

Development and Validation of PUBG Addiction Test (PAT)

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ABSTRACT

The present study aims at the construction and validation of a questionnaire to measure the extent of addiction towards PUBG among the young adolescents and middle age groups. Due to ease of access and cheap availability of internet along with unrestricted usage of smartphones, there has been an increase in pathological use of technology and many growing young minds are found to suffer from psycho-physiological symptoms. The authors framed 55 statements and collected data randomly from 494 individuals from diverse fields and age groups. Subsequent to initial face validation, the questionnaire, which was subjected to 494 individuals, only responses from 455 respondents were considered for the development of PAT, after filtering the inventories for completeness and erratic answering. Later, the data were subjected to Factor Analysis and 7 components were derived, which included components like disengagement, lack of control, excessive use, obsession, distress, escapism and over enthusiasm & impulsive use. The total variance explained in this inventory was 54.94%. To find out the reliability, the Cronbach's reliability test was done and the alpha value obtained for the total inventory was 0.912 and for various components varied from .501 to .822. Further, when item to total scores correlations were performed; all the correlation coefficients obtained through Pearson's product moment correlation techniques were found to be highly significant, indicating that the PAT has high reliability and validity. Even the correlation coefficients obtained between components were found to be highly significant.

Keywords: *PUBG, Internet, Addiction, Adolescents, Adults*

The psychological community has defined Video game addiction (VGA) as a unique behavioral addiction which is characterized by an excessive or compulsive use of computer games or video games that interferes with an individuals' routine life. Video game addiction may present itself as compulsive gaming, social isolation, mood swings, diminished imagination, and hyper-focus on in-game achievements, to the exclusion of other events in life (Schivinski, *et al*, 2018).

During the mid-2013, the American Psychiatric Association (APA) did not agree to include video game addiction in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), by stating that there was inadequate proof to include the VGA as an

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official psychological disorder. However, the anticipated criteria for "Internet Gaming Disorder" was added to the section called as "Conditions for Further Study". As of June 2018; The World Health Organization however, included "Gaming disorder" in its 11th revision of its International Statistical Classification of Diseases and Related Health Problems (*ICD-11*).

While Internet gaming addiction is proposed as a disorder, it is not clear as to how much this disorder is caused by the activity of gaming itself, as opposed to a secondary effects caused from other disorders already present. Contradictions in research examining video game addictiveness may reflect more general inconsistencies in video game research (Griffiths, 2010). Few studies have linked aggressive video games with an increase in violent behavior, whereas other studies have failed to find evidence for such links (Przybylski, Rigby & Ryan, 2010).

Player Unknown's Battle Grounds (*PUBG*) is an online multiplayer "Battle Royale" game which is developed and published by PUBG Corporation, a secondary video game company called Bluehole from South Korea. A battle royale genre of game is the type of video game that mixes survival, exploration and scavenging items for survival in the game with the "Last man standing" game play. The *PUBG* game was inspired by the Japanese film called "Battle Royale" which was released during 2000. In the game, up to 100 players parachute onto an island and scavenge for weapons and equipment to kill others while avoiding getting killed. The available safe area of the game's playable area decreases in size over time, displacing the surviving players into tighter areas to force encounters against each other. The last player or team which eliminates the others get a chance to win the round, for which they are rewarded with experience and bonus points which includes points for the number of people killed in each round. *PUBG* received many positive reviews from critics as it presented new types of game play that could be easily approached by players of any skill level and most importantly it could be played with a different approach every single time. The game received several 'Game of the Year' nominations, among other prizes. Following the success many other video games, copied the battle royale-style genre. *PUBG* Corporation has run several small tournaments and introduced in-game tools to help with broadcasting the gameplay to spectators. Following the Chinese publication deal for the Windows version, Tencent Games and *PUBG* Corporation additionally announced that they were planning on releasing two mobile versions based on the game in the country. The first, *PUBG: Exhilarating Battlefield*, is an abridged version of the original game, and was developed by Light speed and Quantum Studio, an internal division of Tencent Games. The second, *PUBG: Army Attack*, has more arcade-style elements, including action taking place on warships, and was developed by Tencent's Timi Studio. Both versions are free-to-play, and were released for Android and iOS devices on February 9, 2018. The games had a combined total of 7.5 crore pre-registrations, and ranked first and second respectively on the Chinese iOS download charts at launch. An English version of *Exhilarating Battlefield*, localized simply as *PUBG Mobile*, was released worldwide on March 19, 2018.

Unfortunately in just over a year of release there have been multiple reports flowing in on the negative consequences the game has had on the individuals, especially the adolescents as the effects can easily be seen through their academic, sleep, social and various other patterns. In India, the cases seem to keep increasing. As on 6th August, 2018 it was reported on Hindustan Times that a 15-year old boy was currently undergoing treatment for *PUBG* addiction. The boy used play till late at night and started missing school. He would have over 1,000 friends online and only a handful of them in the real world. The problem worsened when the boy was

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unwilling to recognise it as an issue. (<https://www.digit.in/internet/15-year-old-boy-being-treated-for-pubg-addiction-how-big-of-a-problem-is-it-42666.html>)

In another instance, a 19-year-old boy, who was arrested for allegedly killing his parents and sister, was addicted to online battle game PUBG, as quoted by a senior Delhi police officer. Suraj alias Sarnam Verma killed his father Mithilesh, mother Siya and sister in the early hours of Wednesday and later ransacked the house to make it look like a case of robbery. He was arrested the same evening. (<https://indianexpress.com/article/india/pubg-game-addiction-man-kills-parents-delhi-police-5398568/>)

In Jammu and Kashmir a fitness trainer began playing this game and within a span of ten days was very addicted. According to various news reports, this man started hitting and injuring himself by blows after completing each round and was hospitalised when people noticed this unusual behaviour. According to one of the doctors, “The patient is unstable at the moment and has partially lost his mental balance.” He furthermore added that he is still not conscious and his mind is completely under the influence of the ‘PUBG’ game. (<https://timesofindia.indiatimes.com/life-style/health-fitness/de-stress/warning-pubg-addiction-lands-fitness-trainer-from-jammu-in-the-hospital/articleshow/67524427.cms>)

The Jammu Kashmir Students Association (JKSA) requested Governor Satya Pal Naik to immediately impose a ban on PUBG. Which according to them was “more concerning than addiction to drugs,” said deputy chairman Raqif Mahkhdooi. Many schools in Bangalore have already advised parents about the game’s addictive nature, as cases of addiction to PUBG have been reported to the National Institute of Mental Health and Neurosciences (NIMHANS). (<https://www.news18.com/news/tech/pubg-addiction-what-makes-video-games-unputdownable-and-lead-to-gaming-disorder-illness-2006065.html>)

In the international scenario a young boy of age 13 years died after he jumped from a high rise building in east China. The mother has blamed the cause of the death on a popular online video game. The boy plunged to his death from the 4th floor in Haimen city after midnight on August 30. He was reportedly playing PUBG, on his iPad prior to his death. “The video game caused my son's death. There is no other reason”, the devastated mother told reporters, saying that her son jumped to see if he could survive like the characters in the video game (<https://www.dailymail.co.uk/news/article-6130317/Chinese-boy-jumps-death-building-survive-like-characters-PUBG.html>)

Few of the reasons as to why PUBG is a highly addictive game;

(<https://mmosworld.com/5-reasons-why-playerunknowns-battlegrounds-is-so-addictive/>)

- ***PUBG is easy to learn but hard to master***

PUBG sounds plain enough and initially the player needs to just jump off the plane and head to somewhere in the map away from the line-of-fire to find equipment and weapons. That’s the easy part, which everybody can do; however, from there on, the competition drastically increases. The players will need to survive the choice of sneaking into the play area, avoiding confrontation, or go in all guns blazing with an aggressive mind-set. It’s that increasing difficulty curve as the game progress that makes it addictive. The most important strategies include the decisions made in the current match and which is different from those in the previous one. The type of weapon chosen is crucial for the individual. All these questions get answered only with experience.

- ***Player Population***

The game has lakhs of players across the globe. This simply means matchmaking takes little or no time at all. That is always a plus point for any FPS or multiplayer game, as it lets you binge-play.

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- ***Clear Progression***

The players earn BP for playing matches and the BP rewards increase if the performance is better. Finishing in the top 10, winning the match, getting more kills etc. are all ways to increase BP. BP can then be used to purchase character customization, crates and more.

- ***Gradual Improvement***

Because the number of players is huge, revenues are also at an all-time high. PUBG has ploughed some of that back into the game, by introducing a new map and many other improvements. The game is in a better state compared to its initial phases. Take cheating for example. PUBG over the last few months have garnered a reputation for harbouring the highest amount of cheaters in any FPS game ever. This has created a record. The developer bans on average 10 lakh players per month for cheating.

- ***Something for All Levels***

The game has taken a massive liking towards all age groups due to its simplicity and easy gameplay. Battle Royale works because it is somewhat like a sandbox; each round will be experienced in new and different way, with the same strategy resulting in various outcomes. That's what makes it addictive, and making majority of the players come back to it again and again.

A review on measures of addiction on various social networking applications revealed the following. Xanidis and Brignell (2016) developed a scale on Social media use questionnaire to measure problematic media usage. To measure Facebook addiction scale, Bergens Facebook Addiction Scale was developed in the year 2012 by Andreassen, Torsheim, Brunborg and Pallesen (2012). To measure Smartphone addiction among adolescents, Kwon, Lee, Won, Park, Min and Hahn (2013), developed and validated a scale. Escurra and Salas (2014) developed a scale to measure social network addiction. None the less, Fidan (2016) developed and validated mobile addiction scale using components of model approach. D'Souza, Samyukta and Bivera (2018) developed and validated a scale for Instagram addiction (TIA). However, the authors could not find any specific scale to measure addiction to PUBG. A thorough search in this line did not yield any fruitful results. Hence, the authors planned to develop and validate a measure to assess the extent of PUBG addiction among adolescents and adults. The current study tries to develop and validate a PUBG Addiction Test (PAT) having major components involved in the PUBG addiction to be considered. The data was Factor analyzed so the components derived from the analysis can be finally used to analyze the extent of PUBG addiction from adolescents to adults.

METHOD

Participants:

To develop and validate the PUBG Addiction Test (PAT) a total of 494 participants were selected through random sampling from Bangalore, Basavapatna, Bellary, Chandigarh, Chittoor, Coorg, Davangere, Delhi, Ernakulam, Goa, Jaglur, Kochi, Kodaikanal, Kottayam, Kudremukh, Mangalore, Mumbai, Mylapore, Mysore, Pondicherry, Shivamogga and Tripunithura; a total of 22 cities in India and finally 455 responses were considered for the research. This included responses from the individuals were collected through Google forms which consisted of 168 respondents. Out of the total 455 participants, 392 were males and 63 were females, and their age varied from 13 to 46 years. The participants' consent was taken while answering the statements on PUBG Addiction Test.

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Tool construction:

Initially 55 statements were developed by the authors confirming face validity (Table 1). The test was developed on the basis of standard test construction measures. While formulating the statements, several questionnaires/inventories/checklists related to addiction to various gaming disorders were referred. 5 point Likert scale was used for scoring ranging from Strongly disagree (5), Disagree (4), Can't say (3), Agree (2), Strongly agree (1). To construct the statements, assistance was taken from stakeholders like gamers, students, psychologists, game experts, etc. Later the inventory was given to expert validation to three psychologists, one educationists and one sociologist. After these subject experts established the content validity of the statements pertaining to PUBG Addiction, the PAT was administered to respondents from the age group of 13 to 46 years from multiple cities in India including male and female respondents. To reach far off places even Google forms were used, the authors got 168 responses through Google forms.

Table1 Initial statements/items

Sl.No	STATEMENTS	1	2	3	4	5
1	I feel more connected to friends while playing a PUBG team match with them rather than playing alone					
2	I have had dreams relating to PUBG					
3	I use a lot of tricks while playing PUBG					
4	I collect and save money to purchase in-app items of PUBG					
5	I play PUBG because it gives me a sense of accomplishment					
6	I watch YouTube videos on how to improve my PUBG gameplay					
7	I get frustrated when I cannot finish the PUBG game					
8	I have less time to sleep because I play PUBG					
9	I play PUBG to escape from problems					
10	I play PUBG to relieve a bad mood (e.g., frustration, anxiety, or depression, etc.)					
11	I take part in the PUBG-competitions held by College fests/ online companies					
12	I have repeatedly tried to cut down the usage of the PUBG game, but failed to do so					
13	I have lost friendships due to PUBG game					
14	I have neglected work/academics because of PUBG					
15	I am tempted to play more and more PUBG after each game					
16	I become restless when I am denied/ unable to play PUBG					
17	I cannot sleep until I have played PUBG to my satisfaction					
18	I have spent money to customize my avatar in PUBG					
19	I tend to spend time customizing my avatar in PUBG					
20	I prefer playing PUBG than going outside and playing					
21	People have complained of getting distracted because of my unusual behaviour (shouting) while playing PUBG					
22	My teammates and I have a WhatsApp group to discuss matters/issues of PUBG					
23	I say "just one more game" to myself after finishing a game					
24	I get irritated when someone interferes while playing PUBG					
25	I feel my hands and body sweating as I survive for longer in the PUBG game					
26	I play PUBG to pass time					

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Sl.No	STATEMENTS	1	2	3	4	5
27	Playing excess PUBG causes headaches/pain in hand/fingers/neck					
28	I have met people personally who I have befriended through PUBG					
29	I feel energetic after winning the game which prompts me to play it again					
30	I get angry/frustrated when my friends do not cooperate while playing					
31	I have tried to cut down time on PUBG, but failed to do so					
32	I want to discover new elements in the game					
33	There has been a decrease in my job performance/ educational performance after I started playing PUBG					
34	I have uninstalled and reinstalled the game again and again					
35	I get stressed out after playing PUBG					
36	I play PUBG whenever I am frustrated or angry					
37	My sleep has been disturbed, after I started playing PUBG					
38	I feel restless or irritated if I am not able to play at least one game of PUBG a day					
39	PUBG makes me forget about the rest of the world					
40	My friends/family have complained about my excessive usage of PUBG					
41	I have lied about the usage time of PUBG to others					
42	I forget about my surroundings when I'm playing the game					
43	I have befriended more by playing PUBG					
44	I seek advice/discuss on playing PUBG better and enhance my skills by experienced players					
45	I become aggressive while playing the PUBG game					
46	I feel disappointed when I lose the game					
47	I feel compelled to kill more players in the PUBG game to gain reputation among my friends					
48	I have knowledge on the various gun items, protection gear, healing items, etc. of PUBG					
49	I feel inferior when my friends are in higher level than me in PUBG					
50	My teammates and I have a dedicated time for playing PUBG together					
51	The in-game chatting/discussion for PUBG is crucial for me to have control over the game					
52	I recommend PUBG to people so that we can play together					
53	I've observed that I have changed my routine to give more time to PUBG					
54	I lose track of time when I am playing PUBG					
55	I often think of playing PUBG when I am doing other work					

Analysis:

Once the data were collected through individual survey and Google forms, they were verified for completeness, coded and fed to computer. Later the data were analyzed through Factor Analysis using Principal Component analysis with Varimax rotation.

RESULTS OF FACTOR ANALYSIS

When exploratory factor analysis was used for the statements employed in the research following results were obtained.

1. Kaiser-Meyer-Olkin Measure of Sampling Adequacy value for the entire test was found to be 0.940, which is found to be highly adequate. In other words, it clearly indicated that the sample employed for the present study to perform Factor analysis was highly adequate.
2. Secondly Bartlett's test of sphericity with chi-square value of 9828.51 which was found to be highly significant at .001 level. The total variance explained in this inventory was 54.94%.
3. Using SPSS software windows, varimax of orthogonal rotation was employed using PCA (principal component analysis). Factor analysis extracted 7 components out of 55 statements through rotated factor matrix.
4. Only 34 statements (out of 55 statements) were considered for the final version taking into consideration factor loadings of 0.5 and above through rotated factor matrix. The details of which are given in table 2

Table 2 Factor loadings (0.5 and above) and derived components through factor analysis (Rotated factor matrix)

Statements/Items	Components						
	1	2	3	4	5	6	7
S01							.620
S02							.554
S03							.714
S04							.538
S07	.508						
S08	.603						
S09						.631	
S10						.744	
S11				.631			
S13				.604			
S14	.503						
S15	.653						
S16	.587						
S17	.552						
S18				.642			
S19				.530			
S22				.533			
S24					.629		
S25					.614		
S26							.671
S29					.633		
S30					.500		
S33		.604					
S34							.708
S35		.593					
S36						.554	
S37		.498					
S40							.554

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Statements/Items	Components						
	1	2	3	4	5	6	7
S41		.542					
S43			.569				
S51			.557				
S52			.506				
S54		.523					
S55		.515					
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 12 iterations							

Finally out of 55 statements, 34 statements were retained on the basis of factor loadings and remaining 21 statements were not included in the final version of PAT. After studying statements under each component, authors provided component names.

Table 3 presents the selected statements for PUBG addiction under - components
Table 3 Statements selected on the basis of Factor loadings (Final version)

Sl. No.	Original No.	Statement/Item
<i>C1: Disengagement</i>		
1	07	I get frustrated when I cannot finish the PUBG game
2	08	I have less time to sleep because I play PUBG
3	14	I have neglected work/academics because of PUBG
4	15	I am tempted to play more and more PUBG after each game
5	16	I become restless when I am denied/ unable to play PUBG
6	17	I cannot sleep until I have played PUBG to my satisfaction
<i>C2: Lack of control</i>		
7	33	There has been a decrease in my job performance/ educational performance after I started playing PUBG
8	35	I get stressed out after playing PUBG
9	37	My sleep has been disturbed, after I started playing PUBG
10	41	I have lied about the usage time of PUBG to others
11	54	I lose track of time when I am playing PUBG
12	55	I often think of playing PUBG when I am doing other work
<i>C3: Excessive use</i>		
13	47	I have befriended more by playing PUBG
14	51	The in-game chatting/discussion for PUBG is crucial for me to have control over the game
15	52	I recommend PUBG to people so that we can play together
<i>C4: Obsession</i>		
16	11	I take part in the PUBG-competitions held by College fests/ online companies
17	13	I have lost friendships due to PUBG game
18	18	I have spent money to customize my avatar in PUBG
19	19	I tend to spend time customizing my avatar in PUBG
20	22	My teammates and I have a WhatsApp group to discuss matters/issues of PUBG

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Sl. No.	Original No.	Statement/Item
<i>C5: Distress</i>		
21	24	I get irritated when someone interferes while playing PUBG
22	25	I feel my hands and body sweating as I survive for longer in the PUBG game
23	29	I feel energetic after winning the game which prompts me to play it again
24	30	I get angry/ frustrated when my friends do not cooperate while playing
<i>C6: Escapism</i>		
25	09	I play PUBG to escape from problems
26	10	I play PUBG to relieve a bad mood (e.g., frustration, anxiety, or depression, etc.)
27	36	I play PUBG whenever I am frustrated or angry
<i>C7: Over-enthusiasm & Impulsive use</i>		
28	01	I feel more connected to friends while playing a PUBG team match with them rather than playing alone
29	02	I have had dreams relating to PUBG
30	03	I use a lot of tricks while playing PUBG
31	04	I collect and save money to purchase in-app items of PUBG
32	26	I play PUBG to pass time
33	34	I have uninstalled and reinstalled the game again and again
34	40	My friends/family have complained about my excessive usage of PUBG

Each component can be briefly conceptualized as follows:

1. ***Disengagement:*** When the individual withdraws his/her involvement in a social activity, amidst people or in a group due to usage of PUBG.
2. ***Lack of control:*** Due to the use, the performance or productivity of the individual seems to be affected, they find it difficult to cut down the usage and spend a lot of time thinking about games even when they are not playing, or planning when they can play next.
3. ***Excessive use:*** Being secretive about the use and overindulgence of usage causing disturbance to normal routine lifestyle.
4. ***Obsession:*** Intense passion towards the game and no track of time played, feeling compelled to play more and search more items in the game.
5. ***Distress:*** Playing excess causes manifestations of anxiety and sorrow in the individual when not able to play.
6. ***Escapism:*** Using PUBG as a source to escape from reality, forget about personal problems, or to relieve uncomfortable feelings such as guilt, anxiety, helplessness or depression.
7. ***Over-enthusiasm & Impulsive use:*** The individual has an excessive involvement and this causes unwanted behavior patterns in the individual and also the individual cannot control the usage and does not pay concern over the consequences.

Reliability Analysis

Further reliability analysis was done through Cronbach alpha for each of the component and total items of PAT. This was to ensure repeatability of the PAT and consistency. The results are shown in the table below.

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Table 4 Reliability coefficients for components extracted and for the total statements.

Component	Name	Statement/Item Number	Total number of Statements/Items	Reliability
1	Disengagement	7, 8, 14, 15, 16 & 17	6	0.810
2	Lack of control	33, 35, 37, 41, 54 & 55	6	0.822
3	Excessive use	47, 51 & 52	3	0.601
4	Obsession	11, 13, 18, 19 & 22	5	0.735
5	Distress	24, 25, 29 & 30	4	0.690
6	Escapism	9, 10 & 36	3	0.645
7	Over-enthusiasm& Impulsive use	1, 2, 3, 4, 26,34 &40	7	0.501
Total		All selected Statements/Items	34	0.912

The reliability coefficients varied from 0.501 to 0.822, which further confirmed that those statements employed in the development of the PAT were highly reliable.

ITEM TO TOTAL SCORES CORRELATIONS

Table 5 Item to total correlation of the statements considered

Statement/Item Number	Correlation coefficient	Significance	Statement/Item Number	Correlation coefficient	Significance
1	.316	.001	18	.458	.001
2	.444	.001	19	.471	.001
3	.333	.001	20	.134	.004
4	.379	.001	21	.497	.001
5	.530	.001	22	.510	.001
6	.612	.001	23	.602	.001
7	.483	.001	24	.338	.001
8	.350	.001	25	.338	.001
9	.361	.001	26	.569	.001
10	.480	.001	27	.655	.001
11	.568	.001	28	.575	.001
12	.537	.001	29	.645	.001
13	.639	.001	30	.529	.001
14	.629	.001	31	.416	.001
15	.467	.001	32	.481	.001
16	.572	.001	33	.601	.001
17	.509	.001	34	.641	.001

The item to total scores correlations was performed through Pearson's product moment correlation techniques. All the obtained correlation coefficients were found to be positive and significant at .001 level and varied from 0.134 to 0.655.

RELATIONSHIP BETWEEN COMPONENTS

Table 3 Inter component correlation matrix

		C2	C3	C4	C5	C6	C7
C1	Correlation coefficient	.696	.445	.560	.477	.471	.487
	P value	.001	.001	.001	.001	.001	.001
C2	Correlation coefficient		.467	.534	.472	.432	.579
	P value		.001	.001	.001	.001	.001
C3	Correlation coefficient			.321	.527	.406	.477
	P value			.001	.001	.001	.001

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		C2	C3	C4	C5	C6	C7
C4	Correlation coefficient				.311	.361	.453
	P value				.001	.001	.001
C5	Correlation coefficient					.430	.415
	P value					.001	.001
C6	Correlation coefficient						.370
	P value						.001

The inter relation between 7 components were found to be highly significant. They ranged from 0.311 to 0.696. All of the obtained correlation coefficients were found to be significant at .001level.

DISCUSSION

The foremost purpose of the study was to develop a questionnaire which measures the addiction formed in PUBG. According to the various reliability and validity tests referred to above, the PUBG Addiction Test (PAT) showed valid and good results. After Factor Analysis, seven factors were obtained that were given proper headings/nomenclature. The researchers requested few experts to retouch, correct and obtain the names of the various factors, such as Disengagement, Lack of control, Excessive use, Obsession, Distress, Escapism and Over-enthusiasm & Impulsive use. The reliability coefficients of the statements employed shows that PAT is highly reliable with the coefficients which varied from 0.501 to 0.912. The test, which measures addiction in 7 components is highly significant ranged from 0.134 to 0.655. All of the obtained correlation coefficients were found to be significant at .001level. High score on the individual components or total addiction reflect higher addiction on PUBG.

Addiction of any nature affects the bio-psycho-social functioning of the individual negatively. In today's world the amount of technology addictions are on a dramatic increase, and not even children are spared from the ill-effects of such addictions. PUBG addiction has created more harm than good, which is clearly seen on the affected individuals and the users. This study has also been aimed to identify and focus on the pathological usage of PUBG and in no way the authors have intended to throw a negative light on the game itself, as it could be used for entertainment and other creative purposes responsibly. Developing tests like PAT have clinical implications to study the individuals' extent of PUBG addiction and its impact on psychosocial functioning, so that necessary strategies/therapies can be planned to help out the individuals trapped in PUBG addiction.

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Conflict of Interest

The authors carefully declare this paper to bear not conflict of interests.

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