

How do I stop my child from playing Excessive video games?

A study of parental perceptions about their children's extended involvement in video games

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ABSTRACT

The popularity of video games is escalating each successive day among the young generation of Pakistan. Children spend most of their daily working hours in a fantasy world of their preferred video games. Research shows that excessive video gaming and the extended use of screens leads to behavioural and cognitive issues among children (Aierbe, Oregui, & Bartau, 2019). This study has discussed Pakistani children's behaviour in the light of Jean Piaget's theory of Cognitive Development and analyzed parental perceptions about their children's protracted involvement in video games. For this purpose, a survey of 100 parents is conducted and found that parental involvement and guidance can help children improve their routines. A Chi-Square validity test is also applied to make sure that the data is valid and consistent with the hypotheses of the study.

Keywords: Video games, Childhood Development, Children, Parental Guidance, Cognitive Development

INTRODUCTION

The increase in technological advancements in recent years has brought a digital revolution that has targeted every age group, starting from adults to youngsters. With the world becoming digitalized and the worldwide availability of the internet, people are turning towards technology for their education, leisure and entertainment. Children, however, are mostly attracted to video games due to their unique graphical designs, realistic environment, characters and communications systems. (Yilmaz, Yel, & Griffiths, 2018)

According to Yilmaz, Yel and Griffiths, the video gaming industry is growing significantly earning billions of dollars each year and according to expert analysis, the mean age of video gamers is below 18 years (children and adolescents). Present-day empirical studies show that video games have a significant dominance in the lives of children as they help in improving their learning capabilities and skills and help entertain them in their free time. However, excessive video gaming and subjection to violent and asocial games bring along harmful consequences for gamers. (Salceanu, 2014). Salceanu explains in her literature that to analyze the effects that video games have on children, we need to first develop a steady and unbiased approach towards video gaming and then carefully study the potential benefits and negative consequences.

Video game creators use unique functions to target their audiences such as children. Video games based on new technologies allow features such as (i) creating avatars, (ii) multiplayer systems, (iii) command and control, (iv) realistic storylines, (v) use of foreign languages etc. (Kuss&Griffiths, 2012). The authors explain to us that the following features offered in video games can be addictive and captivating if games are played excessively for longer hours a day or week. Playing these games excessively can lead to developing frustration among children as they are the ones who play the most and are affected intensely as they end up yearning for more. (Kuss& Griffiths, 2012)

Video gamers who play heavily and a specific type of genre such as violent content are most likely to develop long-term behavioural problems such as aggression and frustration. As explained in the research, video games are responsible for reshaping childrens' attitudes and behaviours as they are vulnerable and in constant contact with video games. (Tailson, Gouveia, &Pimental, 2020). The authors explain that compared with long-term and heavy gamers, short-term gamers are not addicted to these games and they show little changes in their behaviours at home and schools. Just as excessive video gaming is responsible for a change in behaviours and cognition, it is also responsible for changing the course and intensity of social relationships among children(Aierbe, Oregui, &Bartau, 2019).

Moreover, aside from causing behavioural issues, excessive gaming is also responsible for causing health problems in children. Excessive gaming is responsible for creating gaming disorders in gamers as explained by American Psychiatric Association. (Ayenigbara, 2018). Video gaming has taken control over the physical activities and academic routines of children and regardless of the adverse effects of video gaming, its use is still increasing significantly. Excessive video gaming is prominent in decreasing the energy and strength required to be physically active. The author Ayenigbara suggests that health problems associated with excessive gaming are, (i) eye-sight problem, (ii) obesity, (iii) sleep disorder, (iv) neurological disorders etc. (Ayenigbara, 2018)

Although the use of video games by children has been significantly increasing in recent times, the outbreak of the COVID-19 pandemic and worldwide lockdowns are also playing a major part in changing the everyday lives of children as well as their emotional health and well-being. (Fenandas, et al, 2020). According to the authors, children during the time of COVID 19 are using Escapism as a way to cope up with psychological problems associated with the pandemic. It has been observed by Fenandas et al that the usage of the internet and video games during pandemic has gradually increased and children are the main consumers.

Problem Statement

Video games are popular among adults and youngsters around the world for leisure, entertainment and educational purposes due to digitalization and new growing technological advancements. Even though video games are proving to be beneficial for children as part of their academic activities, excessive video gaming has adverse effects on children and their personalities in the long run as research studies have suggested. (Yilmaz, Yel, & Griffiths, 2018). The authors of recent studies explain that excessive video gaming affects the cognitive and behavioural development of children as they are dealing with an artificial environment and characters and they also develop health issues due to lack of stamina and exercise. (Ayenigbara, 2018). On the contrary, the closure of educational institutions due to COVID 19 has been a cause of the widened gap between academics and children as they are inclined towards video games.

1.2 Research Objectives

To identify and discuss the negative consequences of excessive video gaming on a child's cognitive, social and behavioural development.

To discuss how excessive gaming can lead to health issues in children.

To discuss how COVID 19 pandemic has widened the gap between children and their academic routines.

To discuss how parents can influence and help their children against excessive gaming.

1.4 Research Questions

R1: What are the negative effects of excessive video gaming on the cognitive and behavioural development of children?

R2: How can parental involvement and guidance help children against their excessive video gaming routines?

1.3 Hypothesis

H1: Children who play excessive video games are more likely to develop cognitive and behavioural disorders than children who play less.

H2: Parental involvement and guidance help children overcome excessive gaming routines.

LITERATURE REVIEW

Craig, Douglas and Karen explain in their literature that playing violent video games stimulates psychological and physical arousals that further reshape a child's behaviour and thinking capabilities as studied by the authors. Excess exposure to violent video games leads to increased feelings of despair and decreases sympathy towards relationships and victims of violence, thus creating an urge to win. Violent content is expressed graphically and through the scripts which stimulate aggressive behaviour and being at a vulnerable age, a child starts imitating the behaviour shown in the games and targets peers and siblings. The main findings of this study suggest that playing violent video games causes increased physical and emotional aggressiveness in children, both boys and girls as explained by the researchers. It suggested that children who have dominant cognitive and physiological traits such as aggressive nature are more vulnerable to the content shown in these games. (Anderson, Gentile, & Dill, 2011)

It is quite noticeable in an Italian study performed on primary and secondary school children that graphical representation of video games can have a significant effect on children's physiological arousal as explained by the authors. The content in video games is designed specifically with high levels of realistic features that portray real life and living beings. The survey conducted on 1st to 6th graders explained that the amount of playing video games rose from 42% in the first grade to 86% in the sixth grade and children are inclined towards violent video games as well according to Milani, Camisasca, Caravita and Ionio in the following study. Survey research conducted with 170 boys with an average age of 11 years and 176 girls with an average age of 11.3 years explained that all the participants played video games for approximately 6.4-6.8 hours per week and almost every child had a specific gaming

device such as a computer, PlayStation, iPad or mobile. The results described that the number of hours played per week is matched with the level of aggressiveness and longer hours of playing violent video games leads to more behavioural change. (Milani, et al, 2015).

The excessive use of video games nevertheless is becoming a cause of concern for the public as it claims that the use of video games is affecting the social behaviour and psychological capabilities also known as “**Psychosocial Behaviour**”. Lobel et al explained in their literature that video games are becoming a centre of discussion over the world and are being researched to get to the root cause of their negative effects that are harmful to the development of children. As the popularity of video games is growing, they are being considered a cause of aggression stimulus for children. The excessive use of video games, for example, playing 8 or more hours per week is resulting in the social isolation of children. (Lobel, et al, 2017).

Moreover, Turkish qualitative research studied 20 fourth grade students out of which 3 were excessive/heavy gamers. The results of this focus group case study explained that excessive and heavy gamers are most likely to have low academic performances. Even though they are in the classrooms, heavy gamers still tend to think about gaming and game characters and lack concentration inside the class and do not complete their assignments and classwork with concentration. These children have been observed to have problems related to behaviour and self-control as they get irritated and tend to physically and mentally target and threaten their peers as the results of this study by Yilmaz, Yel and Griffiths explained. Excessive and heavy gamers preferred to bond with the groups who talk about gaming and were themselves heavy gamers.(Yilmaz, Yel, & Griffiths, 2018)

Moving on, our world as we witnessed is at a halt due to COVID-19 and children are out of school for almost a year and a half now. During this period, children were subjected to online classes and were bound to stay inside, therefore, leading towards unlimited internet access. Lockdowns around the world have resulted in

banning outdoor activities which led to an increase in indoor games, specifically online gaming, thus leading to Internet gaming disorder which further results in causing anxiety. (Pasquale, et al, 2021). The pandemic has caused life to shift towards e-learning and the concept of online classes has been introduced. However, it has been observed by the teachers and parents that children are not taking online classes seriously and they log in to their respective classes, mark their attendance and just start playing games online. Nevertheless, children have also been subjected to online bullying and harassment by their competitors in online games, thus, developing anxiety. (Yousafzai & Sherin, 2020)

Furthermore, constant gaming and lack of social activities are also resulting in a lack of exercise and health problems. Children who constantly play video games and neglect physical activities are most likely to become obese over a while. Lack of exercise and obesity is one of the most common risks associated with excessive gaming which further lead to multiple health dysfunctions as author Ayenigbara explained. Besides, children have started to develop eyesight problems as staring at the screens for too long can cause a strain on the eyes and nerves as the results of the following study explain. Children are likely to suffer from migraines as a result of excessive gaming and they face sleeping disorders. Although video games have proven to be helpful in cognitive development, excessive use of games is proving otherwise. (Ayenigbara, 2017)

Children spend most of the time at home with their parents, therefore, parents are responsible for shaping their etiquettes and school of thought. Research by Claudia Salceanu investigated the perspectives of parents regarding gaming. A survey was conducted from 1087 parents and the results explained that parents only oversee their children when they are free from the office and households tasks, their children were also having easy access to the internet and computers and other gaming devices, parents believed that their children were having physical and psychological issues and they complained of exhaustion, moreover, children disobeyed their teachers and parents and did not complete their homework

and did not perform well and were committing plagiarism. On the contrary, some parents also believed that video games had benefits such as enhancing cognitive abilities, improving vocabulary, learning foreign languages and technical skills. (Salceanu, 2014) Furthermore, if parents want their children to benefit from video games, then they have to supervise and manage their children accordingly. We see nowadays that parental control comes in the form of restrictions and keeping children strictly away from technology, but that leads to a more serious problem as children start developing deceitful nature to get what they want as the authors Aierbe, Oregui and Bartau have explained in their study. Parents can influence their children by instructing them thoroughly in a way that they understand and parents can create certain rules and make sure their children implement them. Parents are most of the times concerned with the gaming environment and the risk of exposure to obscene content, however, one effective way of eliminating this risk is that parents can coordinate and co-play the games with their children to get to know what games their children are playing and what are the potential negatives and positives of that game. (Aierbe, Oregui, & Bartau, 2019)

THEORETICAL FRAMEWORK

Children born in this era are known to be “children of the media” as they are influenced by the environment around them which leads to their cognitive and physiological development. While talking about children and the impact that media, particularly video games, has on them, it is important to understand how their personalities are shaped, how their cognitive and physiological development takes place and what effects media has on them. (Wartella, et al., 2016).

The Cognitive Development Theory by Jean Piaget

Jean Piaget’s theory of Cognitive Development focuses on the mental development of children. Cognitive development refers to the thought processes and psychological/physiological upbringing

of children over a lifetime and how they process their environment. The cognitive development of a child is responsible for shaping its worldview and personality and the way it interconnects with the world. Jean Piaget described his unique idea by saying, “*Children think differently than adults*”. (Cherry, 2020 a). The cognitive development theory by Jean Piaget explains how children mentally develop over four stages and how they obtain knowledge of the world and their surroundings.

- 1. Sensorimotor Stage (Birth-2 years):**This stage starts from birth till 2 years. During this time, major mental and physiological developments occur and the infant can know the world through looking at its surroundings and environment and the people around it. At this stage, infants learn how to crawl, walk and how to learn a language that is being spoken by people that interact with it. (Cherry, 2020)
- 2. Preoperational Stage (2-7 years):**During this stage, children are not able to use reasoning yet, instead they use figurative speech to communicate with people. At this stage, children usually think about themselves and are not concerned with other people around them, thus making them egocentric as explained by Jean Piaget. Unlike adults, children can think about one situation at a time during this stage as their cognitions are not yet fully developed. (McLeod, 2018)
- 3. The Concrete Operational Stage (7-11 years):**At this stage, children start using logic and they interpret their surroundings based on inductive reasoning. Their cognition at this stage gets strong and their thinking gets more developed and assembled. With this change, children start losing their egocentric abilities and they start viewing the world based on different perceptions and they try to figure out what the other person is thinking and feeling. (Cherry, 2020 b).

- 4. The Formal Operational Stage (12 years and Up):** At this stage, the adolescent (young adult and teenager) begins to think theoretically and focus on intellectual problems. Teenagers during this stage start thinking about issues of importance such as ethics, societal issues, political issues etc. During this stage, children begin to act and think more logically and at this point, they see a bigger picture of the world. (Cherry, 2020 c).

We can derive from this theory that at every stage a child starts viewing the world differently based on its observations. Therefore, during the stages of cognitive development of children, playing video games excessively can surely affect their cognition as children would learn what they witness which can lead to long-term behavioural issues such as aggression and addiction to technology that can ultimately affect the relationships of children within their social circles. As Jean Piaget suggested, the perceptions of children, their mental development and training are shaped by the surroundings around them. (Wartella, et al., 2016)

METHODOLOGY

The main purpose of conducting this research study was to evaluate the impact of excessive video gaming on childhood development. Various characteristics of excessive video gaming were explored in this study including the video gaming pattern of children, behavioural changes in children due to excessive video gaming, the behavioural pattern of parents towards the video gaming routines of their children and what are the possible solutions to overcome the habit of excessive video gaming.

3.1 Sample Selection

The following thesis highlights the excessive use of video games among children. The target population for the sample was parents and the sampling technique used was the available sampling technique. Parents were considered a target population as they can explain the behavioural pattern of children and their video gaming routines. The survey was conducted online through Facebook,

Instagram, Twitter, LinkedIn and WhatsApp. Our target was to get 100 respondents to fill in the survey questionnaire. Therefore, A total of 104 respondents participated in the study. Out of 104, 4 responses were excluded and only 100 responses were included and analyzed. Every respondent gave his/her consent before filling the online survey questionnaire. All the respondents were explained by the researcher what the research was about and their responses would be used for the research purposes only.

3.2 Survey Instrument

An online survey questionnaire was constructed through google forms for the research. The survey questionnaire consisted of 17 questions out of which 16 were closed-ended and one was an open-ended question. The questions were carefully designed keeping in view the research questions and objectives of the study. The first 4 questions of the survey were regarding the video gaming pattern of children such as, what genre they play, what video gaming devices they use, how many hours a day they spend playing video games and what games do they like to play to know the playing patterns of children. As the past studies explained, the more time a child spends playing video games the more vulnerable to behavioural change he becomes. (Yilmaz, Yel, & Griffiths, 2018).

The next 8 questions of the survey were regarding the behavioural change in children due to excessive video gaming. The past research studies have exhibited a link between excessive video gaming routine and increased behavioural and physical change in children. (Allazam, 2015). The next 4 questions of the survey were regarding the behavioural pattern of parents towards the video gaming routines of their children because parents are responsible for the personality development of their children. Parents hold the responsibility to make the rules for their children and they can make sure that their children follow the rules (Aierbe, Oregui, & Bartau, 2019). The last question was an open-ended question where the parents had to provide possible solutions to help their children overcome the habit of excessive video gaming.

3.3 Data Analysis

The data were analyzed using the built-in graphs in google forms and spreadsheets for the quantitative analysis. The data was represented in the form of tables and graphs (bar graphs and pie charts). For the closed-ended questions, 2 scales were used, a 5 point Likert scale and a 6 point Likert scale. The data for the closed-ended questions were represented in the form of bar graphs and pie charts and the results were distributed in the tables. For the open-ended question, parents were asked to provide a short answer and most of the parents provided a one-word answer. Analyzing this question, the main keywords were taken from the answers given by parents and a percentage was calculated for each keyword using the spreadsheet. After calculating the percentage, the data was represented in the form of a pie chart and it was also explained thoroughly.

RESULTS

The results of the study were calculated using Microsoft Excel and built-in pie charts and graphs in google forms. The results of the study are explained in the tables above.

Table-I: Video Gaming Pattern of Children:

S.No	Devices used for playing video games	Percentage of population
1.	Mobile Phones	73% (73)
2.	Computer/Laptop	38% (38)
3.	Tablet	29% (29)
4.	PlayStation	21% (21)
5.	Nintendo	9% (9)
6.	Xbox	10% (10)
7.	Ipad	2% (2)

8.	Others	1% (1)
9.	Does not play video games	4% (4)
S.No	Hours spent playing video games per day	Percentage of population
1.	Less than one hour	13% (13)
2.	1-2 hours	33% (33)
3.	3-5 hours	30% (30)
4.	5-7 hours	9% (9)
5.	More than 7 hours	13% (13)
6.	Not applicable	2% (2)
S.No	The genre of video games that children play	Percentage of population
1.	Action/Violent	52% (52)
2.	Adventure	37% (37)
3.	Car Racing	41% (41)
4.	Fantasy/Science Fiction	19% (19)
5.	Puzzle	21% (21)
6.	Educational	18% (18)
7.	Others	14% (14)
8.	I don't know	3% (3)
9.	Not applicable	4% (4)
S.No	Video games that children play	Percentage of population
1.	Grand Theft Auto	15% (15)

2.	Need for Speed	17% (17)
3.	Tekken	13% (13)
4.	PUBG	31% (31)
5.	Call of Duty	19% (19)
6.	Street Fighter	10% (10)
7.	Battlefield	12% (12)
8.	Others	52% (52)
9.	I don't know	6% (6)
10.	Does not play Video games	7% (7)

Table-II: Behavioural changes in children due to excessive video gaming:

S.No	Parents noticing increased aggression in children	Percentage of Population
1.	Very frequently	16% (16)
2.	Frequently	19% (19)
3.	Occasionally	22% (22)
4.	Rarely	18% (18)
5.	Never	19% (19)
6.	Not applicable	6% (6)
S.No	Children imitating video gaming content	Percentage of population
1.	Always	12% (12)
2.	Often	16% (16)

3.	Sometimes	24% (24)
4.	Rarely	17% (17)
5.	Never	26% (26)
6.	Not Applicable	5% (5)
S.No	Playing video games to cope up with academic stress	Percentage of population
1.	Strongly Agree	6% (6)
2.	Agree	28% (28)
3.	Not Sure	30% (30)
4.	Disagree	14% (14)
5.	Strongly Disagree	14% (14)
6.	Not Applicable	8% (8)
S.No	Participation in social activities	Percentage of population
1.	Always	22% (22)
2.	Often	23% (23)
3.	Sometimes	28% (28)
4.	Rarely	12% (12)
5.	Never	15% (15)
S.No	Participation in academic activities	Percentage of population
1.	Always	32% (32)
2.	Often	24% (24)
3.	Sometimes	22% (22)

4.	Rarely	12% (12)
5.	Never	10% (10)
S.No	Increase in video gaming during lockdown	Percentage of population
1.	Strongly Agree	40% (40)
2.	Agree	36% (36)
3.	Not Sure	9% (9)
4.	Disagree	4% (4)
5.	Strongly Disagree	5% (5)
6.	Not Applicable	6% (6)

S.No	Parents noticing health issues in children	Percentage of population
1.	Always	6% (6)
2.	Often	12% (12)
3.	Occasionally	23% (23)
4.	Rarely	15% (15)
5.	Never	35% (35)
6.	Not Applicable	9% (9)
S.No	Negligence of academic duties by children	Percentage of population
1.	Always	18% (18)
2.	Often	16% (16)
3.	Occasionally	22% (22)

4.	Rarely	23% (23)
5.	Never	17% (17)
6.	Not Applicable	4% (4)

Table-III: Behavioural pattern of parents towards the video gaming routines of their children:

S.No	Monitoring children while playing video games	Percentage of population
1.	Always	20% (20)
2.	Often	22% (22)
3.	Occasionally	28% (28)
4.	Rarely	15% (15)
5.	Never	11% (11)
6.	Not Applicable	4% (4)
S.No	Awareness regarding video gaming routine of children	Percentage of population
1.	Always	36% (36)
2.	Often	30% (30)
3.	Occasionally	15% (15)
4.	Rarely	12% (12)
5.	Never	4% (4)
6.	Not Applicable	3% (3)

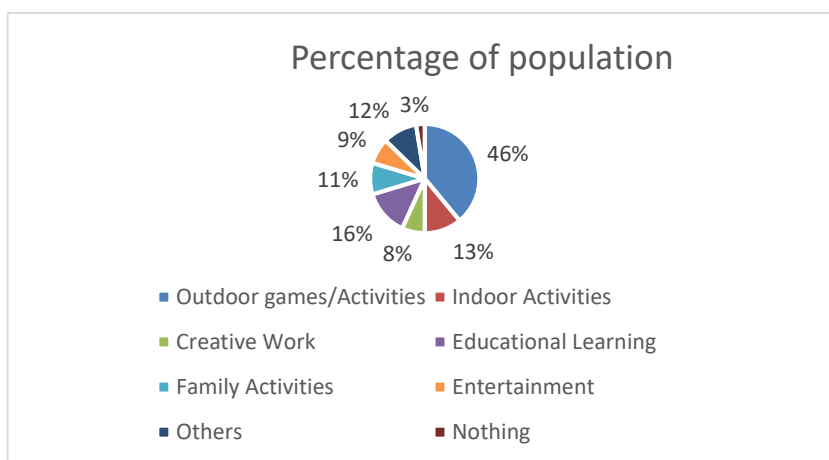
S.No	Allowing children open video gaming	Percentage of population
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	access	
1.	Always	23% (23)
2.	Often	20% (20)
3.	Occasionally	21% (21)
4.	Rarely	6% (6)
5.	Never	26% (26)
6.	Not Applicable	4% (4)
S.No	The extent to which parental guidance/involvement helps	
1.	Always	19% (19)
2.	Often	25% (25)
3.	Occasionally	20% (20)
4.	Rarely	19% (19)
5.	Never	11% (11)
6.	Not Applicable	6% (6)

Solutions Provided By Parents To Limit The Video Gaming Time Of Children

In the last question of the survey (question number 17), the parents were asked to provide possible solutions to limit the video gaming time of children.

DISCUSSION AND ANALYSIS



This study was conducted to analyze the impact of excessive video gaming on childhood development. Nowadays, the relationship between video games and childhood development is one of the most important topics for research and debate among parents, educators and policymakers due to the increasing use of video games by children, especially during the pandemic. (Griffiths, 2015). The studies suggest that an average and adequate amount of video gaming does not impact children negatively, instead, it can help children improve their cognitive functions, however, the problem arises when the video gaming time exceeds the limit as explained by the researchers. (Yilmaz, Yel, & Griffiths, 2018)

The findings of this quantitative study conducted through an online survey analyze three main concerns, (i) video gaming pattern of children, (ii) behavioural development of children, (iii) behaviour of parents towards the video gaming pattern of their children. The findings of this research study suggest that most of the children (52%) are inclined towards violent video games and a maximum number of children (73%) own a mobile phone to play video games daily. According to parents, most of the children usually play video games for 1-2 (33%) and 3-5 (30%) hours per day and most of the parents (22%) indicated that they occasionally witness behavioural change such as increased aggression in their children due to excessive video gaming, while the results for observing frequent aggression in their children and no aggression at all stood at 19%. The majority of the parents (26%) have indicated that their child does not imitate the content he/she is exposed to, however, (24%) of the parents have also indicated that their children sometimes imitate the content they are exposed to while playing excessive video games. As explained by past studies, children who are more inclined towards violent video games instead of other genres are most likely to develop aggressive tendencies as compared to children who do not play violent video games. (Milani, Camisasca, Caravita, & Ionio, 2015).

Past studies suggest that playing excessive video games results in negligence towards academic duties. The researchers explain that children are more likely to become asocial and detached from their social lives in the worst-case scenario due to excessive video gaming. (Yilmaz, Yel, & Griffiths, 2018). In the present study, parents were asked whether their children tend to play video games to cope up with academic stress. The findings of this study suggest that 6% of the parents strongly agreed while 28% of the parents agreed that their children played video games to cope up with academic stress, 30% of the parents were not sure about it, while 14% of the parents strongly disagreed/disagreed that their children played video games to cope up with academic stress. When asked about the social activities of children, 28% of the parents said that their children always participate in other social activities, 22% of the parents said their children sometimes participate in other social activities, 23% of the parents said that their children often participate in other social activities, 12% of the parents said that their children rarely participate in other social activities and 15% of the parents said that their children never participate in social activities.

Moreover, we witness that children tend to neglect academic activities when they are immersed in excessive video gaming and they are more likely to participate in the activities that are of their interest. Therefore, to get an understanding of the activities of children, parents were asked to give an insight into the participation of their children in academic activities. When asked about participation in academic activities of children, 32% of the parents said that their children always participate in academic activities, 24% of the parents said that their children often participate in the academic activities, 22% of the parents said that their children sometimes participate in the academic activities, 12% of the parents said that their children rarely participate in the academic activities while 10% of the parents said that their children never participate in the academic activities. In addition, the pandemic of COVID-19 has also caused children to indulge in

excessive video gaming as they have nothing more to do. The pandemic has caused the world to shift towards online activities globally due to strict lockdowns. A recent research study by Yousafzai and Sherin explains that children do not take their online classes seriously and are usually invested in other activities while taking online classes and do not pay attention to the lectures, while most of the children tend to mark their attendance inside the classroom and then leave the lecture. (Yousafzai & Sherin, 2020). When asked about the increased video gaming time of children during the pandemic 40% of the parents strongly agreed and 36% of the parents agreed that the video gaming time of children has increased during the lockdown, while 9% of the parents were not sure, 4% of the parents strongly disagreed and 5% of the parents disagreed about it. Parents were also asked whether their children were neglecting their academic duties or not. The findings of this study suggest that 18% of the children always neglect their academic duties due to excessive video gaming, 16% of the children often neglect their academic duties, 22% of the children occasionally neglect their academic duties, 23% of the children rarely neglect their academic duties while 17% of the children never neglect their academic duties.

Furthermore, health is also one of the important factors associated with excessive video gaming. Past studies have established a link between health issues and excessive video gaming. The uncontrolled video gaming routines of children lead to health issues that are ignored by them most of the time. Children who play video games excessively and do not participate in other social activities are more likely to become overweight due to a lack of physical exercise. Moreover, children might also develop eyesight problems and sleeping and eating disorders as well. Parents in this recent study were asked whether they notice any health issues in their children due to excessive video gaming. (Ayenigbara, 2017). The findings of this study suggest that 6% of the parents always notice health issues in their children, 12% of the parents often notice health issues in their children, 22% of the parents

occasionally notice health issues in their children, while 23% of the parents rarely noticed health issues 17% of the parents never notice health issues in their children due to excessive video gaming.

To control the excessive video gaming habit of children, parental influence is most necessary. Parents are responsible for shaping the personalities of their children and nurturing them in the best possible manner. Past studies explain that parents are only able to look after their children when they are free and that is one of the reasons why children have easy access to the internet and video games. Therefore, parents indicated that their children are not performing well in their studies and are showing signs of exhaustion. (Salceanu, 2014). Moreover, the findings of this study indicate that 20% of the parents always monitor their children while playing video games, 22% of the parents often monitor their children while playing video games, 28% of the parents occasionally monitor their children while playing video games and 15% of the parents rarely and 11% of the parents never monitor their children while playing video games. When talking about the awareness regarding video gaming routines of children, 36% of the parents indicated they are always aware of the video gaming routine of their children, 30% of the parents indicated they are often aware of the video gaming routine of their children, 15% of the parents indicated that they are occasionally aware of the video gaming routine of their children while 12% of the parents indicated that they are rarely aware while 4% of the parents indicated that they are never aware of the video gaming routine of their children.

The researcher Claudia Salceanu explained in her research that due to the under-supervision of children, they have open access to video gaming and the internet and usually children own a video gaming console such as mobile phones or a laptop/computer to play video games. For investigation, parents were asked whether they allow their children open video gaming access. According to the results of this study, 23% of the parents indicated that they

always allow open video gaming access to their children, 20% of the parents indicated that they often allow open video gaming access to their children, 21% of the parents indicated that they occasionally allow open video gaming access, while 6% of the parents indicated they rarely allow and 26% of the parents indicated that they never allow open video gaming access to their children.

On the contrary, researchers explain that video games have proven to be useful for the cognitive and physiological development of children but if played wisely, under parental supervision. For children to play within limits and benefit from video games, parents need to take important measures that are beneficial for their children in the longer run. Keeping children away from technology is not an effective method of parental control, therefore, parents need to make time for their children and suggest alternative activities. (Aierbe, Oregui, & Bartau, 2019). According to the findings of this study, 19% of the parents indicated that their guidance and involvement always help, 25% of the parents indicated that their involvement often helps, 20% of the parents indicated that their involvement occasionally helps, while 19% of the parents indicated that their involvement and guidance rarely and 11% of the parents indicated their guidance never helps with the excessive video gaming routine of their children.

Besides this, parents were also asked to provide alternatives and suggest engaging activities that can help children overcome the habit of excessive video gaming. Parental socialization is proven to be most beneficial to change the lingering habits of children. (Aierbe, Oregui, & Bartau, 2019). Therefore, to know more about parental socialization and guidance, parents were asked to provide alternatives to video gaming that can be useful for children. According to the findings of this study, most of the parents suggested outdoor activities such as sports and walking for children. Moreover, parents suggested that children should participate in indoor activities such as board games and household

chores as this helps with the realization of responsibility. Besides this, parents suggested that children should participate in creative work such as arts and crafts as it helps to increase creativity and cognitive development. Moving on, one of the important suggestions that parents gave was about increasing educational learning such as homework, reading informative books, watching informative documentaries etc. In addition, parents also suggested increasing the family activities such as family get-togethers and discussions and also increasing entertainment time such as allowing children to watch movies and listen to songs as it will help them establish a connection with their family.

Validity means to measure the data accurately and to investigate what needs to be measured. The purpose of conducting a validity test is to make sure that the data is accurate and measures what is intended based on the hypothesis. (Taherdoost, 2016). In this study, a Chi-square validity test was conducted through SPSS software to find out the validity of the data and hypotheses of the study to find out the relationship between, (i) excessive video gaming and behavioural change and (ii) excessive video gaming and parental guidance. According to the validity test, the data came out to be 100% valid as the value of Chi-Square was less than the critical value, $p=0.05$ and it showed a relationship between excessive video gaming and behavioural change (aggression) and excessive video gaming and help through parental guidance thus resulting in the approval of hypotheses H1 and H2.

Excessive Video Gaming and Behavioural Change

The tables and graphs below show the results of the Chi-Square test conducted to investigate a relationship between excessive video gaming and childhood development.

Chi-Square Tests				
		Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square		66.800 ^a	25	0.000
Likelihood Ratio		48.867	25	0.003
N of Valid Cases		100		
a. 27 cells (75.0%) have expected count less than 5. The minimum expected count is .12.				
Symmetric Measures				
		Value	Approximate Significance	
Nominal by Nominal	Phi	0.817	0.000	
	Cramer's V	0.366	0.000	
N of Valid Cases		100		

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	98.279 ^a	25	0.000
Likelihood Ratio	65.384	25	0.000
N of Valid Cases	100		

a. 27 cells (75.0%) have expected count less than 5. The minimum expected count is .08.

Symmetric Measures			
		Value	Approximate Significance
Nominal by Nominal	Phi	0.991	0.000
	Cramer's V	0.443	0.000
N of Valid Cases		100	

BehaviourChange * HoursOfUse									
Crosstab									
			HoursOfUse						
			1-2 hours	3-5 hours	5-7 hours	Less than one hour	More than 7 hours	Not applicable	Total
BehaviourChange	Frequently	Count	4	7	1	3	4	0	19
		Expected Count	6.3	5.7	1.7	2.5	2.5	0.4	19.0
Never	Count	9	2	1	6	1	0	19	
	Expected Count	6.3	5.7	1.7	2.5	2.5	0.4	19.0	
Not applicable	Count	1	0	0	2	1	2	6	
	Expected Count	2.0	1.6	0.5	0.8	0.8	0.1	6.0	
Occasionally	Count	8	7	5	1	1	0	22	
	Expected Count	7.3	6.6	2.0	2.9	2.9	0.4	22.0	
Rarely	Count	8	7	1	1	1	0	18	
	Expected Count	5.9	5.4	1.6	2.3	2.3	0.4	18.0	
Very Frequently	Count	3	7	1	0	5	0	16	
	Expected Count	5.3	4.8	1.4	2.1	2.1	0.3	16.0	
Total	Count	35	30	9	13	13	2	100	
	Expected Count	33.0	30.0	9.0	13.0	13.0	2.0	100.0	

Chi-Square Tests									
		Value	df	Asymptotic Significance (2-sided)					
Pearson Chi-Square		64.799 ^a	25	0.000					
Likelihood Ratio		43.937	25	0.011					
N of Valid Cases		100							
a. 29 cells (80.6%) have expected count less than 5. The minimum expected count is .10.									
Symmetric Measures									
		Value	Approximate Significance						
Nominal by Nominal	Phi	0.805	0.000						
	Cramer's V	0.360	0.000						
N of Valid Cases		100							
	Rarely	Count	13	5	2	2	1	0	23
		Expected Count	7.8	6.8	2.1	3.0	3.0	0.5	23.0
Total		Count	33	30	9	13	18	2	100
		Expected Count	33.0	30.0	9.0	13.0	13.0	2.0	100.0

Excessive Video Gaming and Parental Guidance

The tables and graphs below show the results of the Chi-Square test conducted to investigate a relationship between excessive video gaming and help through parental guidance.

Case Processing Summary							
	Cases						
	Valid		Missing		Total		
	N	Percent	N	Percent	N	Percent	
BehaviourChange * ParentalGuidance	100	100.0%	0	0.0%	100	100.0%	
HoursOfUse * ParentalGuidance	100	100.0%	0	0.0%	100	100.0%	

BehaviourChange * ParentalGuidance

			Crosstab						
			ParentalGuidance						
			Always	Never	Not applicable	Occasionally	Often	Rarely	Total
BehaviourChange	Frequently	Count	4	3	0	1	5	0	13
		Expected Count	3.6	3.1	1.1	3.9	4.6	3.6	19.0
	Never	Count	7	2	3	2	4	1	19
		Expected Count	3.6	2.1	1.1	3.6	4.6	3.6	19.0
	Not applicable	Count	2	0	3	0	1	0	6
		Expected Count	1.1	0.7	0.4	1.2	1.5	1.1	6.0
	Occasionally	Count	3	2	0	9	4	7	25
		Expected Count	4.2	3.4	1.3	4.4	5.5	4.2	23.0
	Rarely	Count	2	0	0	4	10	2	18
		Expected Count	3.4	2.0	1.1	3.6	4.5	3.4	18.0
	Very Frequently	Count	1	4	0	7	1	3	16
		Expected Count	3.0	1.8	1.0	3.2	4.0	3.0	16.0
Total		Count	19	11	6	20	26	19	100
		Expected Count	19.0	11.0	6.0	20.0	25.0	19.0	100.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	65.061 ^a	25	0.000
Likelihood Ratio	60.090	25	0.000
N of Valid Cases	100		

a. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .36.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	0.807	0.000
	Cramer's V	0.361	0.000
N of Valid Cases		100	

HoursOfUse * ParentalGuidance

			Crosstab						
			ParentalGuidance						
			Always	Never	Not applicable	Occasionally	Often	Rarely	Total
HoursOfUse	1-2 hours	Count	6	5	0	3	10	0	24
		Expected Count	6.3	3.6	3.0	4.6	6.3	6.3	35.0
	3-6 hours	Count	7	1	0	0	7	0	15
		Expected Count	5.7	3.3	1.8	6.0	7.0	5.7	30.0
	9-17 hours	Count	2	1	0	1	1	1	6
		Expected Count	1.7	1.0	0.0	1.6	3.3	1.7	9.0
	Less than one hour	Count	4	1	1	1	5	1	13
		Expected Count	2.9	1.4	0.6	2.0	3.0	2.0	13.0
	More than 7 hours	Count	3	7	1	2	0	3	16
		Expected Count	2.8	1.4	0.8	3.0	3.3	3.0	13.0
	Not applicable	Count	0	0	0	0	0	0	0
		Expected Count	0.0	0.2	0.1	0.4	0.6	0.4	2.0
Total		Count	19	11	0	20	20	19	100
		Expected Count	19.0	11.0	0.0	20.0	25.0	19.0	100.0

Chi-Square Tests				
		Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square		76.862 ^a	25	0.000
Likelihood Ratio		54.900	25	0.001
N of Valid Cases		100		
a. 28 cells (77.8%) have expected count less than 5. The minimum expected count is .12.				
Symmetric Measures				
		Value	Approximate Significance	
Nominal by Nominal	Phi	0.877	0.000	
	Cramer's V	0.392	0.000	
N of Valid Cases		100		

CONCLUSION

Both hypotheses (H1 and H2) remain consistent with the results of the study and are approved as the parents second that excessive video gaming leads to cognitive and behavioural problems and the solution to help children let go of their habit of excessive video gaming is through parental involvement and guidance. The end of this research concludes that video games have their strengths and limitations based on the way they are used. There is a thin line between playing normally and playing excessively. The artificiality of video games usually gets children addicted to them which ultimately leads to behavioural change such as increased aggression and negligence of social and academic activities.

Technological advancements such as gaming consoles as we know are fascinating enough to grab the attention of individuals especially children as they are vulnerable but it should be kept into consideration that excessive use of these gadgets for gratifying

one's needs can lead to long-term disadvantages. With the care and protection of parents around their children, it is possible to overcome the habit of excessive video gaming and save children from its negative impacts.

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