



The Effect of Online Video Games on Psychosocial Development of Pakistani Children

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Abstract: The aim of the study was to explore the impact of online video gaming on the psychosocial development of the children. Sample of the study was 300 among them 175 were boys and 125 were girls with age range of 8-14 years old. Survey design was employed in current research. Strengths and Difficulties Questionnaire (SDQ) by Goodman (1997) was employed to measure the psychological development of the participants. To identify the favorite games of the children over past week was used in the current study. The questions for measuring competitive and cooperative video gaming method was also used in this study. Sample was gathered from private and government schools of Lahore by acquiring permission from the school heads and parents. A significant correlation was found out among all the domains of SDQ and competitive and cooperative video games. Linear regression analysis predicted the significant impact of video games on the psychosocial development of the children engaged in to online video gaming.

Keywords: Online video games, competitive games, cooperative games, psychosocial development

I. INTRODUCTION:

Video gaming is a very fashionable and spare time action among young and adults generation (Pew Research Center, 2018). Playing video games is recognized to hold a few reimbursements just like the civilizing center of attention, multi-tasking, and information processing, but at an extensive level, it may lose financially due to high-cost video games. The Nielsen Company (2017) analyzed that the ratio of time wastage in video gaming increase day by day as it was 5.1 hours per year in 2011 after an increase it reached in 2017 at 6.5 hours per year.

A video game has been defined by Esposito, (2005) as "a game that, thanks to an audiovisual device, we play and that can be built on a story". Studies on video games at large scales and their attention on video gaming have been increasing day by day (Hamari & Keronen, 2017; Calvert et al., 2017). The researchers have concentrated on the quality of video gaming and its numerous associations like advantages of playing games and even proposed the medicinal usage of video gaming Carras et al., (2018) but numerous fascinated through their possible hazards (Anderson et al., 2010; Müller & Wölfling, 2017).

By expenditure, a lot of the times in gaming at high rates of people are in danger of viewing lesser educational and career performance, peer worries, and lower social integrity Mihara and Higuchi, (2017). Skoric et al. (2009) found that parents and clinicians may be concerned that their kids are "addicted" to gaming excessively. Though, excessive use of violent and horror video games increases increase the extent of play in hrs/ week. Also, it involves several problems like addiction, lack of power as well as excessive gaming's negative effects. whereas video gaming is still a source of contention whether inappropriate video gaming can be deemed an addiction to conduct, with the publication of the DSM-5 in 2013, its role as a mental illness has been clarified. Internet Gaming Disorder was described in the DSM-5 in a specific article (American Psychiatric Association (2013) with psychiatric diagnoses closely connected to Pathological Gambling.

Several scholars have accepted this opinion as Petry et al., (2014) indicated that it has also basis argument while Griffiths et al. (2016) and Bean et al. (2017) stated that scholars challenged several analytical requirements and indistinguishable concept of Internet Gambling panic configuration, which prohibits offline gaming from being used addictively. Kuss and Griffiths (2012) presented that many reports, empirical evaluation, and analysis are usually examined as a range of the scale marking addiction-based effects of violent video gaming on the mental feature of people.

Mental features such as low confidence (Ko et al., 2005), low self-reliance (Jeong & Kim, 2011), depression, violence, and psychotic conditions are associated with the level of excessive use of violent games (Wang et al., 2018). Kowert et al. (2014) stated that potential impacts of video game employment

have also been recognized. For example, a shortage of actual living interactions among males and females, anxiety and abnormal activity (Milani et al., 2018), decreased cognitive welfare and solitude (Lemmens et al., 2011), mental troubles, and reduce education (Gentile, 2009).

Ferguson et al., 2011 found that outcome percentages have wide-ranging. Greenberg et al. (2010); and Estévez et al. (2017) observed that gender and age gaps in regards to video gaming activity: inherently dangerous video gaming have been bringing into being more probable between males than females and teenage game players (Rehbein et al., 2016).

Furthermore, Ryan et al. (2006) and Yee (2006) stated that it was also imperative to reflect on why the public plays video games, along with discussing the negative use of video games and their relation to psychological adjustment. Gamers play video games for very specific applications to divert their attention from life difficulty or since they appreciate the communal connections, they have created in the digital globe.

Schneider et al. (2018) presented that different factors for playing internet games have been identified as potentially hazardous video gaming, such as management and evasion, social networking, and direct pleasure (Ng & Wiemer-Hastings, 2005). Lucas and Sherry (2004) stated that managing, social communication, and opposition were surrounded by the key reasons for gaming in men but not present in women.

Greenberg et al. (2010) described after experimentation that there were diverse findings on age gaps, but adolescent game players in particular proved to be inspired by social experiences for video gaming (Hilgard et al., 2013). It remains uncertain; however, to what degree the various explanations for people in performance of video games are variably linked to their psychosomatic operations. In order to examine the links between the highly risky use of video games and psychosocial state, as well as the basis for video games to be played and intellectual well-being, it is also important to explore which genres of games people want. Laconi et al. (2017) stated that psychopathological disorders are correlated with interests (e.g., imitation, plan, and accomplishment) for certain game types.

Rehbein et al. (2016) observed that males have been judged to favor exploit and tactic games, while women have demonstrated a partiality for games of talent. Scharnow et al. (2015) found that younger gamers, older players and games of ability tended to favor games of action. The degree to which preferences are variably related to psychological functioning for some types of video games is not yet known. In general, Elson and Ferguson's (2014) research focused entirely on violence in video games or a particular game within a precise game type. Warcraft et al. (2013) thus ignoring the range of potential gaming trends crosswise a variety of game styles (Herodotou et al., 2014).

Hypothesis:

H1: Externalizing problems will decrease among the children engaged in video gaming.

H2: Internalizing problems will decrease among the children engaged in video gaming.

H3: Peer problems will decrease in children engaged in video gaming.

H4: Overall psychosocial problems will decrease among the children engaged in video gaming.

H5: Competitive gaming would be associated with decrease in prosaically behavior.

II. METHODOLOGY:

Participants:

Survey research design was used to conduct the study by approaching 300 participants. Among them 175 participants were boys and 125 participants were girls, with age range of 8 to 14 years old, who played online video games.

Procedure:

A convenience sampling technique was used to gather the data. Survey research design was employed in current research. Strengths and Difficulties Questionnaire (SDQ) by Goodman (1997) was employed to measure the psychological development of the participants. Prot et al. (2014) suggested methods to identify the favorite games of the children over past week, similar method was used in the current study.

Przybylski and Mishkin (2016) presented the questions for measuring competitive and cooperative video gaming, the suggested method was used in this study. Sample was gathered from private and government schools of Lahore by acquiring permission from the school heads and parents.

Statistical Analysis:

Regression analysis was computed to find out the relationship between video gaming and psychosocial health of the children. Mediation analysis was computed to interpret the mediating effect of motives of

online gaming on the psychosocial health of the children. SPSS vol. 25 was used to analyze and interpret data.

Measures:

Strengths and Difficulties Questionnaire (SDQ):

SDQ was used to measure the psychosocial development of children which is based on the parental reports. The tool was developed by Goodman (1997). SDQ is a 3 point Likert point scale and comprised of five sub-scales i) internalizing problems ii) externalizing problems iii) hyperactivity/inattention iv) peer relationship problems and v) prosocial behavior.

The subscales had good reliability for all subdomains, i.e. internalizing problems (0.83), externalizing problems (0.75), hyperactivity/inattention (0.88), peer relationship problems (0.83) and prosocial behavior (0.95). SDQ also has a subscale for total which includes all subscales except prosocial behavior, to show the psychosocial health of children.

Gaming Frequency:

Gaming frequency refers to the child's frequency to play video games based upon parental reports in terms of number of hours child plays video game.

Violent Gaming:

Children were asked to respond to the question about their favorite game over the past several week as per methods suggested by Prot et al. (2014). Video games were sub categorized in to three categories; i.e. those children who responded as violent games as their favorite game were assigned 3, those who were neutral about their response were assigned 2 and those who did not liked violent games were assigned a 1. Those video games were considered as violent in which player wanted to harm others in the video game.

A third-party review board was asked to assess the theme of the video game which contain violent content, by assessing the game on objective observation. Whereas the extent to which a game is considered as cooperative or competitive was comparatively difficult to observe.

Cooperative and Competitive Gaming:

Cooperative video games were considered as those games in which players supported other in the game. The cooperative and competitive gaming was measured by using a single item five point Likert scale (ranging from never, every time or almost every time) by Przybylski and Mishkin (2016).

Children were explained about the meaning of "cooperative" and "competitive" gaming. Children were required to recall the time of playing video game and rate the frequency, while playing, and responding whether they chose to play working with other; known as cooperative gaming" or playing against others known as competitive gaming".

Operational Definitions:

Video Games:

According to Przybylski and Mishkin (2016) cooperative video games were considered as those games in which players supported other in the game. Competitive are those games which are played against others to compete them (Przybylski & Mishkin 2016).

Psychosocial well-being:

Psychosocial development is defined as a personality development while acquiring social attitude and skills. Goodman (1997) presented tool to measure behavior problems such as i) internalizing problems ii) externalizing problems iii) hyperactivity/inattention iv) peer relationship problems and v) pro-social behavior to identify the factors which impact the psychosocial development of individual (Goodman, 1997).

Ethical considerations:

Children, who participated in the research were minors therefore parents gave the consent for their children to participate in the study. Privacy concern was assured by keeping confidential the personal information. Parents and children were informed that the collected data will be used for research purpose only. Parents were allowed to have access to the results of the study if they wanted to. No monetary incentives were given to the research participants.

III. RESULTS:

The purpose of the present study was to provide information on the possible influences of video games on child psychosocial development. Results have been analyzed by measuring the frequencies of age, gender, gaming frequency, and responses of the participants to play online video games. Pearson product correlation moment and linear regression model has been employed to test the stated hypothesis.

Table 1

Age

Age	Frequency	Percentage
8	5	1.7%
9	8	2.7%
10	29	9.7%
11	28	9.3%
12	49	16.3%
13	180	60%
14	1	0.3%

N=300

The above table shows the frequency of age range from 8 to 14 years old of participants. The highest frequency of age is 13 which means 180 participants with age of 13 years old make the major sample of the current study.

Table 2

Frequency of gender engage in to online video gaming

Gender	Frequency	Percentage
Male	175	58.3%
Female	125	41%

N=300

Sample of the study were comprised of male and females participants, male representation is higher in sample as compared to the female population which is 58.3%.

Table 3

Frequency of participants engaged in to violent/nonviolent video gaming

Variable	Frequency	Percentage
Violent	112	37.3%
Nonviolent	94	31%
Neutral	94	31%

N=300

112 participants of the study were engaged in to violent online video games which is a higher ratio as compared to the non-violent and neutral online video game players.

Table 4

Frequency of participants' responses to play online video games

Variable	Frequency	Percentage
To beat others	14	4.7%
To advance story while fighting against others	157	52.3%
To experience realistic event	36	12%
To play cooperative games	39	13%
To play competitive games	54	18%

N=300

The participants were higher in the category of those who wanted to play online video game to advance a story while fighting against others, this ratio is 52.3% which is higher than other mentioned categories.

Table 5

Pearson product correlation moment of competitive/cooperative video games and psychological well being

Variable	1	2	3	4	5	6	7	8
SDQ Emotion	-							
SDQ Conduct	.349**	-						
SDQ Hyperactivity	.279**	.554**	-					

SDQ Peer	.397**	.252**	.298**	-			
SDQ Prosocial	-.145*	-.556**	-.394**	-.288**	-		
SDQ Score	.736**	.765**	.716**	.648**	-.478**	-	
co/com	.063	.134*	.154**	.024	-.162**	.131*	-
co/com1	.091	.184**	.283**	-.020	-.102	.187**	.035

Note: SDQ= Strength and difficulty Questionnaire, co/com= cooperative/competitive video games
**p<0.05, **p<0.01*

The results have revealed that there is correlation among psychosocial development and cooperative/competitive games. It was hypothesized that externalizing problems will decrease in the children who were engaged in to online gaming. The hypothesis is accepted as there is a significantly positive correlation among competitive/cooperative games and SDQ Conduct (.184**) and SDQ hyperactivity (.283**). Secondly, it was hypothesized that internalizing problems will be decreased in the children who are engaged in to online video games. The hypothesis is accepted competitive/cooperative games have a positive relationship with the SDQ emotions (.091).

Thirdly, it was hypothesized that peer problem will be lower in children who are engaged in to online video gaming. Results have revealed a negative relationship (-.020) among SDQ peer and competitive/cooperative games, hence the hypothesis is accepted that peer problems will decrease among the children who are engaged in to online video gaming. It was further hypothesized overall psychosocial problems will decrease in children engaged in to online video gaming. There is a positive relationship between SDQ score and competitive/cooperative games, thus the hypothesis are accepted as online video gaming will decrease the overall psychosocial problems in children.

Table 6
Regression analysis between competitive/cooperative video games and SDQ (without prosocial behavior)

Predictive	B	Standardized Error	B	T	P
Constant	13.135	.920		14.26	.000
SE	.964	.294	.187	3.27	.001

P=0.05

Results have revealed a significant impact of competitive/cooperative online video game on the psychosocial problem of the children.

Table 7
Regression analysis between competitive/cooperative video games and SDQ Prosocial behavior

Predictive	B	Standardized Error	B	T	P
Constant	7.04	.382		18.44	.000
SE	-.215	.122	-.102	-1.76	.079

P=0.05

Findings have suggested that competitive/cooperative online video games are a strong predictor of prosocial problems in the children who are engaged in to online video gaming. Hence, the formulated hypothesis is accepted that competitive games decrease the prosocial behavior in the children engage in to online video gaming. Competitive games are strong predictor of prosocial problems in the children.

IV. DISCUSSION:

The objective of the present study was to provide information on the possible influences of video games on child psychosocial development. More, little research among children has predominantly based on children's gambling and outsourcing problems. On the other hand, while the games available between operative and competitive have become a focus of recent attention, the no studies have still examined their possible influences while taking in consideration the naturalistic form that occur, that is, often in tandem. Thus, in contrast to past work, this study employed a survey design, recruited between children, researchers examined child psychosocial problems through multiple domains, and simultaneously explored cooperative and competitive games.

With our expectations that games would predict improvements in the problems of internalization, internalization, internment, peer and in general, the game frequency was associated with increases in children's internalization problems, and was not associated with other changes.

We also explored the potential relationship between games and changes in hyperactivity, and prosocial behavior of in; relationships were observed. It is important to note that selection effects were also observed; that is, psychosocial health was associated with changes in the frequency of games. As associated with that, children's preference for violent video games was not associated with changes in outsourcing problems or prosocial behavior.

Finally, competitive games were associated with changes in prosocial behavior, frequent competitive games among children who played games of video for about eight and a half hours or more per week was associated with decreases in prosocial behavior. For video games, their influence of potential on children's behavior is perhaps the main concern through the public and within the scientific community. Violent video games at particular are widely seen as having a detrimental influence on children's behavior, leading to aggressive behavior and discouraging prosocial behavior (Anderson et al. 2010).

In this study, however, games as a general activity, and violent video games more specifically, were associated with an increase in problems of outsourcing children or with a decrease in prosocial behavior. Thus, violent games had influence on this study.

These results align this study with a majority of published work that shows effect of violent games on anti- or pro-social behavior. This result may also have influenced being influenced by our implementation of violent games such as a dichotomous variable. This method grouped games that were low and high in violent content. Our procedure was motivated by the young age of our sample; we hoped that children would have difficulty assessing the intensity and realism of violence gaming. In fact, such ratings would probably have been uninformative or a source of bias in our sample.

On the other hand, the observed result can offer breath since children who played games with age-appropriate levels of violence did not develop antisocial tendencies compared to mates who played nonviolent games. Violent content could be a way to develop children explore mature topics like life and death.

Highly violent games are restricted to larger audiences, these games can also be designed as more challenging and complex than many nonviolent games. Nonviolent games can be appealing to children's players looking for over changes to meet their growing skills. After all, children's interest in violent games can remain constant in development, but their access to violent games may change as they develop.

Limitation of study includes objective assessment of content and design of video games. Children might have difficulty in understanding the concept to some extent so margin of error may exist. Also, sample size was not equal there may be over representation of boys population and underrepresentation of female sample. Future studies can be planned to recruit different age groups to compare the impact of competitive/cooperative games on psychosocial development.

V. CONCLUSION:

Video games have impact on the psychosocial development of the children, except for the domain of the peer problems. Parents can play an active role in monitoring the type of games children are playing. Also, it is mere duty of parents to pay active attention towards the internalizing and externalizing problems of the child which could increase as a result of violent online video gaming engagement.

The damaging impact of video gaming in one of the significant topic, the results of the current study validates the exiting studies hence it is important for parents. The studied sample has revealed lack in prosocial behavior which is not a healthy impact on the psychosocial development of the child.

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