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A study on the level of video game addiction among adolescent students of urban population

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Abstract

The present study focuses on the effect of personality traits and loneliness on the video game addiction among adolescents. The participants (N= 100) were between the age of 13-19 years and selected from urban area by using Snowball sampling method. Socio demographics along with NEO Five Factor Inventory for personality, UCLA Loneliness Scale and The Gaming Addiction Scale were used to collect data. Descriptive Statistics, ANOVA and Pearson's correlation were done for statistical analysis of the data. From ANOVA table, it has been found that there is a statistically significance between high and low video game addiction and loneliness, moderate and low video game addiction and neuroticism, high video game addiction and openness and low video game addiction and conscientiousness. It was found from the result table that high video game addiction was significantly correlated with loneliness, neuroticism (Personality) and openness (personality) and low video game addiction had a significant correlation with conscientiousness (personality). From the pearson's R table it was found that high gaming addiction and loneliness had a significant correlation on the other hand low video game addiction and loneliness also had a significant correlation. It was also found that medium video game addiction and neuroticism had a significant correlation. It was also found that high video game addiction and openness had a significant correlation and conscientiousness and low video game addiction had a significant correlation.

Keywords: Video game addiction, loneliness, neuroticism, openness, conscientiousness, adolescent

Introduction

The proliferation of technological advancements and the subsequent development of various electronic gadgets have bestowed upon us the phenomenon of video games. Over the recent years, video games have emerged as a widely favored kind of recreational pursuit. This phenomenon has significant popularity among the adolescent demographic. The excessive utilization of this phenomenon has begun to impede the routine tasks of an individual. In 2013, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) introduced internet gaming addiction as a novel conceptualization. Excessive levels of gaming addiction have a detrimental impact on individuals' daily functioning. A recent study conducted by Husna *et al.* (2022) ^[5] revealed a significant correlation between high levels of internet addiction and academic performance, indicating a negative association between the two variables. The significance of personality traits in the development of video game addiction has been identified as significant.

According to a recent study conducted by Kim *et al.* (2022) ^[7], it was shown that those who engage in online gaming have lower levels of conscientiousness. Conversely, it was found that conscientiousness had a positive correlation with video game addiction, as indicated by the study conducted by Mark and Ganzach (2014) ^[11]. According to a study conducted by Z. Liao *et al.* (2020) ^[8], a significant correlation was seen between elevated levels of video game addiction and decreased levels of conscientiousness. Potard *et al.* (2019) ^[12] reported same findings in their investigation. In a separate investigation conducted by Vollmer *et al.* (2014) ^[13], it was shown that there was no statistically significant correlation between video game addiction and conscientiousness.

According to a study conducted by Basha (2021) ^[2], a positive correlation was shown between video game addiction and neuroticism. In a separate investigation conducted by Potard *et al.* (2019) ^[12], it was shown that those exhibiting video game addiction had reduced

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levels of conscientiousness, openness, and extraversion. According to Bueso *et al.* (2018) ^[4], individuals who exhibit internet gaming addiction tend to display elevated levels of introversion, histrionic tendencies, and identity uncertainty. A study conducted by Fang Liu *et al.* (2020) ^[14] discovered that neuroticism had a mediating role in the association between early psychological abuse and smartphone addiction. In contrast, research conducted by S. Dilwar *et al.* (2022) ^[3] did not find a direct association between social media addiction and neuroticism. However, the study did identify that this link was influenced by the extent of social media usage.

Several research have indicated a correlation between extraversion and internet usage. Several research has also demonstrated a negative correlation between internet addiction and extraversion. A study conducted by S. Dilwar *et al.* (2022) ^[3] found a clear and noteworthy correlation between extraversion and social media addiction. According to a study conducted by C. Vollmer *et al.* in 2014 ^[13], it was shown that there is a negative correlation between extraversion and video game addiction among students. On the contrary, some other study revealed a significant positive correlation between extraversion and problematic gaming use.

A study revealed a correlation was shown between internet gaming problems and low agreeableness. According to a study conducted by Vollmer *et al.* (2014) ^[13], there was a correlation seen between lower levels of computer game addiction and the personality trait of agreeableness.

Another study has demonstrated a positive correlation between those with elevated levels of gaming addiction and heightened neuroticism. Additionally, it was emphasized that those exhibiting high levels of extraversion and low levels of neuroticism had a preference for action-oriented video games. Individuals exhibiting high levels of neuroticism have a propensity for gravitating towards games characterized by violent themes. Individuals with lower levels of extraversion have shown a preference for engaging in role-playing games within the gaming community. According to some other study indicated that those who engage in casual video game playing have higher levels of extraversion and conscientiousness within the area of personality some other studies suggested, individuals who engage in arousal video games were shown to exhibit lower scores in the openness domain of personality.

The experience of loneliness presents a notable juxtaposition in the context of video game addiction. Numerous studies have investigated the correlation between feelings of isolation and the development of compulsive video gaming tendencies. According to a study there is a favorable correlation between mobile gaming addiction and feelings of loneliness. However, a study conducted by S. Kanat (2019) ^[6] found no significant statistical relationship between loneliness and digital gaming addiction. According to another study, it was apparent that engaging in pathological gaming might lead to the experience of loneliness due to the stimulation of hostility. A separate study revealed a significant correlation between gaming addiction and feelings of loneliness. A further study revealed that loneliness was recognized as a contributing factor to the development of gaming addiction in teenagers. Another study revealed a statistically significant positive correlation between feelings of loneliness and addiction to computer games.

Objectives

1. To study the level of video game addiction among adolescents (Male & female)
2. To study the loneliness of the adolescents with respect to their level of video game addiction (High, Medium & Low)
3. To study the pattern of personality trait of the adolescents in terms of their level of video game addiction (High, Medium & low)

Hypothesis

1. There will be a significant difference between genders of the adolescents in respect to their video game addiction (Male & female)
2. There will be a significant difference between loneliness of the adolescents with the respect to their level of video game addiction (High, Medium & Low)
3. There will be a significant difference between the patterns of personality trait of the adolescents with the respect to their level of video game addiction (High, Medium & Low)

Methodology

The aim of the study is to find out the effect of loneliness and personality traits on videogame addiction among adolescent students.

Site and Population

The sample consists of 100 adolescents (39 female and 61 male) was selected through snowball sampling. The age range of the sample was of 13-19 years. The study was conducted in Kolkata. The participants completed the questionnaires that were given to them along with socio demographics.

Tools and Scales

The data of this study was obtained by game addiction scale, Neo five factor inventory and the UCLA Loneliness scale (Russel. D, Peplau, 1978, version 3). The Cornbach's alpha of the scales were as follows, Neo five factor Inventory: 0.813, Game addiction scale: 0.520, UCLA loneliness scale: 0.417.

Results

The initial step of the procedure was to establish a rapport with the participants. The age group of the participants were of 13-19 years. It is important to say that the participation for this study is voluntary. They have the freedom to leave the process of the study whenever they want to. At first the participants were asked to fill out the demographic form. After that the questionnaires for the present test were given one after another. It was made sure that the participants understood all of the items. For this present study mean, SD, Anova and Pearson's R was done for the analysis. From the calculations it was seen that the mean of video game addiction in case of female was higher (24.425) than male (24.28814). High and low video game addiction was found to be significant at 0.05 level with loneliness. Neuroticism was found to be significant at 0.001 level with medium and low video game addiction. Openness and high video game addiction was ASO found to be significant at 0.01 level. Conscientiousness and low video game addiction was found to be significant at 0.05 level.

Discussions

This study aims to compare between the level of game addiction, loneliness, attachment style and personality traits of adolescents. The first objective of the study was, to study the level of game addiction among the adolescent students (Male and female). The result of the current study showed that there was a significant difference in the nature of level of game addiction among adolescent students (Male and female). The mean of video game addiction of men was 24.28 on the other hand the mean of video game addiction of female participants were 24.42. The mean of video game addiction of female participants were higher than male participants. The video game addiction or the exposure to the video game is more common in the male adolescent than the female. But in this 21st century women are also being exposed to the video games (Olatz Lopez- Fernandez *et al.*, 2019) ^[9] and that is a reason for a significant difference in the nature of level of game addiction with the gender of the students. From the above this is evident that the alternative hypothesis has been accepted.

The second objective was, to study the level of loneliness of the adolescent students with respect to their level of game addiction (High, medium and low). The result of the current study showed that there was a significant difference between the level of loneliness of the student and with their level of game addiction. The anova of the high video game addiction and loneliness was found to be 4.397 and the statistical significance was tested on 0.04 level for higher video game addiction and loneliness and on 0.02 level for low videogame addiction for loneliness. From the literature review it was evident that few of the findings suggested that there was a positive correlation between the video game addiction and loneliness (Agarwal *et al.*, 2017) ^[1]. The current study showed a significant difference between loneliness and level of video game addiction. So it can be said that due to post pandemic situation people who are feeling alone or lonely may not seek escape through playing video games. Here the null hypothesis has been rejected.

The 3rd objective of the study was to study the pattern of personality traits of the adolescent students in terms of their level of video game addiction. (High, moderate, low). In this current study it was found that there is a positive statistically significant correlation between the neuroticism (Personality trait) and level of game addiction. Since the level of game addiction was divided in to three groups. It was found that the group who scored moderate in the video game addiction scale also scored high in the neuroticism scale. This is supported by the study of Muller *et al.*, 2016 ^[10]. Thus it can be said that the null hypothesis has been rejected and alternative hypothesis has been accepted. On the other hand it was found that students who scored high on Video game addiction scale also secured a high score on openness. Thus it can be said that the null hypothesis has been rejected and alternative hypothesis has been accepted. It was also found that there was a significant difference between low video game addiction and conscientiousness. So it can be said that the null hypothesis has been rejected and alternative hypothesis has been accepted. It was also found that there was a significant correlation between conscientiousness and low videogame addiction.

Conclusion

The correlational analysis indicated that the trend of neuroticism is an important precondition for facilitating the

trend of video game addiction among the adolescent students. High and low video game addiction was correlated to loneliness. Neuroticism was correlated to medium and low video game addiction. Openness had a significant correlation with high video game addiction. And conscientiousness was correlated to low video game addiction.

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Appendixes

Table 1: Analysis of the variable was done to test the mean difference to identify significant difference in the nature of level of video game addiction among the adolescent students (male and female)

Gender	Mean	Sd.	Anova	Df	Significance
Male	24.28814	5.429964	218.9	1	0.001
Female	24.425	4.776478	102.4	1	0.001

Table 2: Analysis of the variable was done to test the mean difference to identify the level of loneliness the adolescent students with respect to their level of video game addiction level (High, moderate, low)

Loneliness	Mean	Sd	Anova	Df	Significance
High Video game addiction	54.45	6.278409	4.397	1	0.0467*
Medium Video game addiction	51.19697	5.992867	2.132	1	0.151
Low Video game addiction	47.14286	7.676495	5.564	1	0.0268*

Table 3: Analysis of the variable was done to test the mean difference to study the pattern of personality trait of the adolescent students in terms of their level of video game addiction (High, moderate and low)

Personality Trait	Mean	Sd	Anova	Df	Significance
Neuroticism & High Video game addiction	48.05	4.871777	0.135	1	0.717
Neuroticism & Medium video game addiction	42.78788	6.986834	14.7	1	0.000389***
Neuroticism & low video game addiction	32.85714	6.71778	4.31	1	0.0488*
Extraversion & High video game addiction	35.85	6.674973	0.706	1	0.409
Extraversion & Medium Video game addiction	36.4697	5.564226	0.519	1	0.4
Extraversion and low video game addiction	35.19048	5.988481	1.032	1	0.32
Openness & High Video game addiction	35.5	3.818239	6.613	1	0.0167*
Openness & medium Video game addiction	36.30303	4.765161	3.526	1	0.0669
Openness & low Video game addiction	35.19048	6.193699	3.04	1	0.094
Agreeableness & High Video Game addiction	3.05	4.650693	1.375	1	0.252
Agreeable ness & Medium Video Game Addiction	35.56061	4.650693	1.375	1	0.252
Agreeableness & Low Video game addiction	36.09524	6.032452	0.13	1	0.722
Conscientiousness High Video game addiction	33.15	4.579991	0.57	1	0.458
Conscientiousness & Moderate Video game addiction	34.92424	4.717596	2.222	1	0.143
Conscientiousness & Low video game addiction	37.28571	6.149332	4.754	1	0.0393*