

Internet Gaming Addiction as Predictor of Aggression and Academic Performance among Young Adolescents

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ABSTRACT

Aim of the Study: The present study was designed to investigate that internet game addiction as predictor of aggression and academic performance among adolescents.

Methodology: The study was based on cross-sectional survey research design. Participants comprised of girls and boys ($N = 300$) from different schools and colleges of Sargodha. Data was collected using purposive convenient sampling technique. Two self-report measures including Game Addiction Scale (Lemmens et al., 2009), The Aggression Scale (Pamela & Ralph, 2001) was used in the study. The third variable academic performance was measure by percentages of students in final examination. Item corrected correlation for scale used, Pearson correlation, and linear regression analysis were run on SPSS-26. Further t -test was run to investigate demographics of study.

Findings: Result showed internet game addiction is significantly positively correlated with aggression, internet game addiction is significantly negatively correlated with academic performance and aggression is significantly negatively correlated with academic performance among adolescents. t -test revealed that boys exhibit higher score on gaming addiction then girls and girls exhibit higher score on academic performance than boys.

Conclusion: The present study intends to brighten the impact of game addiction of on aggression and academic performance in adolescents. The outcomes disclose satisfactory alpha reliabilities of the instruments applied in the research. All correlations are in expected directions. Limitations, suggestions and practical implications are also added in the study to pave road for future research.

Keywords: Game Addiction, Aggression, Academic Performance, Adolescents.

Introduction

Gaming is a billion-dollar global industry which continues to expand and display innovations around the world from one year to the next. Video games are increasing day by day in societies and in different age groups. Internet gaming addiction is an uncontrollable health issue that can have the serious consequences

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for a person's life (Shao & Wang, 2019). A person who is addicted to game are irritable, sad, and violent and refuse to go to school or work as a result of their addiction. There should be time limit for the children for playing games and in that sense (Anderson, 2004). The American Academy of Pediatrics suggests time allotted should be less than 30 to 60 minutes per day on school days and 2 hours or less on non- school days. In covid-19 period many school going students play online games like PUBG, Free fire and they do not pay attention on their academic performance and lead to their poor results (Prot et al., 2014). Internet gaming addiction also develops many problems one of them is aggression and no doubt aggression is ranging from relatively minor acts to more serious acts. 8.5% of children aged 8 to 18 experience from gaming addiction or issue (Dong et al., 2018). Video gaming involves some benefits which include improving focus, gamers work as multitasking or improving memory but when it may also come with costs when it is used massively. Excessive video gaming leads towards not performing well in the academic activities and if they spend most time on playing games they developed problems with peers (Milani et al., 2017). Excessive online game playing should enchantment to men and women with poor mental functioning for the reason that video games allowed them to escape from their everyday problems and immerse themselves in another world (Bhagat et al., 2020).

Amount of time spent on game closely associated with lower academic performance and early age obesity and definitely it leads to game addiction (Griffiths, 2009). Internet game addiction disturbs our daily routine in different ways like poor performance in academic activities, disturbs sleeping cycle, taking no interest in other activities and many more. Adolescent who play violent games automatically develops aggressive behavior. Children spent most of the free time in front of screen playing game, scrolling watching videos and taking no interest in other physical activities (Qureshi et al., 2016). Aggression define by social psychologists as any behavior performed that is intended to harm another individual who does not wish to be harmed (Ivwithreghweta, & Igere, 2014). Because it involves the perception of intention, may be look aggression from one point of view and by other it's all depend on intention (Baron & Richardson, 1994). Intentional harm is taken into consideration worse than unintentional harm even when the harms are identical (Ames & Fiske, 2013). Other study in regard of this concept proved that boys and girls are both aggressive but in different manner, internet aggressive games lead the boys to be more physically aggressive as compared to girls (Lopez et al., 2018).

Research in Malaysia, confirmed that many people spending their time for entertainment such as playing game for hours and hours. Inn this research proved that games that are violence in nature can cause aggressive behavior in the player that are addicted to game. This research concluded that there is significant positive relationship between gaming addiction and aggressive behavior (Heng & Rabbani, 2020). Academic performance of students is a most important feature in education. Academic performance of students determines the success and failure of institute. Academic performance determines by grades or marks that are given by the teacher according to their institute criteria (Rono, 2013). The results of another research showed that with the increase in game addiction the academic performance of adolescents decreased (Anand, 2007).

Study Objectives

1. To explore the gaming addiction, aggression, and academic performance among young adolescents.
2. To investigate the relationship between gaming addiction, aggression, and academic performance among young adolescents.
3. To explain the role of demographics on study variable.

Hypotheses

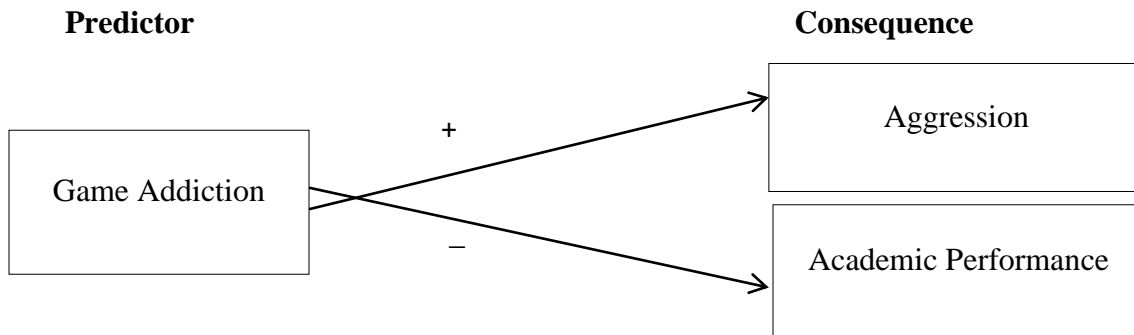
On the basis of above discussion, the following hypotheses were established and tested in this study.

H1. There will be significant positive correlation between gaming addiction and aggression among young adolescents.

H2. There will be negative correlation between gaming addiction and academic performance among young adolescents.

Conceptual Framework

Figure 1: *Conceptual Framework to study that Game Addiction as predictor of Aggression and Academic Performance.*



Method

Research Design

The current study was conducted by using co-relational research design and it was based on survey research method.

Sample

The sample of present study consisted of three hundred participants. Purposive sampling method changed into used to acquire information from participants ($N=300$). The respondents had been girls ($n = 150$) and boys ($n = 150$). Demographic variables for example gender, age, class, obtained marks, residence, family system, institution, homework duration, duration of playing game, favorite game. The data was collected from different government and private schools of Sargodha.

Statistics revealed that higher number of matric students ($n = 120, 40.0\%$) participated in the study as compared to intermediate students ($n = 153, 51.0\%$) and BS students ($n = 27, 9.0\%$). Higher number of students from urban areas ($n = 223, 74.3\%$) were participated as compared to the students of rural areas ($n = 77, 25.7\%$). Greater number of students belonged to joint family system ($n = 160, 53.3\%$) compared to nuclear family system ($n = 140, 46.7\%$). Equal number of men ($n = 150, 50.0\%$) and women ($n = 150, 50.0\%$) participants in the study. Greater number of students belonged to private schools ($n = 232, 77.3\%$) as compared to government school ($n = 68, 22.7\%$). Greater number of students 1-3 hours on homework ($n = 259, 86.3\%$) as compared to 4-6 hours on homework ($n = 41, 13.7\%$). Greater number of students spend 1-3 hours on game ($n = 155, 51.7\%$) as compared to 4-6 hours spent on games ($n = 145, 48.3\%$).

Instruments

Game Addiction Scale (Lemmens et al., 2009): It has 21 items with 5 point Likert type response format i.e. 1 = never, 2 = rarely, three = someday, 4 = often, 5 = very often. Cronbach's alpha coefficient for this scale was 0.92. Excessive score on scale predicts high degree of gaming addiction while low ratings expect low degree of gaming dependency.

The Aggression Scale (Orpinas et al., 2001): This scale has 11-items with 6 point Likert type response format i.e. 0 = 0 times, 1 = 1 time, 2 = 2 times, 3 = 3 times, 4 = 4 times, and 5 = 5 times, 6 = 6 times or more. Cronbach's alpha coefficient of aggression scale was 0.82. There was no reverse item in this scale. Excessive score on scale predicts excessive stage of aggression while low scores predict low level of aggression.

Academic Performance: In this study academic performance measured from the percentages of student in examination.

Results

Table 1: Psychometric Properties for Instruments of Study (N=300)

Variables	n	M	SD	α	Range		Skewness	Kurtosis
					Potential	Actual		
Game addiction	300	47.61	16.29	.93	21-105	21-94	1.47	-3.23
Aggression	300	19.96	10.77	.82	0-66	2-56	3.03	-1.51

Table 1 shows psychometric properties for the scales used in present study. The Cronbach's α for Game Addiction Scale was .93 (>.80) and for Aggression Scale was .82 (>.80) which indicate high internal consistency.

Table 2: Pearson Correlations for Variables of Study (N = 300)

Variable	1	2	3
1. Game addiction	-	.79***	-.81***
2. Aggression		-	-.69***
3. Academic performance			-

*** $p < .00$.

Table 2 reveals that game addiction has significant positive correlation with aggression ($r = .79, p < .001$). Game addiction has significant negative correlation with academic performance ($r = -.81, p < .001$) and aggression has significant negative correlation with academic performance ($r = -.69, p < .001$).

Table 3: Regression Coefficient of Internet Game Addiction on Aggression

Variable	B	β	SE
Constant	-5.00***		1.17
Game Addiction	.52***	.79	.02
R^2	.62		

*** $p < .001$

Table 3 shows the impact of game addiction on aggression in young adolescents. The R^2 value of .62 revealed that the predictor variable explained .62% variance in the outcome with $F(1, 297) = 502.09, p < .001$. The findings revealed that game addiction positively predicted aggression ($\beta = .79, p < .001$).

Table 4: Regression Coefficient of internet Game Addiction on Academic Performance

Variable	B	β	SE
Constant	93.64***		.962
Game Addiction	-.44***	-.80	.01
R^2	.64		

*** $p < .001$

Table 4 shows the impact of game addiction on academic performance. The R^2 value of .64 revealed that the predictor variable explained .64% variance in the outcome variable ($1, 297$) = 530.18, $p < .001$. The findings revealed that game addiction negatively predicted academic performance ($\beta = -.80, p < .001$).

Mean Differences Between Variables of Study

Results revealed the significant gender mean differences in game addiction with $t(298) = 6.22, p < .00$. Outcomes showed boys participated exhibit higher score on game addiction ($M = 53.12, SD = 15.78$) as compared to girls participated ($M = 42.07, SD = 14.90$). Cohen's d was .72 (> 0.50) that indicate medium size effect. Outcomes revealed significant mean differences on aggression with $t(298) = 6.00, p < .00$. Findings showed boys participants exhibit higher score in aggression ($M = 23.49, SD = 11.35$) as compared to girls participants ($M = 16.42, SD = 8.87$). Cohen's d was .69 (> 0.50) that indicate medium size effect. Finding revealed that significant mean differences on academic performance with $t(298) = -3.36, p < .00$. Outcome showed that girls participants exhibit higher score on academic performance ($M = 74.38, SD = 8.69$) as compared to boys participants ($M = 70.96, SD = 8.90$). Cohen's d was 0.38 ($< .50$) that indicate medium size effect.

Discussion

The main hypothesis of the present research was supported i.e. there will be significant positive relationship between game addiction and aggression. From our youth almost every third child is addicted to internet games and playing for hours. Previous researches proved that there is positive relationship between game addiction and aggression experiment done on the online game users. 1471 online game (boys 82.7% and girls 17.3%) user involved in the study. Continuous playing video games causing many problems games are of two types violent games and non-violent games. Participants who play more violent games like GTA, PUBG show more aggressive behavior in games and in real life also as compared who played non-violent games (Kim et al., 2008).

Another research that supported our first hypothesis conducted in Dhaka city among adolescents. 220 participants participated in this study among them 111 were boys and 109 were females. Data collected from 5 schools of Dhaka city whose age range from 12-14 years. Questionnaires filled by students and after that result indicated that there is significant positive relationship between gaming addiction and aggressive behavior and anger (Begum et al., 2019). A direct positive relation between internet game addiction and aggression was found by Henge & Rabbani (2020). Despite focusing on positive effects there are more negative effects of internet gaming addiction among adolescents. The researchers showed that game addiction has resulted in increased aggression and violence. In another study it was revealed that participants who were addicted to games scored high on aggression scale. Researcher concluded that internet game addicts were more aggressive than non-addicts. (Qureshi et al., 2013).

The second hypothesis of the present study is game addiction is negatively significant correlated with academic performance. This hypothesis supported in this research. Many evidences showed that if students spend more time on games and addicted to games result poorer in academic performance. Research done to find the relationship between game addiction and academic performance and results support our hypothesis that there is significant negative relationship between gaming addiction and academic performance. It means that time of playing game increases it decreases academic performance and student get poorer grades (Herrera). In other research academic performance linked with academic achievement and formulated that both are same concept. The conclusion of this research showed that

there is significant negative relationship between game addiction and academic performance (Haghbin et al., 2013). Wright (2011) conducted research to determine that playing video games impact academic performance. In this research the academic performance determined by GPA of students. Results showed that students who played games have significantly lower grades and who didn't play game their grades are better than students who played game.

Boys are more likely to play games as compared to girls. Company matters a lot and boys go outside and involves in different company. There is no doubt that technology is more common among teenagers. In modern era, computers are most engaging activity. Boys are more attracted towards technology rather than girls. Research on video game use among adults revealed that boys are more likely to be engaged in playing daily games rather than girls (Yea et al., 2016). An Interactive Survey was held which concluded that boys are two or more times addicted to internet games than girls. Cues related games are more elicited in boys than girls (Dong et al., 2018).

Conclusion

The present study intends to brighten the impact of game addiction of on aggression and academic performance in adolescents. The outcomes disclose satisfactory alpha reliabilities of the instruments applied in the research. Game addiction is significant positive correlation with aggression. Game addiction is significant negative correlation with academic performance. Aggression is significant negative correlation with academic performance. The all hypothesis was supported by the results and previous studies. Differences were traced on the basis of demographic variables. Boys exhibit high score on game addiction as compared to girls. While girls exhibits high score on academic performance rather than boys.

Limitations and Suggestions of the Current Study

Some of the limitations of present study are discussed below, which should be taken into account, and there are some suggestions to address the limitations of the present to get better results in the future studies. The present study used cross sectional design which does not warrant casual interpretations of the findings. All the variables of this research were measured through self-report measures which might have introduced common method bias in the findings and also pose a problem of social desirability. In this study sample size ($N=300$) was also included in limitation of the study. This could a threat to generalization of the findings to bigger population of adolescents. Quantitative research design should be used for the present researches. Data should be collected from across the world, to generalize the results to bigger population of adolescents. To decrease the level of social desirability, more than one method should be used.

Implications

There are no fun activities for girls and boys in the spare time because of this reason they involved in mobile phones so parents should focus on planning some creative activities. Government should also provide some opportunities for girls and boys. Because of excessive playing of game adolescent develops many medical problems so parents should keep check and balance on the usage of mobile phone or computers. Adolescents are the age for growing and do some productive work for the welfare of country if these adolescents are addicted to game and not performing in academic activities so they need counseling sessions.

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Conflict of Interest


Authors have no conflict of interest.


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