EXPLORING PERSONALITY FACTORS AND AGGRESSION IN YOUNG ADULTS WITH VIDEO GAME ADDICTION

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ABSTRACT : *Video games have become a form of entertainment in today's civilization. Playing video games increase mental activity. Although video games are now a popular medium, it has a downside. Addiction to playing video games has the ultimate effect on a person's behaviour. There are both good and bad sides to playing video games. The present study aimed to explore personality factors and aggression in young adults with video game addiction. A total of 90 participants were selected out of which 45 participants were males and 45 participants were females. They were divided into three groups of video game addiction (no problem, mild to moderate problem and significant problem) using the Game Addiction Inventory for Adults (GAIA- Wong, Ulric, Hodgins, David Carson 2013). Each group had 30 participants. Following this all the participants were administered the NEO-Five Factor Inventory (Form-S) and the State-Trait Anger Expression Inventory-2. The statistical analysis was conducted in three parts, first, a descriptive statistic (Mean and Standard Deviation) followed by a Parametric Test (Two-way ANOVA) to find the significant difference between the groups of video game addiction with respect to personality factors and aggression. Finally, step-wise multiple regression analysis (SMRA) was conducted to find the relative contributing variables on video game addiction. The obtained results showed that there was a significant difference among the groups of video game addiction with respect to neuroticism, conscientiousness and aggression. The participants with video game addiction scored higher on neuroticism and lower on conscientiousness. The trait anger had positively contributed to video game addiction. The participants with video game addiction were more aggressive than the normal counterparts.*

Keywords : *Video Game Addiction, Aggression, Personality traits.*

I. INTRODUCTION

In today's society computers and mobile phones are used for work and emergencies as well as for entertainment. Video games have become a popular medium for entertainment in today's civilization. Video games have become very fashionable nowadays; children and adults follow them very much. Many people are spending their leisure time playing video games. Video games have become a significant form of entertainment, especially for children and adolescents. In many cases, playing video game increases mental activity and increases the tendency to think. Nowadays children and adolescents are addicted to playing video games, which has had a huge impact on children's and adolescent's studying and socializing. However, video game addiction is now a major mental health problem, not just in children but also in adults. An excessive video game playing has many serious effects on mental health as well as on physical health. Nowadays it has been seen that men and boys are more likely to become addicted to video games than women and girls. There may be many reasons behind playing games. Many times people are influenced by family or friends to play video games. Many people play video games to get rid of stress. According to Griffiths (2000), the concept of video game addiction emerged from various researches on excessive internet use, which is a kind of behavioural addiction. The American Medical Association proposed the diagnosis for video game addiction in a Diagnostic and Statistical Manual of Mental Disorder 5th edition. Gaming addiction is considered under the Internet Gaming Disorder. It was categorized as a subtype of the Internet Use Disorder in the appendix of DSM-5 (American Psychiatric Association, 2013). Griffiths and Meredith (2009) have suggested that playing video games can be used as a non-financial form of gaming because the players are addicted to playing video games for points rather than money. Online video game addiction is considered a type of Internet addiction (Young, 2009). Online games provide an opportunity for adolescents to fulfill their unsatisfied needs and motivations which cannot flourish in their real lives (Wan and Chiou 2006a, 2006b). When someone chooses to play a video game that person consciously decides to spend much part of the time on one activity. According to Hartmann & Klimmt (2006), the decision to engage in certain behaviour is greatly affected by the person's mood and personality. A person who is feeling depressed and tense may like to play a video game as compared to someone who is feeling happy. Hartmann & Klimmt (2006) also stated that those who are competitive like to play the game to express that competitiveness. A gamer will not be interested to play video games unless the video games explore the gamer's knowledge fully and competitive nature of thinking. A competitive person may not be interested to play video game if it does not possess the some cognitive values. In many cases, aggressive people are attracted to play violent video games. There is an idea that aggressive people are attracted to play violent games because they cannot express their anger fully in real life. Their anger can be expressed while playing such violent video games and through playing violent video games they get the same kind of relief that they could get in real life. Many of the evidence showed that playing a violent video game may affect the level of aggression. The violent video game tends to be more competitive than the nonviolent video game (Carnagey and Anderson, 2005). Many studies showed that competitive games produced greater levels of aggression, irrespective of the amount of violence in the games.

The present study aimed to determine the effect of video game addiction on personality traits and aggression. Furthermore, to determine which of these selected variables may significantly contribute to the video game addiction.

II. REVIEW OF LITERATURE

Some video game researchers like Anderson & Ford, 1986, Anderson, 2004 stated that playing violent video games may likely increase aggression in the gamers. Cole and Griffiths (2007) conducted research on 912 MMO (massively multiplayer online) gamers from 45 countries; they observed that 81% MMO gamers play games with their real life friends or other family members. Cole and Griffiths (2007) concluded that playing with real life friends may decrease the risk of online gaming addiction. Snodgrass et al. (2011) found that gamers who are not addicted to gaming spend most of their time in gaming (up to 8 hours per day) displayed qualitatively different styles of play compared to addicted gamers. These non-addicted gamers usually played the games in ways that enhanced their relationships with their family and friends that may increase their overall satisfaction with life. Conversely, gamers who became addicted were likely to play online games to avoid dissatisfying life relationships. Tanquet et al., (2017) stated that playing video games excessively may lower the levels of psychological functioning in the gamers. Video gaming allows individuals to avoid the hassles of daily life and involve them in other environments. On the other hand, research conducted by Gentile (2009) revealed that excessive use of video games may likely to increase various psychological problems. Video game playing decreases the various opportunities of the gamers to carry in their actual life. Various personality factors are typically associated with behavioural addiction. A study conducted by Peters and Malesky (2008) concluded that that video game addiction is positively associated with neuroticism, and negatively associated with extraversion, agreeableness and conscientiousness. Billieux et al. (2015) classified a group of 1057 gamers into five groups (three problematic and two non-problematic) who are playing online role playing games. Participants of non-problematic groups possess low impulsivity and high levels of self-esteem. Participants of problematic groups possess poor self-esteem and high impulsivity. According to Liu, & Peng (2009), there are various psychological risk factors like impulse control, poor life satisfaction, low self-esteem, loneliness, social anxiety, depression, and aggression are associated with playing MMOGs (massively multiplayer online games). According to Lemmens, Valkenburg, and Peter (2009), high scores on the video game addiction scale were associated with loneliness, lack of life satisfaction, lack of social competence, and aggression. Durkin and Barber (2002) also found those who have a higher level of self-esteem have less engagement towards the games. Video games may act as a predictor of a person's self-concept regarding their perceptions of their intelligence, and computer skills. People who have never played video games report having low self-concepts in intelligence and computer skills than those who are played high amounts of video games (Durkin & Barber 2002).

III. RESEARCH METHODOLOGY

The following section highlights the methodological frame undertaken in the study.

OBJECTIVES –

- To determine the effect of video game addiction and gender and their interaction on personality factors.
- To determine the effect of video game addiction and gender and their interaction on aggression.
- To find out if personality factors and aggression can contribute on video game addiction.

TOOLS USED –

- General Health Questionnaire (GHQ).
- Game Addiction Inventory for Adults (GAIA)
- Neo Five Factor Inventory (NEO FFI) Form-S.
- State-Trait Anger Expression Inventory-2 (STAXI-2).

SAMPLE – The total sample size was 90. The participants were first screened with the help of Game Addiction Inventory for Adults (GAIA- Wong, Ulric, Hodgins, David Carson 2013). In the present study, out of 90 participants, 45 were male participants and 45 were female participants. There were three groups of video game addiction (no problem, mild to moderate problem and significant problem). Each group had 30 participants. Males and Females were equally divided in each group.

SAMPLING TECHNIQUE – Purposive sampling technique was used to pool data. The sample was selected carefully from different sources. Participants with video game addiction were selected from social networking sites, colleges, universities and neighborhood. They were screened on the basis of GAIA scores.

INCLUSION CRITERIA –

1. Participants were within the age range of 18-25.
2. Participants were both male and female.
3. Participants were a student.
4. Participants were from urban residence.

EXCLUSION CRITERIA –

1. Those who are from rural residence.
3. Those who have any history of psychiatric illness. (Based on information schedule)
4. Those who have any history of major physical illness. (Based on information schedule)

METHOD OF DATA COLLECTION –

- Participants were selected using the purposive sampling technique.
- For the present study, a total of 90 young adults (45 males and 45 females) were taken on the basis of the inclusion and exclusion criteria. The Game addiction inventory for adults (GAIA), the Neo-5 Personality Inventory, and the State-Trait-Anger expression inventory (STAXI-2) were used to measure the selected variables.

- The participants were provided information about the aim and objectives of the research. They were told that the data they provided would be kept confidential and used for research.
- They were provided with the total booklet containing the information schedule and four different questionnaires. The questionnaires included: General Health Questionnaire (GHQ), Game Addiction Inventory for Adults (GAIA), Neo Five Factor Inventory (NEO FFI) Form-S and State-Trait Anger Expression Inventory-2 (STAXI-2).
- Participants took 30-40 minutes to fill up the booklet on average.
- Following data collection, the responses were scored according to the procedures given in the manuals.

STATISTICAL ANALYSIS – The data was subjected to appropriate statistical analysis using the "Statistical Package for Social Sciences" (S.P.S.S).
The tests used to analyses the data was-

1. Mean and Standard Deviation for different variables were computed.
2. Factorial Design (3*2) ANOVA to obtain the significant difference between groups and their interaction effects i.e., (gender, video game addiction) on personality dimensions and aggression.
3. To find out the relative contributing variables on video game addiction, step wise multiple regression analysis (SMRA) was done

For analysis, 0.05 and 0.01 levels of significance were accepted.

IV. RESULTS AND DISCUSSION

TABLE 1. – Table representative of Means and Standard Deviation of personality factors for the both Gender with Video Game Addiction (TABLE 1.1 for Males and TABLE 1.2 for Females).

TABLE 1.1 – Table representative of Means and Standard Deviations for Males for different personality dimensions with respect to video game addiction.

VARIABLES	LEVELS OF VIDEO GAME ADDICTION	MEAN	STANDARD DEVIATION
NEUROTICISM	No problem	19.86	4.58
	Mild to Moderate problem	20.66	4.86
	Significant problem	22.67	4.30
EXTRAVERSION	No problem	27.73	4.11
	Mild to Moderate problem	28.63	5.86
	Significant problem	28.66	7.27
OPENNESS TO EXPERIENCE	No problem	24.20	4.60
	Mild to Moderate problem	25.60	4.53
	Significant problem	25.86	5.65
AGREEABLENESS	No problem	25.60	5.85
	Mild to Moderate problem	26.73	5.13
	Significant problem	26.86	5.39
CONSCIENTIOUSNESS	No problem	31.20	5.25
	Mild to Moderate problem	27.66	5.85
	Significant problem	28.53	5.87

TABLE 1.2 – Table representative of Means and Standard Deviations for Females for different personality dimensions with respect to video game addiction.

VARIABLES	LEVELS OF VIDEO GAME ADDICTION	MEAN	STANDARD DEVIATION
NEUROTICISM	No problem	20.73	4.21
	Mild to Moderate problem	24.46	3.88
	Significant problem	25.46	3.79
EXTRAVERSION	No problem	27.86	5.34
	Mild to Moderate problem	28.66	4.15
	Significant problem	31.86	6.54
OPENNESS TO EXPERIENCE	No problem	24.00	1.73
	Mild to Moderate problem	25.20	3.60
	Significant problem	26.86	4.01
AGREEABLENESS	No problem	26.46	3.83
	Mild to Moderate problem	26.66	3.40
	Significant problem	27.33	3.59
CONSCIENTIOUSNESS	No problem	32.66	2.999
	Mild to Moderate problem	25.13	6.05
	Significant problem	27.13	3.27

Table 1.1 and Table 1.2 indicate that the males and females participants with video game addiction (mild to moderate problem and significant problem) scored high on the neuroticism trait. These male and female participants were prone to various psychological stresses. They may have less coping strategies. From the information schedule, it has been obtained that males and females prefer to play video games to reduce their stress. With this reference, it can be said that video games act as a coping strategy for problematic video gamers.

The males and females under the groups (mild to moderate problem and significant problem) possessed a high level of the extraversion traits. It can be said that these participants may tend to get stimulated. They liked the company of others.

The males and females participants under the groups (mild to moderate problem and significant problem) possessed a high level of openness to experience trait. It means that these participants were fond of arts, adventure, imagination, and curiosity.

Also, the males and females participants under the groups (mild to moderate problem and significant problem) possessed a high level of the agreeableness trait. This means these people were friendly.

The males and females participant under the groups (mild to moderate problem and significant problem) possessed a low level of the conscientiousness trait. These participants were carefree and less conscious about their tasks.

TABLE 2. – Table representative of Means and Standard Deviation of aggression for the both Gender with video game addiction (TABLE 2.1 for Males and TABLE 2.2 for Females).

TABLE 2.1 – Table representative of Means and Standard Deviations for the Males for aggression with respect to video game addiction.

VARIABLES	LEVELS OF VIDEO GAME ADDICTION	MEAN	STANDARD DEVIATION
STATE ANGER	No problem	16.40	2.06
	Mild to Moderate problem	16.20	1.74
	Significant problem	16.62	2.23
TRAIT ANGER	No problem	20.20	3.44
	Mild to Moderate problem	25.20	6.93
	Significant problem	25.73	6.51
ANGER EXPRESSION INDEX	No problem	42.06	7.73
	Mild to Moderate problem	43.73	8.96
	Significant problem	44.06	10.11

TABLE 2.2 – Table representative of Means and Standard Deviations for the Females for aggression with respect to video game addiction.

VARIABLES	LEVELS OF VIDEO GAME ADDICTION	MEAN	STANDARD DEVIATION
STATE ANGER	No problem	15.46	0.07
	Mild to Moderate problem	15.71	0.99
	Significant problem	16.00	1.06
TRAIT ANGER	No problem	16.40	2.84
	Mild to Moderate problem	18.93	3.43
	Significant problem	19.33	3.51
ANGER EXPRESSION INDEX	No problem	38.63	8.96
	Mild to Moderate problem	39.53	4.13
	Significant problem	40.06	2.18

Table 2.1 and Table 2.2 show that the individuals who had video game addiction at a problematic level scored high on trait anger and anger expression index domain. It might signify that these participants experienced more angry feelings and have difficulty controlling anger than the participants classified under the 'no problem' group of the video game addiction domain. While comparing the values of aggression between male participants and female participants with video game addiction, it has found that males tend to be more aggressive than females.

TABLE 3. – Table representative of F-values obtained from two-way analysis of variance (2/2 showing the significance of groups of video game addiction, gender and their interaction for the personality traits.

VARIABLES	SOURCE OF VARIENCE	F VALUE	SIGNIFICANCE VALUE
NEUROTICISM	GROUP	0.891	0.006**
	GENDERS	7.978	0.414
	INTERACTIONS	5.622	0.005**
EXTRAVERSION	GROUP	0.776	0.463
	GENDERS	1.459	0.230
	INTERACTIONS	1.221	0.300
OPENNESS TO EXPERIENCE	GROUP	1.142	0.324
	GENDERS	0.530	0.469
	INTERACTIONS	0.796	0.454
AGREEABLENESS	GROUP	0.216	0.806
	GENDERS	0.322	0.572
	INTERACTIONS	0.011	0.989
CONSCIENTIOUSNESS	GROUP	7.918	0.001**
	GENDERS	0.211	0.64
	INTERACTIONS	2.023	0.139

*P<0.05 **P<0.01

TABLE 3 shows that –

1. There is a significant mean difference between groups of video game addiction with respect to the conscientiousness.
2. There is a significant mean difference between groups of video game addiction with respect to the neuroticism.
3. There is a significant mean difference in the interaction with respect to the neuroticism.

TABLE 4 – Table representative of F-values obtained from two-way analysis of variance (2/2) showing the significance of groups of video game addiction, gender and their interaction for the aggression.

VARIABLES	SOURCE OF VARIENCE	F VALUE	SIGNIFICANCE VALUE
STATE ANGER	GROUP	0.375	0.689
	GENDERS	5.143	0.026*
	INTERACTIONS	0.735	0.482
TRAIT ANGER	GROUP	3.13	0.049*
	GENDERS	22.668	0.001**
	INTERACTIONS	3.184	0.046*
ANGER EXPRESSION INDEX	GROUP	0.446	0.642
	GENDERS	7.663	0.007**
	INTERACTIONS	0.265	0.767

*P<0.05 **P<0.01

TABLE 4 shows that –

1. There is a significant mean difference between genders with respect to the dimensions of aggression which are state anger, trait anger and anger expression index.
2. There is a significant mean difference between groups of video game addiction, gender and their interaction with respect to trait anger.

The results obtained from the two-way analysis of variance (Table 3) indicate that video game addiction may affect the conscientiousness personality trait. Also, it has been found from the previous Tables (Table 1) that the participants with video game addiction might have a low level of conscientiousness personality trait. Both male and female participants spend more time playing video games; they are careless and less conscious about other tasks. The result obtained from the two-way analysis of variance (Table 4) again showed that video game addiction may effect on aggression. Also, it has been found from the previous Tables (Table 2) that the participants classified under 'mild to moderate problem' and 'significant problem' possessed a higher level of aggression than participants classified under the 'no problem' group of the video game addiction. Many of the participants reported in the information schedule that they preferred to play thriller video games. This finding may support the previous literature that suggests that playing violent video games will increase aggressive behaviour (Craig A. Anderson, Brad J. Bushman, 2001).

TABLE 5 – Table representing step wise multiple regression tables showing the predictor variable and criterion variable in the participants.

Criterion	Predictor	R	R-Square	Adjusted R-Square	F-Value	Significance Value	Beta Coefficient	Durbin-Watson	VIF
Video Game Addiction	Trait Anger	0.304	0.092	0.082	8.954	0.04*	0.304	0.699	1.000

*P<0.05

TABLE 5 shows that –

The trait anger has significantly and positively contributed to video game addiction with R- square value of 0.092. It means 9.2% variance has been explained in this case.

The result indicates that the tendency to play video games, especially to play violent video game, increase aggression. According to APA Task Force on Violent Media, use of violent video game may increase the aggression and decreases the tendency to help others. In many cases, those who lose their game tend to be aggressive and frustrated. Through gaming, a gamer can express their competency.

V. CONCLUSION

Based on the results, the conclusions may be drawn that participants with video game addiction were found to be aggressive. The trait anger had significantly and positively contributed to video game addiction. Participants with problematic gaming scored higher on neuroticism trait this result may indicate that the participants use video games to regulate their negative emotions. Those who were addicted to videogames scored lower on the conscientiousness personality trait. It might be inferred that spending a lot of time playing video games make the participants more careless about their task.

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