findings revealed that undergraduate students' E-gaming addiction has a negative impact on their general health. Similarly, the findings also revealed that E-gaming addiction serves as a good predictor of students' general health.

Impact of E-gaming addiction on Social-emotional Wellbeing

Table 6 Pearson correlation between E-gaming addiction and Social-emotional Wellbeing

		Addiction to Online games	Social-emotional well-being
Addiction to online games	Pearson correlation	1	-.341**
	Sig. (2-tailed)		.000
	N	320	319
Social-emotional well-being	Pearson correlation	-.341**	1
	Sig. (2-tailed)	.000	
	N	319	319

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

The data on Table 6, is indicating that a negative correlation was found between addiction to online games and social-emotional well-being of students with the coefficient of 34% (r = - .341; $p < .01$, $N=320$). Moreover, the value of r = -.341 shows significant high impact of addiction to E-games on social-emotional well-being. It means as the level of addiction to E-games is increased thereby resulting in a lower level of undergraduate students' social-emotional well-being.

Table 7. Linear Regression analysis between Addiction to online games and Social-emotional well-being

Variables	B	Beta	SE
Constant	.14		5.00
Addiction to online games	-.80	-.341	.096

Dependent variable = Social-emotional well-being R^2 =.17 N= 320 *P<.001*

To test the hypothesis, the Table-7, shows that when the independent variable is constant, students' social-emotional well-being was predicted to decrease by 0.14%. However, students' addiction to online games (independent variable) is predicted to decrease social-emotional well-being (dependent variable) by -.80%. It shows that for any additional unit of students' addiction to online games, their social-emotional well-being is predicted to decrease by 0.80%. Based on the obtained results, E-games addiction has a significant impact on the social-emotional well-being of undergraduate students. Thus, the findings revealed that students' addiction to E-games has a negative impact on their social-emotional well-being. Similarly, the findings also exposed that addiction to online games serves as a good predictor of students' social-emotional well-being.

Discussions

The study intended to find out the effect of E-gaming addiction on the general health and social-emotional well-being of medical students. The results of the present study revealed a negative relationship between E-gaming addiction and health. Wei et al. (2012) have conducted a study on the association between online gaming, social phobia, and depression: an internet survey. They reported a positive correlation between gaming hours, depressing symptoms, somatic symptoms, and Pain symptoms. Furthermore, Schimit & Monteiro (2011) also confirm that online game dependency spent longer hours per week playing games, had higher scores for aloneness or isolation from social networks, higher scores for depression, lower scores for social belonging in real life, lower scores for self-esteem, and reduced ability to survive with emotional problems compared with those who are less addicted. Moreover, it could be explained that extreme game-playing caused muscle pain, eye strain, lack of sleep, insufficient exercise, and even changes in diet.

The present study showed the negative effect of E-gaming addiction on general health. Students were found suffering from somatic symptoms, anxiety, insomnia, and social dysfunction because they were more addicted. If a student is more addicted to playing games, then he could suffer from somatic symptoms, anxiety, insomnia, and social dysfunction. Therefore, gamers should be less addicted. In a study, Hellström et al. (2015) also found same result that excessive gaming had a negative influence on

academic tasks, sleep, relations with friends and family, and other activities. It was also found that gaming for fun reduces the probability of negative consequences. The present study showed the negative effect of addiction to online games on social emotional wellbeing. Students were found suffering from somatic symptoms, anxiety, insomnia, and social dysfunction because they were more addicted. If a student is more addicted to playing games, then he/she could suffer from behavioral issues which resulting in imbalance in social and emotional wellbeing.

The current research study exposed a negatively effect of E-gaming addiction with general health issues including somatic symptoms, anxiety, insomnia, and social dysfunction. Pervious researches were supported the results such as problematic or excessive utilization of internet gaming leaded to a negative influence on sleep and highly related with sleep problems like insomnia, somatic symptoms, lesser sleep duration, and bad quality of sleep. Study added that students with overuse of E-games were more likely to go late to bed for sleeping thereby unable to focus their studies, fail to engage themselves in their studies and not consistently manage their time for study (Hussain et al., 2009).

Conclusion

The study concluded that a moderate level of E-gaming addiction was found. A high level of general health and social-emotional wellbeing was also found. There is moderate negative effect of E-gaming addiction on general health conditions of students. E gaming addiction has a significant negative effect on social-emotional wellbeing levels of medical students. The current research study exposed a negatively effect of E-gaming addiction with general health issues including somatic symptoms, anxiety, insomnia, and social dysfunction. It is recommended that awareness may be initiated through social media platforms on signs and symptoms of gaming on daily activities, physical health, and social relationships. Furthermore, parents may keep their children's phones out of the bedroom so that they won't play at night and strictly set specific number of hours to play per day so that they can manage their time for studies. Teachers may motivate students to participate in creative activities to renovate their bad routine into a good one.

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