

Electronic Gaming Addiction among Youth: A Qualitative Study on PUBG

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ABSTRACT

Technology has changed the world in many ways over the past few years and there hardly is any industry left untouched by it. Over the past decade, smartphones have taken the world of technology by storm. Almost half of the world's population (3.5 billion) own smartphones. Millions of apps and games on the Apple App Store and Google Play has provided the users with plentiful opportunities to spend time on entertainment playing games. However, this leisure activity has increased to alarming levels as a result of which, many extreme cases have surfaced around the world over the past few years. Some of the extreme cases include suicides, anxiety, depression and a toll on mental health as a result of excessive and continued gaming. In this qualitative study, we have tried to explore some of the factors that attract players to spend so much time on such games. For the purpose of this study, we have taken highly popular shooting game, PUBG to base our study on. We identified four theoretical dimensions and discovered the psychological impacts of PUBG addiction among youth.

➤ *Keywords*

- *Electronic games addiction*
- *Youth*
- *PUBG*

CHAPTER ONE

INTRODUCTION

1.1. Background of study

The electronic games are pervasive among youth in today's society. Online video gaming is among the most prevalent leisure activities in the world among young people. The video games revive reality in a colossal user-generated world. The online and concerted aspect of modern games makes them insidious, interesting and addictive (D Griffiths, Kuss and King, 2012). The shooting games are quite popular among the players of most of the electronic games. Moreover, the gaming addiction is a real disorder recognized by World Health Organization. Of several online games offered to users around the world, perhaps a few have consistently been popular in playing for a considerable period of time and sustaining strong consumer loyalty. Player Unknown's Battlegrounds (PUBG) is an online multi-player battle game which is gaining popularity apparently on a daily basis. It has become the leading game among all other electronic games (Mehra, 2019). So, it became the most popular game after its release in 2017 and it is still a distinguished power house in the electronic gaming world. Today, PUBG draws more and more users around the world to enter and enjoy its live streaming features.

1.2. Problem statement

PUBG provides a virtual platform that allows its players to elude real life while succeed and engage in a semi-real world of fantasy that allows its players for rewards and feeling of success and acceptance. Unfortunately, the rewards and engaging nature of PUBG can quickly take control of the minds of players as they develop its addiction by the excessive usage. The excessive violence in PUBG can provoke aggressive thoughts, emotions and behavior in the players. Ultimately, this will make the players less humane and take extreme violent actions. Moreover, there will also be increased psychological issues by playing PUBG for a long time period. According to Schivinski et al (2018), the video game addiction presents obsessive gaming, social isolation, mood swings, diminished imagination and hyper-focus on in-game achievements among its players that creates the exclusion of other events in life. Almost in just over a year of its release there have been multiple reports flowing in on the negative consequences that the game has had on the individuals, as the effects can easily be seen through their academics, sleep, behavioral, social and other patterns. Thus, it is creating social, psychological and behavioural issues that need to be addressed instantly for directing the youth towards avoiding extreme aggressive and violent issues. So, this study explores the factors that promote PUBG addiction and its psychological impacts on youth in Pakistan.

1.3. Research gap

The advantages and disadvantages of electronic games are well studied but little research has been done on PUBG. Research has shown that gaming can bring many therapeutic, cognitive and educational advantages for youth (Moniaga, Tansil and Indrianti, 2019). However, it can also be potentially addictive and problematic. The previous researches have examined the impact of shooting video games on aggressive and violent behaviour. But there are few researches on PUBG addiction due to the recent emergence and popularity of this game. These few researches on PUBG have focused on the dangers and patterns of PUBG addiction (Srijampana, 2014). So, this research explores the factors that promote PUBG addiction and its psychological impacts among youth.

The online video gaming has become the worlds most popular leisure time activities among adolescents and youth. Despite the increase in empirical research on problematic online gaming, little attention has been given to PUBG addiction among youth. Moreover, very few theories are used for the study of PUBG. So, this is the theoretical gap that this study fills. Furthermore, there has been some researches on the behavior and impact of PUBG on students, adolescents and youth. But these researches are in the context of China, India and some other countries. This is the contextual gap. For instance, a student in India who used to secure distinction in his studies became so addicted to PUBG and he stopped his studies. Moreover, another kid was hospitalised due to mental instability by PUBG addiction (Mamun and Griffiths, 2019). A kid committed suicide in China and his parents delineated that it is due to his PUBG addiction (Koeder, Tanaka and Mitomo, 2018). Up to our knowledge and information, this research has not been done yet in Pakistan. Thus, this study focuses on the factors that promote PUBG addiction and its psychological impacts in context of social, mental, financial and individual behavior among youth in Pakistan.

1.4. Significance

This research is beneficial for the PUBG organization in order to get information about the addictive factors and its psychological impacts among youth that are the actual players of this electronic game. This will help the organization to take preventive measures and make it a youth friendly game. Moreover, this study is beneficial for the parents to get awareness about their children who play this game and take steps to prevent their children from behavioral, psychological and health issues. The teachers will also be benefited from this study by getting information about the violent or aggressive behaviour of students and possible reasons for their exceptional behaviours in institutions. Furthermore, the academic scholars can also get benefit by knowing the current issue of PUBG addiction among youth and consider it for further research in future. This research is also

significant for policy makers to make policies before the emergence of extreme cases of violence among youth in Pakistan.

1.5. Objective of the study

The objective of this study is to explore the factors that promote PUBG addiction among youth and its psychological impacts.

1.6. Research questions

The main research question of this study is

1) What are the factors that promote PUBG addiction among youth?

The sub question of this study is

a. What are the psychological impacts of PUBG addiction among youth?

1.7. Research objectives

The research objectives of this study are as follows:

- To explore the factors that promote PUBG addiction among youth.
- To explore the psychological impacts of PUBG addiction among youth.

1.8. Theoretical framework

The theoretical framework for studying electronic games addiction among youth is explained below. There are two underpinning theories that support this study. These two theories include the social control theory and social learning theory.

1.8.1. Social control theory

Social control theory asserts that violent actions and crimes occur when the bonds and ties with family, schools and society are weakened and not established well. Thus, the individuals are more likely to indulge in deviant behavior. This theory focuses on the role of familial and social bonds as a constraint for deviant behavior. In case of electronic games addiction, young people indulge in electronic game and consequently the ties with family and friends are weakened as they like to spend more time playing electronic games (Grüsser, Thalemann and Griffiths, 2006).

1.8.2. Social learning theory

Albert Bandura introduced the social learning theory in 1977. Social learning theory is a theory that is related to social behavior and learning process. This theory states that the new behaviors can be acquired by observations and imitation of other people. Thus, learning is not only a behavioral process but also a cognitive process that occurs in social setting. Learning also occurs by the observation of punishments and rewards. Similarly, when a succeeding behavior in electronic games is regularly rewarded that particular behavior is most likely to persist in players for long time (Abbasi, Ting and Jamek, 2015). Social learning theory has also been applied to various aggressive and violent behaviors of young people by regularly playing online games.

CHAPTER TWO

LITERATURE REVIEW

2.1. PUBG Game

PUBG was established and marketed by a Korean company known as “Bluehole”. Although Bluehole is considered as a small company but it has utilised its limited resources effectively by investing in the advertisements of social media for reaching as many customers as possible within their budget. PUBG then approximately generated 11 million USD after its release within three days and almost one million copies were sold in a month due to the strategic investment of company (Subair, 2019). The progress of PUBG has been successful in attracting the attention of operators of online gaming around the world for gaining lessons to be more competitive. The uniqueness of this game is the operators awareness regarding the need for building the game loyalty with the targeted consumers via the persistent feature updates.

PUBG is a first-person shooter game in which players battle enemies using different strategies and weapons to fulfill certain tasks. The game begins with one hundred players parachuting on a pre-decided plot on a particular island from an aircraft. Upon attempting to land in the comfort zone, both users and opponents start by gathering weapons and using available facilities to develop and implement strategies for killing each other. The strong features integrated into the game contribute to very addicting gameplay. Some of the features of PUBG that make it addictive for its players include high definition pictures, sound, ability to talk with others, maps and operational methods.

The developments of attractive features of game continuously cause a certain loyalty among users to a particular game. Teng (2017) in a study of 5144 online gamers found out that there are certain features that are positively correlated with the goal proximity. These features include length of relationship, breadth and depth. Goal proximity is defined as the perception of a close goal. Thus, this positive correlation is further correlated positively with the online game loyalty and personal motivation. Moreover, another study of 2025 online gamers showed that the growth expectation is also related positively to the perceived challenge and perceived skill that will consequently influence loyalty of online gamers positively (Liao and Teng, 2017). Thus, it can be seen from these results that keeping the game alive by using dynamic strategy and strong marketing investment including features influences the loyalty of users that attracts the new users potentially from around the world.

2.2. Live streaming games and related studies

A variety of live streaming games and online games are available including Counter Strike, League of Legends, Fortnite, and PUBG. Streaming has indeed become more famous in the present era and is therefore now deemed interchangeable with video gaming. The electronic games concept is also widely recognised and used with the word "e-sport" games interchangeably. Such digital games have become a major entertainment field for many people in the last decade, particularly with the increase in coverage of widespread Internet that enables online users to compete and cooperate. Live streaming games offer learner-learner interactions that in turn enable users to explain, change and interpret their social understanding. Consequently, PUBG users used the technology that mediates shared users in a practical and effective manner. A considerable number of studies live streaming games as well as online games have been conducted. For instance, according to Beard and Wickham (2016), there are ten factors for motivation that engage the users with online games. These factors include mechanics, advancement, socialising, competition, discovery, teamwork, role-playing, escapism and customisation.

Al-Mansour (2019) found out that various factors have contributed to the success of PUBG that include the creative ideas, quality of the concept, being friendly to social media, target audience, the quality of digital marketing, the developers, customer categories, realistic experience, smartphone as a platform, streaming media and the strength and availability of relevant connection of internet. So, the creative ideas have become one of the critical issues for the electronic games because there is a lot of mimicking and borrowing of ideas. The quality of the concept of games makes the video game more enjoyable for playing. Being social media friendly means that the social media is the most predominant development arguably across the world, so targeting the audience via social media is of great help to online gamers. The target audience helps the developers of game to adjust the features and quality according to the audience taste. The digital marketing helps the online gamers to share the information to the larger population of electronic game users. The developers themselves need to follow the trend and thus update the features of games on a regular basis. It is important for developers to design the features that are suitable for the customer category. For instance, PUBG is rated as PG16. Moreover, the realistic experience allows the users to escape from their real world and live the reality in another artificial world. The smartphones are deemed portable devices that allow the game to be accessible and available at any point in time. The streaming acts as a feature of data storage for allowing the account information. The internet has become a necessity in the daily life of human, so the strength and availability of relevant internet connection is important for electronic game users.

A study of 1057 online gamers were conducted for identifying the online game problematic involvement as it results in severe addiction and consequently impact negatively on the users. This study found out various motives for the online games addiction including immersion, impulsiveness, social affiliation, achievement and self-esteem feelings. Moreover, Bae, Koo and Mattila (2016) argued that there are additional motives that increases the interest of users in online games in addition to the cognitive factors which encourage the users for online game engagement. These additional motives include pleasure, arousal and stress with regard to the intention for playing online games.

Although some of the studies have shown that the online gaming can help promote various benefits that include medical, cognitive, health, educational and therapeutic (Pontes, Stavropoulos and Griffiths, 2019). But online games still are problematic for some other user groups as it may result in certain negative impacts including problems of mental disorder (Kuss, Griffiths and Pontes, 2017).

CHAPTER THREE

METHODOLOGY

3.1. Research method

The qualitative research method is used for this study on the basis of the objective of the research, which underpins on the exploration of the factors that promote PUBG addiction among youth. The descriptive and exploratory nature of this research shows the rationale for using qualitative research design (Drisko, 2008). Moreover, the qualitative techniques that are used in this study are interviews and focus groups.

3.2. Rationale for choosing interviews and focus groups

The interviews are used for the exploration of factors of PUBG addiction among youth in this study for getting the data from experiences of interviewees that could be obtained only from conducting interviews (King, Horrocks and Brooks, 2018). The interviews are conducted on the basis of questions of interview guide that is attached in appendix.

The focus groups are used for developing the deeper understanding of PUBG addiction among youth by directly engaging the PUBG users in interactive discussion. So, the face to face interaction with various respondents at a time allows to get deep insights about their behavior and attitudes. The 3 focus groups are used for ensuring a good mix of perspectives and experiences of respondents (Hancock et al., 2016).

3.3. Interview and Focus group questionnaire

The interview protocol is designed by the researcher in order to assure the effective coverage of the phenomenon that is under the exploration for this research. The semi-structured interview questionnaire is used for this research. Moreover, 5 interviews and 3 focus groups are conducted for the data collection of this study. Furthermore, the interviewees and focus group participants were asked the questions in same sequence for ensuring the satisfactory representation of the responses regarding the practices of PUBG.

The two pilot interviews were conducted initially before starting the process of conducting interviews in order to ensure clarity. The data collected in the pilot interviews was not actually exploring the factors for PUBG addiction. This is because of the mistake of the researcher to design the interview questionnaire and conduct in-depth interviews. The drawbacks of the pilot interviews were considered by the researcher.

Consequently, three questions were rewritten and revised for the alignment of data collection with the research question of this study.

3.4. Sample and Data collection

The sample for this research is the youth of 16-22 years age. The sample size for this research is 5 individuals for five interviews. Moreover, each focus group consists of 5 individuals and three focus groups are conducted for this study. The data is gathered from PUBG players including the youth of school, college and university level who regularly play this game. The participants were asked the questions and the data was collected in the form of audio recordings. The interview and focus group transcripts are attached in the appendix. Moreover, this is a cross-sectional research as it is conducted at one point in time with different samples.

3.5. Analysis technique

After conducting the interviews and focus groups, the transcripts were written. The analysis technique used for this study is the thematic analysis. Thematic analysis is a technique used for the analysis of data collected in the qualitative research (Braun and Clarke, 2019). The thematic analysis is mostly applied to the set of texts including the transcripts of interview (Fletcher, 2017). In this technique, the researcher identifies closely the themes by the examination of data and then identifies common themes that include ideas, topics and patterns of meaning that are repeated by the participants. The data collected from the transcriptions was then analysed for searching the themes in order to apply the thematic analysis for the analysis of data of this research. Furthermore, the descriptive codes are generated from the first order codes. Then the descriptive codes are further categorised into second order themes. Finally, the second order themes are categorized into third order themes or theoretical dimensions.

3.6. Ethical considerations

The research ethics are fully considered in this study. The interviews and focus groups are conducted with the consent of participants. Moreover, the audios are recorded with their consent and the mobile was placed in front of them in order to ensure research ethics. The names of the interviewees and focus group participants were not disclosed in order to assure the anonymity of participants of this research.

CHAPTER FOUR

FINDINGS

The findings of this study showed that there are some interesting factors of PUBG that promote addiction among youth. The descriptive codes and first order codes of findings are also attached in the appendix. The respondents gave response about the features that they like about PUBG. Most of the responses were same regarding the attractive features of PUBG. One of the interviewees responded that

“It regularly updates its new maps due to which the game becomes tougher and more challenging”

So, this response is compatible with other responses of interviewees and focus group participants. Thus, the descriptive code of “updates of new and challenging maps” is derived from this. One of the focus group participants responded that

“The updates of graphics are improved a lot now by adding more realistic images and backgrounds”

So, the descriptive code of “updated and improved graphics” is derived from the similar responses of respondents. One of the other interviewees responded that

“I like this game because it is based on reality like there are real life characters and maps and enemies”

Thus, the descriptive code of “reality-based game” is derived from these first order codes. One of the respondents answered that

“I gained the experience of semi-realistic life from this game as I have friends nearby my home, but I also have friends in this game with whom I chat and complete the challenges”

The descriptive code of “semi-realistic game experience” is coded from above response. Another participant responded that motivation arises after winning the game. So, the descriptive code of “motivated for winning the game” is derived from the response below.

“Whenever I win the game, I feel motivated that I am the winner of this game due to my hard work and I will get rewards and unlock other challenges”

One of the interviewees responded that

“My morale increases when I complete a challenge and after winning the completion of that particular challenge”

Therefore, the descriptive code of “increased morale after winning a challenge” is coded from the above first order code. Other respondents answered similarly about this descriptive code. The descriptive code of “increased networking via online friends in game” is derived from the first order code that is

“I think my networking has increased a lot through the friends that I make in this game”

One of the interviewees responded that

“PUBG also provides us with this opportunity that we can easily contact and chat with people from different countries”

Thus, the descriptive code of “interaction with people from different countries” is derived from above response. One of the focus group participants responded that they interact with international people from which the descriptive code of “knowledge of various strategies and mindset of players” is derived from the response below.

“We come to know about different players, language can also give the idea of their mindset and plan about how they make strategies”

One of the interviewees responded that

“Its most attractive feature is mapping where you find your enemies, make the strategy and kill them”

Consequently, the descriptive code of “developing strategies to kill enemies” is derived from this first order code. Another focus group participant responded that squad feature is the one that they like the most, so the descriptive code of “friends work as a squad” is developed from the first order code below

“One of the reasons for playing PUBG is that we four friends work as a squad”

One of the interviewees responded that

“Your actions in the game are linked with other friends”

So, the descriptive code of “linkage of game actions with team” is derived from the above response. While asking the questions regarding the psychological impacts, one of the interviewees responded that *“Once I even broke my mobile phone because of the disruption of internet speed as I was near to the completion of my tough challenge in this game.”*

So, the descriptive code of “breakage of phone due to internet disruption” is derived from the first order code. One of the interviewees responded that

“I become very aggressive on the members of my squad whenever we lose a challenge”

This response is also given by the focus group participants. So, the descriptive code of “aggression on squad members for losing challenge” is derived from their responses. One of the focus group respondents answer that

“Whenever someone calls me while playing the game or after recently losing the game, I do not pay attention to it or when my parents call me, I pay less attention and responds by saying yes but do not listen them actually.”

Therefore, the descriptive code of “less attention towards other’s instructions” is derived from the response. One of the interviewees responded that

“I listen to my friends or parents’ orders but when I think to do that work, I forget about the complete instruction”

Thus, the descriptive code of “Absent-minded and forgetful” is derived from the above first order code.

CHAPTER FIVE

ANALYSIS AND DISCUSSION

The objective of this study is to explore the factors that promote PUBG addiction among youth and their psychological impacts. The main research question of this study is “What are the factors that promote PUBG addiction among youth?”. This section presents the analysis and discussion by exploring the findings of this study.

The interview analysis and focus group analysis is guided by the 6 stages of approach of thematic analysis (Braun and Clarke, 2019). The thematic analysis helps a researcher to compare practice and theory simultaneously (Hudson et al., 2001). The descriptive codes are identified from the first order codes within interview transcripts and focus group transcripts. The thematic analysis being the analysis process also helps in data condensation by linking together the commonalities between descriptive codes and second order codes. Consequently, the four third order themes or theoretical dimensions are identified. The four theoretical dimensions that are identified in this study are augmented reality, sense of belongingness, strategy video game and psychological disorders.

Augmented reality

The theoretical dimension of “augmented reality” is derived from two second order themes that are generated from relevant descriptive codes of this study. The relevant descriptive codes of this study are extracted from the first order codes that are the actual statements of the respondents of this research. The descriptive code of “*updates of new and challenging maps*” is derived from the response of the interviewees. One of the interviewees stated that

“PUBG is one of the games that has attractive feature of new updates. It regularly updates its new maps due to which the game becomes tougher and more challenging. This tough and challenging part of the game is the feature that makes this game continuously interesting rather than like other games that become boring after a certain time due to repetition of previous maps.”

Most of the interview and focus group participants also explained the feature of new and challenging maps as one of the most attractive features of PUBG that invokes the interest in its players. The makers of this game are working for building and enhancing the story within PUBG. The updates of maps have come as one of the

parts of season 4 update. According to (Moniaga, Tansil and Indrianti (2019), the maps updates are not made in the sense of generating new maps, but the update is given to the players for making the game tougher and challenging.

Moreover, the descriptive code of *“updated and improved graphics”* is generated from the response of focus group participants. One of the focus group participants responded that *“The updates of graphics are improved a lot now by adding more realistic images and backgrounds. This arise the curiosity to play this game more and more and enjoy upcoming updates of the graphics of this famous game.”*

The updates of graphics in PUBG adds more interesting elements to the game. The suggestion of history is shown by lots of visual updates in Erangel. There is also the addition of new terrains and new buildings. The game is using its updates of enhanced and improved graphics for improved visibility for players and gaining competitive edge in the online gaming market (Dux and Kim, 2018).

The descriptive codes of updates of new and challenging maps and updated and improved graphics are converted into the second order theme of *“technological enhancement”*. The enhancement that is used by adding technology to the portfolio of acquirer is known as the technological enhancement (Casey et al., 2019). The technological enhancements in the online games are used for attracting the players in the market by gaining the competitive advantage.

The descriptive code of *“reality-based game”* is generated from the response of interviewees. One of the interviewees responded that

“I like this game because it is based on reality like there are real life characters and maps and enemies.”

The responses of other interviewees and focus group participants were also similar that the friends and enemies in the game provide them with real life characters in the game that makes this game attractive to play.

The descriptive code of *“semi-realistic game experience”* is generated from the responses of focus group participants and interviewees. One of the focus group participants stated that

“I gained the experience of semi-realistic life from this game as I have friends nearby my home, but I also have friends in this game with whom I chat and complete the challenges.”

The descriptive codes of reality-based game and semi-realistic game experience generated a second order theme of “*artificial realism*”. The realistic representation of the thing that is artificial in actual is known as artificial realism. The electronic games provide realistic representation of artificial things in order to provide user friendly experiences for the players (Bastos et al., 2018).

The second order codes of technological enhancement and artificial realism generated a theoretical dimension that is “*augmented reality*”. Augmented reality is an intriguing concept of an environment of real world in which real-world objects are enriched by computer-generated perceptual information, quite often across numerous sensory cues, including auditory, visual, haptic, olfactory and somatosensory modes. According to Maciocci (2016), the electronic games use the augmented reality via casino software for enhancing the experience of players by combining real world with virtual reality. Thus, the players see everything in the game in the realistic form as it is happening in reality.

Sense of belongingness

The theoretical dimension of “sense of belongingness” is derived from two second order themes that are generated from relevant descriptive codes of this study. The relevant descriptive codes of this study are extracted from the relevant first order codes from the data that has been collected via interviews and focus groups. The descriptive code of “*motivated for winning the game*” is derived from the response of the interviewees. One of the interviewees stated that

“Whenever I win the game, I feel motivated that I am the winner of this game due to my hard work and I will get rewards and unlock other challenges.”

The descriptive code of “increased morale after winning a challenge” is generated from the focus group responses and interview responses. One of the focus group participants stated that

“My morale increases when I complete a challenge and after winning the completion of that particular challenge. I then decide again to start another challenge and complete it due to my increase in morale.”

The youth often quickly receives the feedback from online games that provides them gratification instantly. Furthermore, the youth is also rewarded for each time they level up in electronic games (Lam et al., 2017).

The descriptive codes of motivated for winning the game and increased morale after winning a challenge then generates a second order code of *“feeling of accomplishment”*. The feeling of achieving something really great by the players of online games generates the feeling of accomplishment in the players. PUBG gives the freedom from the harsh truths and harsh reality of life. The youth get the sense of accomplishment after beating its enemy or just for the survival in the ruthless grounds.

The descriptive code of *“increased networking via online friends in game”* is generated from first order code of one of the focus group participants who responded that

“I think my networking has increased a lot through the friends that I make in this game. Previously I was shy that I do not network with unknown people but now I talk easily with online game friends and my networking has increased.”

The descriptive code of *“interaction with people from different countries”* is generated from first order code of one of the interviewees who stated that

“PUBG also provides us with this opportunity that we can easily contact and chat with people from different countries. This has helped me in making international friends and I believe that my online friends circle has increased a lot with this thing.”

The descriptive codes of increased networking via online friends in games and interaction with people from different countries is then converted into a second order theme of *“social networking”*. PUBG is a multi-player online game that is played with the social networks. According to (Lemmens and Hendriks, 2016), the social networking within PUBG not only makes possible for a player to network within a single country rather it allows its players to interact with different people that also play this game around the globe.

The second order codes of feeling of accomplishment and social networking generated a theoretical dimension that is *“sense of belongingness”*. According to the need to belong theory, every person has a fundamental need with different extents to connect with others and be accepted by those people with whom they connect. The satisfaction for this need becomes positively linked with the hedonic wellbeing. The hedonic wellbeing is represented by the positive hedonic feeling’s presence such as happiness, enjoyment and pleasure (O'Brien, 2018). Thus, the players in electronic games also depend on establishing and maintaining the social relationships as a support system in the online semi-real world. Thus, the sense of belongingness is identified as one of the main factors for the PUBG addiction among youth.

Strategy video game

The theoretical dimension of “strategy video game” is derived from two second order themes that are generated from relevant descriptive codes of this study. The relevant descriptive codes of this study are previously extracted from the relevant first order codes from the data that has been collected via interviews and focus groups. The descriptive code of “*Knowledge of various strategies and mindset of players*” is derived from the response of the interviewees. One of the interviewees stated that

“I came to know about different players, language can also give the idea of their mindset and plan about how they make strategies”

The descriptive code of “developing strategies to kill enemies” is generated from the focus group responses and interview responses. One of the focus group participants stated that

“Its most attractive feature is mapping where you find your enemies, make the strategy and kill them”

The descriptive codes of knowledge of various strategies and mindset of players and developing strategies to kill enemies then generates a second order code of “*strategy in game theory*”. The strategy in game theory is the option that the player chooses in setting where the outcome depends not only by the own actions of the player but also the actions of other players. The strategy of player actually determines the action that the player will take in the game at any stage. So, the strategy in game theory is complete algorithm for telling a player about what to do and playing the game for each possible situation that can happen throughout the game (Zhang et al., 2017).

The descriptive code of “*friends work as a squad*” is generated from first order code of one of the interviewees who responded that

“One of the reasons for playing PUBG is that we four friends work as a squad. I do not like playing solo game, I always prefer to play in squad with my friends.”

The descriptive code of “*linkage of game actions with team*” is generated from first order code of one of the interviewees who stated that

“I like playing this game with friends because your actions in the game are linked with other friends.”

The descriptive codes of friends work as a squad and linkage of game actions with team is then converted into a second order theme of “*team work*”. The team work is significant is the gaming world for the completion of tasks that range from obtaining weapons to defeating the enemies. The organized team work skills in squad in PUBG easily defeats the less organized teams (Sun and Chen, 2017).

The second order codes of strategy in game theory and team work generated a theoretical dimension that is “*strategy video game*”. A video game genre known as strategy video game focuses on the skillful planning and thinking for achieving victory in the video games. It focuses on tactical and strategic challenges.

Psychological disorders

The theoretical dimension of “psychological disorders” is generated basically from two second order themes that are generated previously from relevant descriptive codes of this research. The relevant descriptive codes of this research are extracted from the relevant first order codes from the data collected from interviews and focus groups. The descriptive code of “*breakage of phone due to internet disruption*” is derived from the response of the interviewees. One of the interviewees stated that

“Once I even broke my mobile phone because of the disruption of internet speed as I was near to the completion of my tough challenge in this game.”

The descriptive code of “*aggression on squad members for losing challenge*” is generated from the focus group responses and interview responses. One of the interviewees stated that

“I become very aggressive on the members of my squad whenever we lose a challenge. Because I inform them about how to take the next step and implement this strategy, but they do not take me serious then I become aggressive.”

The descriptive codes of breakage of phone due to internet disruption and aggression on squad members for losing challenge then generates a second order code of “*intermittent explosive disorder*”. The intermittent explosive disorder involves sudden impulsive episodes of aggression, repeated violent or angry outburst in verbal form in which a person reacts out of the proportion in a particular situation. The breaking or throwing of objects and temper tantrums are the signs of this disorder.

The descriptive code of *“less attention towards other’s instructions”* is generated from first order code of one of the interviewees who responded that

“Whenever someone calls me while playing the game or after recently losing the game, I do not pay attention to it or when my parents call me, I pay less attention and responds by saying yes but do not listen them actually.”

The descriptive code of *“absent-minded and forgetful”* is generated from first order code of one of the focus group participants who stated that

“I listen to my friends or parents’ orders but when I think to do that work, I forget about the complete instruction and I only remember that someone has given me this task but due to my absent mind while playing game I forget the things later on.”

The descriptive codes of less attention towards other’s instructions and absent-minded and forgetful is then converted into a second order theme of *“attention deficit hyperactivity disorder”*. This is a psychological disorder that is known by difficulty in paying attention to the things and acting without any regard to the consequences of the actions.

The second order codes of intermittent explosive disorder and attention deficit hyperactivity disorder generated a theoretical dimension that is *“psychological disorders”*. A study on PUBG showed that players are seen to face the psychological disorders like intermittent explosive disorder and attention deficit hyperactivity disorder by regularly playing PUBG for longer time period (Mamun and Griffiths, 2019). Thus, these are the psychological impacts of PUBG addiction among youth which is the sub question of our study.

CHAPTER SIX

CONCLUSION

The PUBG addiction is the recent online gaming trend that is adopted by youth currently. This study aims to explore the factors that promote PUBG addiction among youth. The thematic analysis is presented in this study for exploring factors of PUBG addiction among youth. This research identified four theoretical dimensions of augmented reality, sense of belongingness, strategy video game and psychological disorders. The main factors that are identified after the thematic analysis are augmented reality, sense of belongingness, strategy video game for PUBG addiction among youth. Furthermore, the psychological impacts of PUBG addiction among youth are identified as psychological disorders faced by the PUBG addicts.

6.1. Theoretical contributions

The theoretical contributions of this study are that this study is conducted in the context of qualitative research for which there were limited studies on PUBG addiction. Thus, this study contributes the qualitative research regarding PUBG addiction which is an addition in the previous literature. Furthermore, the psychological disorders have been identified in one of the studies of PUBG but the in-depth understanding of the factors for PUBG addiction are still under researched. So, this study explores the factors in the context of Pakistan.

6.2. Practical implications

The practical implications of this study are that it provides guidelines for the organization of PUBG to explore the factors that have been identified in this study and take preventive measures and make it a youth friendly game. Moreover, this study has also implications for the practitioners like policy makers and policy implementers to make policies and implement them before the emergence of extreme cases of violence among youth in Pakistan.

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APPENDIX

Descriptive codes	First Order Codes
Updates of new and challenging maps	“It regularly updates its new maps due to which the game becomes tougher and more challenging”
Updated and improved graphics	“The updates of graphics are improved a lot now by adding more realistic images and backgrounds”
Reality-based game	“I like this game because it is based on reality like there are real life characters and maps and enemies”
Semi-realistic game experience	“I gained the experience of semi-realistic life from this game as I have friends nearby my home, but I also have friends in this game with whom I chat and complete the challenges”
Motivated for winning the game	“Whenever I win the game, I feel motivated that I am the winner of this game due to my hard work and I will get rewards and unlock other challenges”
Increased morale after winning a challenge	“My morale increases when I complete a challenge and after winning the completion of that particular challenge”
Increased networking via online friends in game	“I think my networking has increased a lot through the friends that I make in this game”

Descriptive codes	First order codes
Interaction with people from different countries	“PUBG also provides us with this opportunity that we can easily contact and chat with people from different countries”
Knowledge of various strategies and mindset of players	“We come to know about different players, language can also give the idea of their mindset and plan about how they make strategies”
Developing strategies to kill enemies	“Its most attractive feature is mapping where you find your enemies, make the strategy and kill them”
Friends work as a squad	“One of the reasons for playing PUBG is that we four friends work as a squad”
Linkage of game actions with team	“Your actions in the game are linked with other friends”
Breakage of phone due to internet disruption	“Once I even broke my mobile phone because of the disruption of internet speed as I was near to the completion of my tough challenge in this game.”
Aggression on squad members for losing challenge	“I become very aggressive on the members of my squad whenever we lose a challenge”
Less attention towards other’s instructions	“Whenever someone calls me while playing the game or after recently losing the game, I do not pay attention to it or when my parents call me, I pay less attention and responds by saying yes but do not listen them actually.”
Absent-minded and forgetful	“I listen to my friends or parents orders but when I think to do that work, I forget about the complete instruction”



