

EFFECT OF ONLINE GAMING ON POSITIVE AND NEGATIVE AFFECT AND PSYCHOLOGICAL WELLBEING

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India is ranked 5th globally in game downloads on Q2 2016 and is touted to reach the \$1 billion mark by 2021. Though there is scant research in this significantly growing field of human behavior, the existing research indicates that addiction to gaming has more negative consequences than positive. Given the growing market of this field and its impact on human beings, especially the youth, online gaming is a topic that demands serious research. The objective of the present study was to examine the effect of online gaming, with a specific focus on the game *PlayerUnknown's Battlegrounds* (PUBG), on the psychological wellbeing of Indian adolescents and young adults. For this purpose, 102 participants (mean age=20) were asked to complete a questionnaire online. Findings from the study reflected a positive correlation between playing PUBG and positive experience ($p<.05$) and negative experience ($p<.01$), and a negative correlation between playing PUBG and psychological wellbeing ($p<.01$). Owing to the popularity of PUBG, the study provides significant insights into the effect of PUBG on the psychological wellbeing of young adults and adolescents. It reveals that playing PUBG has simultaneous positive and negative effects, which means that it has detrimental as well as beneficial effects. At the same time, excessive engagement of PUBG leads to negative psychological impact.

Keywords: online gaming, positive and negative affect, psychological wellbeing, PUBG

Video games, prior to mobile phones, were limited to arcades, consoles, and computers. However, the advent of mobile phones has brought about a major shift in the gaming world, especially in online gaming. Online games are

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one of the most rapidly growing forms of human recreational activity (Ryan, Rigby, & Przybylski, 2006) that has increasingly garnered much attention (Chang & Zhang, 2008). It is an important and swiftly expanding segment of daily media usage (Roberts, 2000). The abundance of individual or personal screens has granted access to video games anytime and anywhere in our daily lives.

Online gaming has become a very popular platform for entertainment, especially among adolescents (Griffiths, Davies, & Chappell, 2004). Some adolescents have even gone to the extent of confessing that without online gaming, their life would be boring and dark (Wan & Chiou, 2006). Some showcased an unconscious need for power and achievement, which resulted in them resorting to compulsive online gaming. Online gaming is a way out for some youth from depression or pressure, and in the process, they get addicted to online gaming (Diao, 2003). Diao suggests that adolescents are usually awkward socially, and video gaming might enable them to overcome societal pressure. They may not be able to interact in the real world, but the virtual world allows them to be the way they want to be and release them from the pressure of physical interaction (*ibid*). Wan and Chiou (2006) identify the three types of needs that fuel online gaming: social visibility (although it may be virtual), sense of achievement, and feeling of fascination. Online gamers are no different in serving their functional and emotional needs; maybe the belief system they follow is indistinct. Nevertheless, their decisions while gaming are still calculated rationally (Xu, Turel, & Yuan, 2012).

Positive affect refers to an individual's propensity to experience positive emotions and the ability to interact with others in a positive way. Negative affects refer to the experience of world in a negative manner with negative emotion, which may lead to negative relationship with others and the surroundings (Schmukle, Egloff, & Burns, 2002). In general, they refer to the positive and the negative emotions that an individual experiences and expresses accordingly. Positive affect includes cheerfulness, pride, enthusiasm, energy, and joy (Estrada et al., 1994), whereas negative affect includes sadness, disgust, lethargy, fear, and distress (Henriques, 2013).

Although the general conception towards online gaming is that it has negative effects on the players, a growing number of researchers are exploring positive effects of gaming (e.g., flow experiences, Wan & Chiou, 2006;

intrinsic motivation & positive mood, Ryan et al., 2006). Most of the positive effects are correlated to playing games rather than gaming addiction (Xu et al., 2012). Granic, Lobel, & Engels (2014) list the benefits of gaming. They provide a more balanced perspective towards video or online gaming. They believe that video/online gaming has gone through a characteristic change of nature wherein they have become “*increasingly complex, diverse, realistic, and social in nature*”(Granic et al., 2014,p. 66). Their study aimed at presenting the theoretical rationale and evidence for establishing as well as encouraging researchers to explore mental health benefits from video/online gaming.

Online gaming and its impact on positive and negative affect as well as the overall psychological wellbeing is a new area of study that has not been explored much in India. Previous studies conducted in the West have shown a mixed picture of the relationship between video gaming and wellbeing, as well as the experience of positive and negative emotions. Online games were linked to violent behavior, where violent games were an outlet for aggression (Greitemeyer, 2015), especially among adolescent males (Colwell,2007). Some studies have also recognized a potential risk in not being able to control the urge of excessive engagement while gaming to being problematic (Müller et al., 2014). A lower level of empathy due to lack of intimacy was also noted (Lemmens, Valkenburg, & Peter, 2011). Online gaming has also been linked to depressive symptoms, low self-esteem, loneliness, social incompetence and low levels of life satisfaction (Peters & Malesky, 2009; Williams, Yee, & Caplan, 2008).

However, due to the recent research findings related to psychological wellbeing and online gaming, there are new perspectives emerging, especially focusing on the positive effects of online gaming, contradictory to the traditional belief that online gaming had only negative effects on the gamers (Liang, Li, & Yang, 2014). Granic et al. (2014) discuss the motivational, cognitive, emotional, and social benefits of gaming. In the cognitive domain, they suggest that gaming can lead to creativity, as research has shown that gaming leads to greater spatial and problem-solving skills. On the motivational domain, some games (not all) seem to facilitate a determined and optimistic motivational style that boosts to other aspects of work/life for the gamers. Emotionally the gamers seem to develop the ability to flex emotions in such a way that they can evaluate and reassess their emotional experiences to cope with frustration and anxiety. Socially it is seen that the gamers manifest the

ability to organize groups and lead like-minded people for a cause. Gaming improved their means and approach towards civic engagement.

India is currently ranked 5th globally in game downloads on Q2 2016 and is touted to reach the \$ 1 billion mark by 2021. The decisive factor is the entry of low-cost smart phones and better internet connection. By 2021 the internet penetration in India is estimated to increase by 20-21% (*Indian Languages*, 2017). Such a surge in smartphone usage is likely to increase data consumption by 5 times. In this context, there is a high probability of a steep increase in online gaming (specifically mobile-based gaming) in India in the coming years. “*Online Gaming in India: Reaching a New Pinnacle*”(2017), a study by KPMG in India and Google, has reported that in India, the average online gamer is below the age of 24, with mobile phones being the most preferred device for gaming.

The Present Study

The purpose of the present study was to explore the effect of online gaming on positive and negative affect and psychological wellbeing among Indian adolescents and adults. The study focused specifically on the game PlayerUnknown’s Battlegrounds, popularly known as PUBG, a strategic survival shooter online game that won Google Play’s Game of the Year title in 2018.

The study also evaluated the positive as well negative influences of online gaming rather than exploring only negative effects. The majority of the research conducted on online gaming is generally in the western context and consequently, did not provide an Indian perspective. Hence the present study sought a contextualized representation and understanding of the influence of online gaming on the Indian youth.

The hypothesis stated that online gaming (specifically PUBG) has a significant effect on the negative and positive affect and the psychological wellbeing of India’s young population.

Method

The survey method via online questionnaire was the method adopted for the study. There were three scales utilized for the survey. They were:

Flourishing Scale (FS) (Diener et al., 2010): The FS comprises eight items that indicate the important aspects of human functioning such as positive relationships, feelings of competence, meaning and purpose in life. This scale was previously known as *Psychological Wellbeing Scale*. The name was later altered to reflect the content accurately because the scale includes items that are more than just psychological well-being. Each item of the FS is answered on a 7-point scale that ranges from *strongly disagree* to *strongly agree*.

The *Scale of Positive and Negative Experience* (SPANE) (Diener et al., 2010): This scale consists of 12-items, with six items dedicated to positive experiences and six items to negative experiences. The SPANE helps in assessing the full range of positive and negative experiences, including specific feelings that may have unique labels in particular cultures. The general items included in the scale can assess not only the pleasant and unpleasant feelings that are the focus of most scales, but also reflect other states such as interest, flow, positive engagement, and physical pleasure. All items on the SPANE are scored on a scale ranging from 1 to 5, where 1 represents '*never*' and 5 represents '*always*'.

Game Addiction Scale (Lemmens, Valkenburg, & Peter, 2009): The 21-item *Game Addiction Scale* was formulated for every criterion, namely, salience, tolerance, mood modification, relapse, withdrawal, conflict, and problems. The items were randomly distributed over the scale. Responses are to be marked on a 5-point continuum for each item, as follows: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often.

Participants

As this study mainly concentrated on the influence of gaming on the youth of India, data were collected from 102 participants with a mean age of 20 (minimum age 14 and maximum age 27), comprising both males and females. All participants were either high school level or college level students hailing from the states of Sikkim and Bengal (specifically, the North Bengal).

Procedure

The respondents were asked to complete the questionnaire (Google form) individually via social media. They were duly briefed regarding the questionnaire with proper instructions and guidelines. The survey was conducted in a formal setting of classrooms and informed consent was taken

from the respondents prior to the survey. The results were analyzed as per the standard procedure of each of the Scales.

Results

The results showed a positive correlation between online gaming and positive ($r=0.23, p < 0.05$) and negative experience ($r=0.27, p < 0.01$) while it showed negative correlation with wellbeing ($r = -0.19, p < 0.05$).

Table 1. Correlation of Online Gaming (PUBG) with Positive Affect, Negative Affect and Psychological Well Being

Measures	Positive Affect	Negative Affect	Psychological Wellbeing
Online Gaming (PUBG)	0.230*	0.267**	-0.196*

** $p < 0.01$, * $p < 0.05$

Regression analysis suggested that there was significant influence of online gaming on positive experience (affect) ($\beta = 0.62, t = 2.37, p < 0.05$), negative experience (affect) ($\beta = 0.81, t = 2.79, p < 0.01$) and wellbeing (flourishing) ($\beta = -0.84, t = -2.01, p < 0.05$).

Table 2. Regression Analysis of Online Gaming (PUBG) with Positive Affect, Negative Affect and Psychological Wellbeing

Predictor Variable	Positive Affect	Negative Affect	Psychological Wellbeing
Online Gaming (PUBG)	0.062* (0.026)	0.081** (0.029)	- 0.084* (0.042)

** $p < 0.01$, * $p < 0.05$

The results of the t-Test indicated that there was no significant gender difference with regards impact of online gaming on negative affect; however, there was a significant gender difference in the impact of online gaming on positive affect ($t = 2.65, p < 0.05$) and wellbeing ($t = 2.26, p < 0.05$) with males showing greater positive affect.

Table 3. Gender Difference in Online Gaming (PUBG) with Positive Affect, Negative Affect and Psychological Well Being

Variable	Male M (SD)	Female F (SD)	T
Online Gaming (PUBG)	57.01 (17.06)	55.67 (15.87)	0.356
Positive Affect	21.04 (4.2)	18.29 (4.52)	2.645*
Negative Affect	14.62 (4.8)	17.00 (5.47)	-1.192
Psychological Well Being	44.29 (7.26)	40.79 (6.39)	2.261*

* $p < 0.05$

Discussion

The findings suggested that online gaming using PUBG had an influence on positive and negative experiences (affect) and psychological wellbeing. In other words, playing PUBG resulted in generating both positive and negative affect in the gamers. Interestingly and more specifically, it could be seen that restricted engagement with the game or with lesser time spent on playing the game usually resulted in gathering benefits such as teamwork and communication skills, and also helped in coping with frustration, depression, and stress. Generally, playing games has been associated with mostly positive affects, especially among the young. This finding allows people, especially parents, to look at gaming from a positive perspective. However, as previous researches had shown, excessive playing of PUBG too resulted in having negative experience that might lead to violent behavior or detrimental experience, especially on the mental health of the gamers. This is something that every parent or guardians fear when their children indulge excessively in playing games, especially of a violent nature. The negative effects of gaming, especially violent games such as PUBG, cannot be overlooked. However, with restricted engagement and guidance, such games too can benefit the gamers.

The results also highlighted that gaming was negatively correlated to psychological wellbeing. An increased amount of gaming was inversely correlated with the psychological wellbeing of the gamers. Hence, addiction to gaming negatively affected the mental wellbeing of the gamer, which in turn produced much discomfort and negative affect. Those participants who spent significantly less amount of time with online gaming showed greater

wellbeing and positive affect. Thus, more than the nature of the game, it was the time spent on playing the game that affected the gamers. Awareness of this factor should be provided to both the gamers and their parents or guardians so that they can better regulate the time spent on gaming to harvest its positive effects and care for the wellbeing of the young ones.

The findings also showed that the male participants had a significantly greater positive experience of online gaming than the female participants did. The study, however, did not explore the reasons why such gender difference results. Further research would help explore the dynamics of gender differences in the effect of gaming.

Conclusion

The study highlight an essential aspect of gaming that, if done properly, it could be advantageous for the wellbeing and development of a young mind. Gaming has become an integral part of the entertainment industry targeted at youth. With the developments in communication technology and the availability and affordability of smart phones, access to gaming, especially online gaming, has become quite easy for the youth. Greater accessibility results in greater risks to the psychological wellbeing of the gamers, especially of the young ones. It has also been observed that total denial of access to online gaming may also be harmful when such possibilities surround their peers. The present study confirms that gaming is not entirely harmful to the gamers; rather, it actually helps in developing positive affect and psychological wellbeing. The critical factors are the time spent on gaming as well as the nature of the game played. If proper checks and balances are introduced to address these issues, the negative effects of gaming can be controlled.

The present study was limited in its sample size and the games covered. Nor could the study explore variables such as different positive domains that had been suggested by Granic et al. (2014). However, the study helped confirm the positive effects and identify the factors that correlate with the negative effects of gaming, especially with regards to the PUBG. Further research must be conducted to delve deeper into other variables involved, as gaming has come to stay as an integral part of the entertainment industry targeting children and youth. Research is also needed in exploring the gender divide and its related dynamics in online gaming.

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