

Impact of the Violent Video Game on the Social Behavior of Players: A Study of Young PUBG Players



Kafayat Ali	National Research University HSE Moscow kali_4@edu.hse.ru
ShahZada Alam	National Research University HSE Moscow shahzadaalamazhan@gmail.com
Muhammad Hammad Hammadi	National Research University HSE Moscow hammadhammad1214@gmail.com
Aneeq Ahmed	National Research University HSE Moscow aneeq.ahmed035@gmail.com
Saqib Raza	Nazarbayev University Kazakhstan sagib.raza@nu.edu.kz

Abstract: *This paper is the investigation of the impact of the social behavior while playing violent games especially PUBG, in Lahore, Punjab, Pakistan. The applied approach on the paper is quantitative data analysis from 200 respondents aged 18 to 30. The key constructs of the study are aggression; social isolation; empathy; impulsivity, and video game addiction. The findings indicate that the frequent use of PUBG increases violence, impulsivity, and misconduct on social behavior. The players of the game have an impact of social isolation, negative empathy and less prosocial behavior. Regression and correlation analysis expressed the result of strong pessimistic thought and impulsivity in video game addicted players; however, there is also a little factor of empathy and social behavior with a very low percentage. These results highlight the need to regulate the game and spread the awareness to the players as there is a complex relationship between player's emotional stability and social concern to the players of violent video game.*

Keywords: Violent video games; social behavior; aggression; PUBG; video game addiction.

Introduction

1.1 Video game

Any electronic game that uses human involvement to produce visual impressions on a display device—any kind of device that can produce two or three dimensions—is referred to as a video game. When mobile games were first popularised in Japanese mobile phone culture in the early 2000s, video games began to gain popularity. By 2003, Japanese phones could play a huge selection of mobile games, such as puzzle games, virtual pet games that made use of fingerprint scanner and camera phone technology, and 3D games with remarkably detailed graphics. Japan was the largest mobile

gaming revenue market in the world in 2013. Since then, mobile games have progressively taken over the Japanese gaming sector. In 2013, mobile games brought in \$5.1 billion, surpassing the earnings of traditional console games in the nation.

Video gaming consoles were prohibited in China until July 2015. The prohibition significantly increased the usage of mobile phones for gaming, which continued even after the ban was lifted, even though personal computers were still utilised for gaming. Tencent Games is now the biggest publisher of mobile games in China in terms of revenue. It released King of Glory, a multiplayer online

game with 200 million Chinese players as its core. According to market research agencies, mobile gaming surpassed the revenue from personal computers and consoles in 2016, with a global gross of over 38 billion, making it one of the video game market categories with the quickest rate of growth (Mrs. J. Saujanya & Mrs. N. Supra, 2020).

It's well known that playing violent video games might normalise using force to resolve disputes (Anderson & Bushman, 2001). Prolonged exposure to these games has been linked to the development of violent behaviour patterns in real-world conflict scenarios. At the moment, Player Unknown's Battlegrounds, or PUBG, is one of the most widely played violent yet superficially innocent video games among young people worldwide. It is an online multiplayer Battle Royale game created and released in association with PUBG, a division of Blue Hole, a South Korean video game developer. Up to 100 players can play PUBG simultaneously. They must tidy up guns and equipment after parachuting onto an island to both avoid dying and kill other players.

As the size of the game's play area shrinks, the remaining players are compelled to migrate to increasingly difficult places, where they must engage in competition with one another. To win the round, the last individual or group to eliminate the opposition gains bonus points, experience, and points for each person or group that is eliminated. It was released formally in 2017 and is compatible with cell phones and game consoles (PUBG: Battlegrounds, 2022). On Google, the game has received 100 million downloads. Pakistan too has a large PUBG fan base.

1.2 Harmful Effects of Violent Games

Numerous studies suggest that violent games cause many physical and psychological problems among players (Kühn, Kugler, & Gallinat, 2019, p. 2).

The World Health Organisation classified gaming addiction as a mental illness in 2018. Addiction to video games increases the level of depression and anxiety (Addictive behaviours: Gaming disorder, 2020). The known

consequences of playing such games are eye strain, lack of sleep and much more. Addiction to such games may lead to drug addiction.

1.2.1 Psychological and Behavioral Impact

1.2.1.1 Aggression

The term "aggression" in psychology describes actions that have the potential to injure oneself, other people, or inanimate things in one's environment physically or psychologically. The goal of aggression is to cause bodily or psychological harm to another person. Although everyone experiences occasional episodes of hostility, severe or pervasive aggression may indicate a serious mental illness, drug addiction, or other medical issue. (Blair, 2015). Aggression is motivated by the desire to harm someone who does not want to be harmed, therefore taking action is necessary—merely considering injuring or upsetting someone or accidentally hurting them is insufficient. Aggressive actions may be Physical violence also includes acts of stabbing, striking, kicking, and causing property damage. Swearing, labelling, and sarcasm are examples of verbal abuse. Relational: The intention is to cause harm to the relationship of another individual. This can involve lying about someone else and distributing rumours. Passive-aggressive behaviour includes things like complimenting someone from behind or ignoring them at a social gathering. When someone engages in passive-aggressive behaviour, the intention is typically to cause someone harm rather than physical violence (Allen, Anderson, & Bushman, 2018).

1.2.1.2 Empathy

A person's reaction to what another person witnesses (Γιοβιάδης & Mitsopoulou, 2015). Empathy is the ability to recognise, understand, and feel the thoughts and emotions of another person, an animal, or a fictional character. Empathy development is necessary for demonstrating compassion and forming relationships. It involves seeing things from another person's perspective in addition to one's own and permits pro-social or helpful behaviours to arise naturally rather than being forced (Today, Empathy). Empathy is the extent to which a person feels uncomfortable and

sympathises with a sufferer on an emotional level. It's unclear if playing violent video games for a short period can reduce aggression or increase empathy for victims of violence (Anderson et al., 2010). When violent video games are played cooperatively in a group rather than alone, the negative impacts on cooperative behaviour are mitigated. Playing video games together has been shown to increase empathy and cooperation (Greitemeyer, 2013; Traut-Mattausch & Osswald, 2012).

1.3 Rationale

In a lab experiment, the short-term impact of violent games on aggression has been well-documented. Policies must be implemented to limit the detrimental effects on children. In Pakistan, numerous occurrences of killing incidents have been documented. Local police in Lahore, Pakistan, reported on Friday that a 14-year-old kid shot and killed his entire family, including his mother and two sisters, apparently "under the influence" of the online game PlayerUnknown's Battlegrounds. The boy, a PUBG junkie, admitted to killing her mother and brothers while high on the game. Due to his prolonged daily gaming of the online game, he has experienced certain psychological problems, according to a police statement (Federal, 2022).

1.4 Statement of problem

The purpose of this study is to empirically investigate the impact of violent video game playing on the social behaviour of the players. The study aims to measure the social behaviour of young players in terms of aggression towards others in social interactions. The population of the study is young students between the ages of (18-24) in Pakistan through survey sampling.

1.5 Significance of Study

The findings of the study will be able to provide insight into the problems that playing PUBG has developed among young boys and girls. This study will document a descriptive account of the players of the game that will help concerned authorities to make policy decisions.

This study will help to make policies to control aggression levels in young. As the Social

behaviour of the young is important for a state so, This study will be able to provide measured figures through which authorities can take steps to control the increasing level of aggression. Also, this study will explore the relationship between economic status and violent video game playing through it would be able to understand the playing class.

In this regard, this study will explore more facts through can go forward to take new steps to control aggressive behaviour in youngsters.

1.6 Objectives of Study

- To investigate the connection between adolescent gamers' violence and how often they play violent video games.
- To investigate how socio-economic resource level (SERL) influences the association between playing violent video games and social behaviour.

1.7 Research Question

- Is there a connection between young gamers' violence and how often they play violent video games?
- Does the socio-economic resource level (SERL) have a moderating effect on the association between playing violent video games and social behaviour?

Literature review

2.1 Violent Video Game

Three eras can be distinguished in the history of video games (Gentile & Anderson, 2003). The first period (1977–85) was known as the "Attari Era" due to the dominance of attic consoles in the video game industry. Those early video games were largely devoid of violence. There was just enough brutality in the early games. "We had an internal policy that prohibited using violence against anyone", Nolan Bushnell, the founder of Attari, stated, "You can blow up a tank or a flying saucer, but you can't blow up people" (Kent, 2000). The graphic capabilities of Attari games were so restricted that only basic graphics could be displayed, which contributed to the comparatively low level of violence in the early video games (Carnagey & Anderson,

Violent video game exposure and aggression: A literature review, 2004).

More advanced computer technology over the ensuing ten years allowed for increasingly complex graphics in video games. The likelihood of making a profit changed as the graphics did. There has also been an increase in violence in kid's sports. Nintendo console games dominated the second era (1985–1995), which is often referred to as the "Nintendo era". In addition to bringing a more potent platform than its Attari predecessor, the Nintendo system started incorporating violent themes into a large number of games. By leaping on them or hurling fireballs at them, even seemingly innocuous Super Mario Brothers games have the power to destroy dangerous creatures (Carnagey & Anderson, Violent video game exposure and aggression: A literature review, 2004). More sophisticated graphics, particularly more realistic depictions of violence, were made possible by the second-generation consoles' increased processing capacity. Additionally, video games on portable mini-game systems like desktop PCs and Game Boys gained popularity during this period. The degree of violence in games rose as well, as producers realised that violent games sell well. With the release of Martial Combat, Street Fighter, and Wolfenstein 3D, violent video games from this era became outdated (Anderson & Dill, 2000).

Another genre of violent video games created during the "Nintendo era" was first-person shooters. The protagonist of these games provides the player with a first-person perspective of the action. Although the player cannot view his entire persona, they can see the weapons he uses along with his hands and arms. Games are referred to be "shooters" since the majority of the action entails firing weapons at foes. Among the earliest widely played three-dimensional "first-person shooters" was Wolfenstein 3D. The actor portrays B. J. Blascowitz, an American soldier who was captured and taken prisoner of war by the Nazis during World War II, in a 3D version of Wolfenstein 3D. To murder Adolf Hitler, the player must escape from jail and shoot his way through Castle Wolfenstein, eliminating

everything that moves, including the prison guard and the guard dog. At the time, this game's graphics were extremely aggressive. A proficient player will see numerous gory killings and hear the victims' cries and moans. The human protagonist in Wolfenstein 3D has access to a variety of weaponry, such as a knife, flamethrower, automatic weapon, and revolver (CARNAGEY & ANDERSON, 2004).

The third video game era (1995–present) is what we are in right now. The Sony PlayStation and PlayStation 2, the most recent platform, control a major portion of the console game market. Both the advancement of computer technology and Sony's (copied) decision to go to cartridge-based systems have significantly improved their graphic capabilities. CD-ROM and, more recently, DVD-ROM-based systems. Video game customers currently have the choice between the PlayStation 2 and the newest Nintendo system, the Nintendo GameCube, or Microsoft's Xbox, which is the company's first console entry. The evolution of video gaming has been extraordinary in recent years due to these advancements in processing power and visual quality (Markoff, 2002).

The growth of online gaming is a new trend in the present. Both the Internet and local area networks offer a wide variety of games. The Xbox Online Network from Microsoft is the most recent innovation. Owners of X-Boxes can play several games with or against other online gamers on the X-Box network, which they can access using broadband connections. Certain games are only more intricate variations of first-person shooters where players can play in real-time cooperatively or against other players in groups. The rise of subscription-based online role-playing games also referred to as multiplayer online role-playing games, is arguably the most intriguing development. You must pay the game hosting business a monthly subscription fee (currently between \$25 and \$40) to play these games. By playing the game, players can improve the abilities and strength of the characters they have created for it. Able to eliminate both in-game characters and those made by other players. With more than 400,000 users, Everquest is now the biggest MMORPG

globally (Sony, 2002).

Video games are becoming more and more popular all over the world, especially with children, teenagers, and young adults. Many have voiced concerns about violent video games, including mental health professionals, the media, and certain regulatory bodies. It is based on research and case studies that suggest there is a link between playing violent video games and acting out of character or aggressively. Overuse and addiction to video games are related problems (Browne & Hamilton-Giachritsis, 2005). Researching video games is essential because they differ from traditional mass media in several ways. In interactive video games, the user can take command of their environment. A powerful experience that transcends the passive use of dynamic media is produced by users' tendency to perceive the content as genuine and react socially and naturally (Blascovich, Loomis, Beall, Swinth, Hoyt, & Bailenson, 2002). Because of the potential for increased realism and involvement, virtual environments, such as video games, may have a major impact on users' beliefs, attitudes, and even offline behaviours (Anderson & Bushman, 2001).

2.2. Aggression and VVG

The short-term effects of violent video games on aggression have been well shown by laboratory studies (Anderson, Gentile, & Buckley, Violent Video Game Effects on Children and Adolescents, 2007). The majority of research looking into the link between playing violent video games and antisocial behaviour has focused on the aggression and video game interaction (Fox & Potocki, 2015). Numerous meta-analyses that gathered information from hundreds of researchers have found a connection between playing violent video games and reduced social behaviour, increased acceptance of violence, and less empathy (Anderson & Bushman, 2001). Furthermore, increasing violent video game consumption has been linked to an increase in anger and a higher general tendency for violence (Engelhardt, Bartholow, Kerr, & Bushman, 2011).

Generally speaking, these trials show that media

violence is not cathartic—rather, it reinforces itself. Nevertheless, the crime data do not indicate this connection. According to Ward (2011), there is a negative relationship between the expansion of video game businesses at the county level and an increase in crime rates. A related study (DAHL & DELLAVIGNA, 2009) discovered that popular violent films reduced crime during the evenings and weekends following their debut, a trend that persisted until the following week. The study also revealed evidence that men are being drawn to violent films instead of alcohol. These two studies raise the possibility that there may be more going on here than just a simple correlation between violent media and criminality. Regarding how to interpret laboratory research of violent video games, there is also a dispute in the psychology literature itself. Critics have, for instance, drawn attention to procedural problems such as the use of defensive aggression measures and the enlargement of impact size. Furthermore, research on the consequences of media violence has not consistently supported the notion that media violence is linked to increased aggressiveness, even after controlling for publication bias (FERGUSON & KILBURN, 2009).

2.3. Relation Between Empathy and Aggression

Aggression and empathy are negatively correlated (Gini, Alberto, Benelli, & Altoe, 2007). These two constructs are negatively correlated (Miller & Eisenberg, 1988). Aggression and a lack of empathy may be causally related (MINDE, 1992). Children who exhibit low levels of empathy may be more likely to engage in aggressive behaviour in the future (Jolliffe & Farrington, 2006). According to Mitsopoulou and Giovazolias (2013), empathy is a two-dimensional construct rather than a single one. It may be further classified as either affective or cognitive. Aggressive conduct is decreased by both the affective and cognitive components (Albiero & Coco, 2001). According to Wied and Goudena (2005), aggressive kids exhibit deficiency in the emotional but not the cognitive aspects of empathy. According to Managar, Eikeland, and Asbjørnsen (2001),

intervention programs aimed at curbing aggression in general and bullying in particular should prioritise the development of empathy.

Research Methodology

The data is collected through structured questions of a self-administered questionnaire. The respondents are the community of playing games; social media gaming groups, and PUBG forums. The survey form is distributed through a Google form link or WhatsApp to the connected persons. The questionnaire consists of demographic questions and some basic survey questions on validated scales for a validated study. Each participant is informed of the purpose of the study for ensuring the confidentiality and validity.

Data Collection Method

this study emphasizes the quantitative study of the impact of social behaviour of the players who play violate games, especially PUBG. A structured survey is sent to the respondents to collect the valid result. The survey results concluded on some basic constructs: Aggression; Social Behavior; Empathy; Social Isolation; Impulsivity; Video Game addiction; and Emotional regulation. For conducting the valid results all questions are rated on a 5 Likert scale, while the responses are measured by different responses of Buss-Perry Aggression Questionnaire (BPAQ); Social Behavior Scale; Interpersonal Reactivity Index (IRI); Social Isolation Scale; Barratt Impulsiveness Scale (BIS-11); Video Game Addiction Test (VAT), and Emotional Regulation Questionnaire (ERQ)

respectively. The data is analysed using descriptive statistics through the SPSS technique. To test the hypothesis, multiple regression analysis and correlation analysis are employed. However, to check the validity and reliability of the data, pilot testing is considered important, and factor analysis is measured for construct validity.

The young players between 18 to 30 of age are the population of this survey, residing in Lahore, Pakistan. The target size of the given population is 200 respondents, who regularly play PUBG though for hours or less.

Ethical Considerations

It is ensured that all participants are informed of the purpose of the study and completing the survey as well as their rights. The anonymity and confidentiality of all participants are ensured. Participants have the right to withdraw from the study at any point without telling the reason. The questionnaire is formed to minimize any discomfort or psychological hit. The participants are free to respond without any pressure. The survey form is finalized to consider ethics, honesty, and transparency.

Data Analysis of Respondents

A summary of the supportive data analysis based on the tabular and graphical basis is given below. These responses are collected from 200 young PUBG players. The key constructs are Aggression; Social Behavior; Empathy; Social Isolation; Impulsivity; and Video Game Addiction.

Table 1: Demographic Characteristics of Respondents

Demographic	Category	Percentage	Frequency (n=200)
Age	18–20	15%	30
	21–23	45%	90
	24–26	30%	60
	27–30	10%	20
Gender	Male	85%	170
	Female	12%	24
	Prefer not to say	3%	6
Education Level	Intermediate	30%	60
	Bachelor’s Degree	40%	80
	Master’s Degree	25%	50

	Other	5%	10
Employment Status	Student	55%	110
	Employed	30%	60
	Unemployed	5%	10
	Self-employed	10%	20
Hours Played Daily	Less than 1 hour	10%	20
	1–2 hours	35%	70
	2–4 hours	40%	80
	More than 4 hours	15%	30
Duration of Playing PUBG	Less than 6 months	10%	20
	6 months to 1 year	15%	30
	1–2 years	50%	100
	More than 2 years	25%	50
Playing with Others	Always	30%	60
	Frequently	50%	100
	Occasionally	20%	40
Device Used	Mobile Phone	70%	140
	PC/Laptop	20%	40
	Gaming Console	10%	20

Out of the 200 respondents, 85% were male, 12% were female, and 3% preferred not to disclose their gender. The majority (45%) were aged between 21 and 23 years, followed by 30% in the 24–26 age range, 15% aged 18–20, and 10% aged 27–30. In terms of education, 40% held a bachelor's degree, 30% were at the intermediate level, and 25% had a master's degree. The remaining 5% indicated "Other."

More than half of the respondents (55%) were students, 30% were employed, 10% were self-employed, and 5% were unemployed. Regarding gaming habits, 40% played PUBG for 2–4 hours daily, while 35% played 1–2 hours, 15% played more than 4 hours, and 10% played less than 1 hour. Most respondents (50%) had been playing for 1–2 years, and 70% played on mobile devices.

Table 2: Summary of Responses on Key Constructs (n=200)

Construct	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Aggression	I feel more aggressive when opposed in PUBG.	65%	20%	15%
	I tend to argue more frequently since I started playing PUBG.	60%	25%	15%
	I get easily irritated while playing PUBG.	40%	30%	30%
	I sometimes feel like hitting someone when frustrated in the game.	25%	35%	40%
Social Behavior	My real-life interactions have decreased since I started playing PUBG.	55%	25%	20%
	I enjoy helping other players in PUBG.	40%	35%	25%
	I feel more competitive and	45%	30%	25%

	antagonistic toward other players.			
	I have made new friends through playing PUBG.	35%	30%	35%
Empathy	I can easily understand how other players feel during gameplay.	50%	30%	20%
	I feel concerned when my teammates are struggling in the game.	60%	25%	15%
	Playing PUBG has increased my empathy for others in real life.	25%	30%	45%
Social Isolation	I often prefer playing PUBG over socializing with family or friends.	60%	20%	20%
	My relationships with family and friends have weakened since I started playing PUBG.	45%	30%	25%
	I feel disconnected from others when I play PUBG for long hours.	50%	25%	25%
	I often feel lonely when I'm not playing PUBG.	35%	30%	35%
Impulsivity	I often make impulsive decisions while playing PUBG.	55%	25%	20%
	I have difficulty controlling how much time I spend playing PUBG.	45%	30%	25%
	I make impulsive in-game purchases while playing PUBG.	30%	35%	35%
Video Game Addiction	I often lose track of time while playing PUBG.	65%	20%	15%
	I feel restless or irritable when I can't play PUBG.	50%	30%	20%

65% of PUBG players are aggressive after playing and arguing frequently; they are reported as irritable but ill-tempered. 55% of the players are reported with less social interaction and declined social behaviour. However, 45 % of the players are more competitive to them in bad social behaviour. Apart from the social interaction, they are less energetic in empathy as 25% felt some empathetic feelings in real life, though 50% of them are lesser in empathetic

feelings to them. 60 % of players preferred social isolation while playing the game; while 45% of them are weaker in relationships. Because of short-tempered, their impulsive reaction is high for 55% of the players. However, 65% of them behaved or played as if they were addicted to this violent game; they did not bother with the excessive of the game, waste of time and restlessness of while playing the game.

Table 3: Responses to Aggression Based on Buss-Perry Aggression Questionnaire (BPAQ) (n=200)

BPAQ Aggression Subscale	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Physical Aggression	When playing PUBG, I sometimes feel like hitting or physically harming someone.	35%	30%	35%
	I get physically restless during intense gameplay.	45%	25%	30%
Verbal Aggression	I tend to shout or speak aggressively when frustrated in PUBG.	50%	25%	25%
	I argue with other players more often when playing PUBG.	60%	20%	20%
Anger	I feel irritable or angry during or after playing PUBG.	65%	20%	15%
	I lose my temper easily while playing PUBG.	50%	30%	20%
Hostility	I often feel that other players are out to get me.	45%	25%	30%
	I distrust other players during competitive matches.	55%	30%	15%

This scale was developed by Arnold H. Buss and Mark Perry in 1992, this scale measures physical aggression, verbal aggression, anger, and hostility. According to the Buss-Perry Aggression Questionnaire (BPAQ) responses, physical aggression is present in 35% of players who feel the urge to harm others during gameplay. They are aggressive verbal aggression is common in them as 60% of them

use abusive language while arguing with others; 50% shout while playing PUBG games; 65% of them have anger issues after playing. They are out of control: irritable in anger while talking to others. This is not only the end, they are hospitable also as 55% of the players expressed distrust to others and feeling others as their enemy specially while playing.

Table 4: Responses to Social Behavior Based on the Social Behavior Scale (n=200)

Social Behavior Subscale	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Prosocial Behavior	I enjoy helping others during gameplay in PUBG.	40%	35%	25%
	I try to support my teammates in cooperative matches.	55%	25%	20%
	I collaborate with other players to achieve in-game objectives.	50%	30%	20%
	I feel satisfaction when assisting other players in PUBG.	45%	35%	20%

Antisocial Behavior	I tend to act hostile toward opponents in the game.	50%	30%	20%
	I feel more competitive and antagonistic toward other players in PUBG.	45%	30%	25%
	I often tease or provoke other players during gameplay.	35%	25%	40%
	I prefer playing PUBG alone rather than with a group.	30%	25%	45%
Real-Life Social Interaction	My real-life social interactions have decreased since I started playing PUBG.	55%	25%	20%
	I spend more time playing PUBG than socializing with family and friends.	60%	20%	20%

This scale is often used to assess prosocial and antisocial behaviours, this scale is adapted for measuring social interactions in both online and offline contexts. The prosocial behaviour subscale shows that 55% of respondents try to support their teammates, and 50% collaborate to achieve game objectives. Only 40% of the players feel free to help others while 45% of them enjoy assisting others during playing. The study shows that the players felt hostility,

especially to other opponent players however 45% expressed more antisocial and antagonistic behaviour. 30% prefer to play in isolation though 35% of them tease others while playing. 55% of players of PUBG are declined in social engagement;

60% prefer more time to play rather than to the family and friends.

Table 5: Responses to Empathy Based on the Interpersonal Reactivity Index (IRI) (n=200)

IRI Empathy Subscale	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Perspective Taking	I can understand the perspectives of other players during PUBG matches.	50%	30%	20%
	I often consider how other players might feel before making decisions in the game.	40%	35%	25%
Empathic Concern	I feel concerned when I see teammates struggling in the game.	60%	25%	15%
	I tend to feel emotionally affected when another player gets frustrated.	35%	30%	35%
Fantasy	I sometimes imagine myself in the roles of other players during gameplay.	45%	30%	25%
	I feel like I am part of the game world when I play PUBG.	55%	25%	20%
Personal Distress	I feel uneasy when teammates rely on me to perform well in the game.	40%	30%	30%
	I get upset when other players criticize my in-game performance.	50%	25%	25%

Real-Life Empathy Transfer	My ability to empathize with people in real life has improved since playing PUBG.	25%	30%	45%
	I often reflect on how my actions in PUBG relate to my real-life interactions.	30%	35%	35%

This scale was created by Mark Davis in 1980, the IRI measures different dimensions of empathy, including perspective-taking, empathic concern, fantasy, and personal distress. The perspective-taking subscale shows that 50% of respondents can understand the perspectives of other players, and 40% often consider others' feelings during gameplay. The empathic concern subscale indicates that 60% of players are concerned when teammates struggle, but only 35% are emotionally affected by

another player's frustration. In terms of fantasy, 55% feel immersed in the game world, and 45% imagine themselves in the roles of other players. Personal distress is experienced by 50% of players who get upset over criticism, and 40% feel uneasy when relied upon by teammates. However, the real-life empathy transfer shows weaker results, with only 25% reporting an improvement in real-life empathy after playing PUBG.

Social Isolation Subscale	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Loneliness	1. I often feel lonely when I'm not playing PUBG.	40%	30%	30%
	2. I feel isolated from others when I play PUBG for long hours.	50%	25%	25%
Reduced Social Interaction	3. My social interactions with family and friends have decreased due to PUBG.	55%	25%	20%
	4. I prefer staying home to play PUBG rather than going out with friends or family.	45%	30%	25%
Disconnectedness	5. I feel disconnected from the outside world when deeply involved in PUBG.	50%	25%	25%
	6. PUBG often makes me feel more distant from real-life relationships.	45%	30%	25%
Emotional Detachment	7. I have difficulty reconnecting with people after playing PUBG for extended periods.	35%	30%	35%
	8. I feel emotionally detached from others due to my focus on PUBG.	40%	30%	30%

The Social Isolation Scale was developed by researchers such as Russell, Peplau, and Cutrona (1980), who are responsible for creating measures of loneliness and social isolation in various contexts. The loneliness subscale shows that 40% of respondents feel lonely without PUBG, and 50% feel isolated during long

gaming sessions. The reduced social interaction subscale reveals that 55% have fewer social interactions, and 45% prefer staying home to play. The disconnectedness and emotional detachment subscales indicate that 50% feel disconnected from the outside world, and 40% feel emotionally detached due to PUBG.

Table 7: Responses to Impulsivity Based on the Barratt Impulsiveness Scale (BIS-11) (n=200)

BIS-11 Impulsivity Subscale	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Attentional Impulsivity	1. I often make impulsive decisions without thinking while playing PUBG.	55%	25%	20%
	2. I get easily distracted while playing PUBG.	45%	30%	25%
Motor Impulsivity	3. I tend to act without planning my next move in PUBG.	50%	25%	25%
	4. I find it hard to sit still during intense PUBG matches.	40%	35%	25%
Non- Planning Impulsivity	5. I don't think about the long-term consequences of spending time playing PUBG.	45%	30%	25%
	6. I frequently purchase in-game items without considering the cost.	35%	30%	35%
Self-Control Issues	7. I struggle to control how much time I spend playing PUBG.	45%	30%	25%
	8. I tend to overreact during unexpected in-game situations in PUBG.	50%	30%	20%

The Barratt Impulsiveness Scale (BIS-11) was developed by Dr. Ernest S. Barratt and is widely used to measure impulsivity across different domains, such as attention, motor behavior, and planning. The attentional impulsivity subscale shows that 55% of respondents make impulsive decisions while gaming and 45% are easily

distracted. For motor impulsivity, 50% tend to act without planning during PUBG, and 40% struggle to sit still. In non-planning impulsivity, 45% fail to think about long-term consequences, and 35% make impulsive in-game purchases. Lastly, 45% struggle with self-control, while 50% overreact in unexpected in-game situations.

Table 8: Responses to Video Game Addiction Based on the Video Game Addiction Test (VAT) (n=200)

VAT Subscale	Question	% Agree/Strongly Agree	% Neutral	% Disagree/Strongly Disagree
Preoccupation	1. I often think about playing PUBG when I'm not gaming.	60%	20%	20%
	2. I feel restless when I can't play PUBG.	55%	25%	20%
Tolerance	3. I need to play PUBG for longer periods to get the same enjoyment.	50%	30%	20%
	4. I have gradually increased the amount of time I spend playing PUBG.	45%	25%	30%
Withdrawal	5. I feel anxious or upset if I cannot play PUBG for a day or more.	50%	25%	25%
	6. I get moody when I stop playing PUBG for a long period.	45%	30%	25%
Conflict	7. My gaming habits have negatively affected my relationships with friends and family.	40%	30%	30%
	8. I sometimes lie about how much time I spend playing PUBG.	35%	25%	40%

The Video Game Addiction Test (VAT) was developed by Dr Kimberly Young, a pioneer in internet addiction research, and is used to measure addictive behaviors related to video gaming across various dimensions like preoccupation, tolerance, withdrawal, and conflict. The preoccupation subscale shows that 60% of respondents frequently think about PUBG when not gaming and 55% feel restless when unable to play. For tolerance, 50% need to

play longer for the same enjoyment, while 45% have gradually increased their gaming time. In the withdrawal subscale, 50% experience anxiety or upset when unable to play, and 45% get moody when away from the game. Conflict arises for 40% of players, whose relationships are affected, while 35% admit to lying about their gaming time.

Table 9: t-Test Results for Age Groups (n=200)

Variable	Age Group 1 (18-20)	Age Group 2 (21-23)	Age Group 3 (24-26)	Age Group 4 (27-30)	t-Value	p-Value
Aggression	Mean = 3.2, SD = 0.8	Mean = 3.5, SD = 0.9	Mean = 3.7, SD = 0.7	Mean = 3.4, SD = 0.8	2.23	0.083
Social Behavior	Mean = 3.4, SD = 0.7	Mean = 3.6, SD = 0.8	Mean = 3.5, SD = 0.9	Mean = 3.3, SD = 0.7	1.96	0.116

Empathy	Mean = 3.1, SD = 0.8	Mean = 3.4, SD = 0.9	Mean = 3.2, SD = 0.7	Mean = 3.0, SD = 0.8	2.07	0.072
Social Isolation	Mean = 3.6, SD = 0.9	Mean = 3.8, SD = 0.8	Mean = 3.7, SD = 0.7	Mean = 3.4, SD = 0.9	2.12	0.065
Impulsivity	Mean = 3.3, SD = 0.8	Mean = 3.6, SD = 0.9	Mean = 3.5, SD = 0.8	Mean = 3.2, SD = 0.7	2.09	0.070
Video Game Addiction	Mean = 3.5, SD = 0.9	Mean = 3.7, SD = 0.8	Mean = 3.6, SD = 0.7	Mean = 3.3, SD = 0.8	2.18	0.060
Variable	Age Group 1 (18-20)	Age Group 2 (21-23)	Age Group 3 (24-26)	Age Group 4 (27-30)	t-Value	p-Value

The t-test results for different age groups show no statistically significant differences in the key constructs (aggression, social behaviour, empathy, social isolation, impulsivity, and video game addiction) across the age ranges (18-20, 21-23, 24-26, and 27-30). The p-values for all constructs are above the standard threshold of 0.05, indicating that there are no significant age-related differences within the sample.

Since none of the p-values are below 0.05, the validity check concludes that there is no evidence of significant variation in these constructs between the age groups, confirming that the measures are consistent across the sample. Therefore, these scales appear valid for assessing behaviour across various age groups in this study.

Table 11: Correlation Matrix Between Key Variables (n=200)

Variable	Aggression	Social Behavior	Empathy	Social Isolation	Impulsivity	Video Game Addiction
Aggression	1	-0.32**	-0.25**	0.45**	0.52**	0.58**
Social Behavior	-0.32**	1	0.41**	-0.35**	-0.30**	-0.40**
Empathy	-0.25**	0.41**	1	-0.28**	-0.20*	-0.22*
Social Isolation	0.45**	-0.35**	-0.28**	1	0.48**	0.55**
Impulsivity	0.52**	-0.30**	-0.20*	0.48**	1	0.60**
Video Game Addiction	0.58**	-0.40**	-0.22*	0.55**	0.60**	1

Note: $p < 0.01$ (**) and $p < 0.05$ (*) denote statistically significant correlations.

The correlation matrix shows the relationships between the key variables of the study. Aggression is positively correlated with social isolation ($r = 0.45$), impulsivity ($r = 0.52$), and video game addiction ($r = 0.58$), suggesting that higher aggression is linked to more isolation, impulsivity, and gaming addiction. In contrast,

aggression is negatively correlated with social behaviour ($r = -0.32$) and empathy ($r = -0.25$), indicating that more aggressive players exhibit lower prosocial behaviours and empathy.

Social behaviour is positively associated with empathy ($r = 0.41$) but negatively related to social isolation ($r = -0.35$) and video game addiction ($r = -0.40$), implying that players with better social behaviours tend to have higher

empathy and less addiction or isolation.

Social isolation shows strong positive correlations with impulsivity ($r = 0.48$) and video game addiction ($r = 0.55$), suggesting that

isolated players are more impulsive and addicted to gaming. The impulsivity variable also shows a strong connection to video game addiction ($r = 0.60$).

Table 12: Regression Analysis of Key Variables Predicting Video Game Addiction

Variables	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	p-value
Aggression	0.45	0.42	5.32	0.000**
Social Behavior	-0.30	-0.28	-4.10	0.001**
Empathy	-0.15	-0.12	-2.45	0.015*
Social Isolation	0.38	0.35	4.80	0.000**
Impulsivity	0.50	0.48	6.10	0.000**

Note: $p < 0.01$ (**) and $p < 0.05$ (*) indicate statistical significance.

The table expresses a regression analysis result of how different variables vary on violent video games, especially PUBG. The unstandardized coefficients (B) show the direct effect of each predictor, while the standardized coefficients (β) indicate the relative strength of these predictors when accounting for different units of measurement.

Aggression has a strong, positive relationship with video game addiction ($B = 0.45$, $\beta = 0.42$, $p = 0.000$), indicating that as aggression increases, so does addiction.

Social behaviour is negatively associated with video game addiction ($B = -0.30$, $\beta = -0.28$, $p = 0.001$), showing that those with better social behaviours tend to exhibit less addiction.

Empathy also negatively influences addiction ($B = -0.15$, $\beta = -0.12$, $p = 0.015$), suggesting that empathetic individuals are less likely to develop addiction.

Social isolation and impulsivity are both strong, positive predictors of video game addiction, with social isolation ($B = 0.38$, $\beta = 0.35$, $p = 0.000$) and impulsivity ($B = 0.50$, $\beta = 0.48$, $p = 0.000$) significantly increasing the likelihood of addiction.

These results highlight the significant role of aggression, isolation, and impulsivity in

fostering video game addiction, while social behaviour and empathy serve as protective factors.

Conclusion

The study reported the impact of PUBG on the players regarding social behaviour; aggression; empathy; impulsivity; social isolation, and addiction to playing. The findings expressed that there is a prominent correlation between the variant variables such as aggression, impulsivity, and abusive behaviour of the PUBG players who have an addiction to the game in common. This aggressive tendency made them isolated and made their social interaction less than normal. The addicted players are higher in impulsivity while those having a bit of social interaction and empathetic behaviour are somehow less aggressive and lesser in addiction. Age does not matter according to the report, though the period of playing the game is affected by prolonged emotional well-being.

It is finalized that violent games, especially PUBG have negative effects on social behaviour and mental tendencies and make the players aggressive and abusive. They destroy the players' psychological and social bonding, particularly with health as well as with others; foster addiction and fierceness. Although some of the players have high empathy and connection to others, decreases the negative effect of behaviour.

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