GAMING ADDICTION AND AGGRESSIVE BEHAVIOR IN YOUNG ADULTS: A CORRELATIONAL STUDY

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Abstract : This study aimed to explore the potential connection between gaming addiction and aggressive behavior in young adults. A sample of 100 young adults from age range 18 -25 years, including males and females' participants participated in this cross-sectional study were approached by purposive sampling. Correlational research design was employed. The data were collected using two questionnaires: Internet Gaming Disorder Scale (IGDS-SF) and The Buss Perry Aggression Questionnaire (BPAQ). The data was analyzed through Statistical Package for the Social Sciences. The findings revealed a significant positive correlation between gaming addiction and aggressive behavior in young adults. As the severity of gaming addiction increased, so did the frequency of aggressive behavior displayed by the participants. This suggests that individuals with higher levels of gaming addiction are more likely to engage in aggressive actions, both in virtual gaming environments and real-life interactions. The results of this study contribute to the existing literature on gaming addiction and its potential consequences. Understanding the positive correlation between gaming addiction and aggressive behavior in young adults is crucial for developing effective prevention and intervention strategies. By targeting gaming addiction and promoting healthy gaming habits, educators, mental health professionals, and policymakers can mitigate the risk of aggressive behavior among young adults.

KEYWORDS – Gaming Addiction, Aggressive Behavior, Virtual Gaming, Young Adults, Cross-sectional

I. INTRODUCTION

Life revolves around various aspects, and it's crucial to maintain a balance in order to lead a well-rounded life. Excessive indulgence or complete disregard for certain things can disrupt this equilibrium. While overindulgence is often associated with addiction, the term "addiction" itself is open to interpretation. According to Griffiths (1999), addiction can be classified into two types: chemical addiction, which involves extensive substance use, and behavioral addiction, which refers to intense engagement in any behavior. Within behavioral addiction, a subcategory called technological addiction has emerged, encompassing internet or gaming addiction. Some researchers view addiction as a syndrome, while others emphasize intensive involvement in any activity. Shaw and Black (2008) explained the term in relation to excessive internet usage leading to distress. Although different types of addiction may exhibit varying behaviors, they share common neurological responses in the dopamine system. Consequently, extensively pursuing pleasurable activities can

lead to addiction and potentially cause psychosocial disturbances. Computers and mobile phones have become multipurpose gadgets in contemporary society, serving the needs of work, emergencies of any kind and also for the amusement. Today's culture has made video games a common form of entertainment. Nowadays, video games are extremely popular, and both kids and adults love playing them. Playing video games is a popular past time for many individuals. Video games have grown to be a substantial source of entertainment, particularly for kids and adolescents. In many cases, playing video game increases mental activity and increases the tendency to think. However, video game addiction is now a big mental health issue in both children and adults. Game addiction among young adults nowadays has a significant negative impact on their academic performance and social interactions. Also excessive game play has numerous negative impacts on both mental and physical health. Playing games can be done for a variety of reasons. People are frequently persuaded to play video games by family or friends. Many people use video games to relieve stress. Game addiction is also known as game overuse, pathological, or excessive or obsessive use of video and/or computer games.

A. CHARACTERISTICS OF GAMING ADDICTION

One key characteristic is a strong preoccupation with gaming. It's like constantly thinking about and craving gaming, even when you're not playing. It becomes hard to focus on other things because gaming is always on your mind. Another characteristic is the loss of control. You find it difficult to limit or stop gaming, even when you know it's causing negative consequences. It's like you want to stop, but you just can't seem to do it. Withdrawal symptoms can also be a part of gaming addiction. When you can't play games, you may experience things like irritability, restlessness, or even mood swings. It's like your body and mind crave that gaming experience, and when you can't have it, you feel off. Escalation of gaming time is another characteristic. You may find yourself needing more and more hours of gaming to feel satisfied. It's like the amount of time you spend gaming keeps increasing, and you can't seem to get enough. Neglecting other important activities is also common. You may start ignoring schoolwork, neglecting your job, or even distancing yourself from friends and family, all because gaming takes up so much of your time and energy. And finally, despite the negative impacts on your physical or mental health, you continue to game. It's like you're aware that gaming is causing problems, but you still can't bring yourself to stop.

B. Prevalence and Factors of Gaming Addiction

Gaming addiction is a growing concern worldwide. Studies have shown that the prevalence of gaming addiction varies across different countries and populations. In some studies, the prevalence rates range from 1% to 9% among gamers.

Gaming addiction can stem from various factors, each contributing to the potential development of aggressive tendencies. Firstly, the desire to escape real-life stressors and challenges may lead individuals to compulsively engage in gaming, serving as a means of retreat but inadvertently increasing aggressive behavior. Secondly, the reinforcement mechanisms embedded in many video games, rewarding acts of aggression or violence, actively promote and strengthen aggressive conduct. The competitive and confrontational atmosphere of online gaming platforms forms a social environment that encourages the adoption of aggressive actions as strategies for success or dominance. The accessibility and availability of video games also play a role. With the widespread use of smartphones, gaming has become more accessible than ever before. The ease of downloading games and the ability to play them anytime, anywhere can contribute to excessive gaming and addiction. Additionally, gaming may be used as a tool to manage negative emotions like anger or frustration, further contributing to the emergence of aggressive behavior. Peer influences within gaming communities can sway individuals toward aggression in a quest for acceptance or approval. A lack of alternative leisure activities may intensify reliance on gaming, potentially escalating aggressive tendencies. Underlying psychological conditions, such as impulse control or anger management issues, can heighten the risk of developing gaming addiction and subsequent aggressive behavior. Lastly, inadequate parental oversight or restrictions on gaming habits can contribute to the formation of gaming addiction and the subsequent

manifestation of aggressive tendencies in individuals. Addressing these interconnected factors is vital for understanding and mitigating the complex relationship between gaming and aggressive behavior.

Because the individual experiences may vary and are influenced by wide range of events, gaming addiction can happen for a variety of reasons

It's crucial to understand and address these factors to promote a healthier relationships with gaming and maintain positive social interactions.

UNRAVELING THE LINK: EXPLORING THEORIES OF GAMING ADDCTION AND AGRESSIVE BEHAVIOR

CATHARSIS THEORY:

This theory proposes that playing violent video games can serve as a cathartic release for pent-up aggression, thereby reducing real-life aggressive behavior. The idea is that by engaging in virtual acts of aggression, individuals can discharge their aggressive impulses, leading to a decrease in aggressive tendencies. However, research on the effectiveness of catharsis theory in reducing aggression is mixed, with some studies suggesting that it may not be a reliable mechanism.

GENERAL AGGRESSION MODEL (GAM):

This theory suggests that exposure to violent video games can lead to an increase in aggressive thoughts, feelings, and behaviors. According to GAM, repeated exposure to violent content can prime aggressive thoughts and emotions, which can then influence behavior. It takes into account both short-term and long-term effects, highlighting the cumulative impact of gaming on aggression.

SOCIAL LEARNING THEORY:

This theory emphasizes the role of observational learning and imitation in shaping behavior. According to social learning theory, individuals learn behaviors by observing others, including characters in video games. Exposure to aggressive behavior in video games can potentially lead to the imitation of such behavior in real life. This theory highlights the importance of media influences and the potential for video games to shape social behavior.

SELF-DETERMINATION THEORY:

This theory focuses on the psychological needs that individuals seek to fulfill. It suggests that gaming addiction may occur when individuals turn to gaming as a means to satisfy unmet psychological needs such as autonomy, competence, and relatedness. When these needs are not fulfilled in real life, individuals may excessively engage in gaming, which can lead to addiction and potentially contribute to aggressive behavior.

EXCITATION TRANSFER THEORY:

This theory explores the transfer of physiological arousal from one situation to another. Intense and arousing video games can increase physiological arousal, which, if not properly managed or released, may carry over into real-life situations. This heightened arousal can potentially intensify aggressive behavior, especially if individuals encounter provoking situations shortly after gaming

Some of the review papers are as follows:

Andrew K. Przybylski (2020): focuses gaming addiction and its effects on well-being emphasizes the importance of distinguishing between enthusiastic engagement in gaming and problematic gaming behaviors. His work suggests that negative consequences are more closely linked to the extent of gaming rather than the act of gaming itself. While Przybylski's research doesn't directly address aggressive behavior, it underscores

the significance of responsible gaming habits and moderation to maintain overall well-being and prevent potential negative outcomes associated with excessive gaming.

Agarwal, V., Srivastava, A., Bharti, A.(2020): This study likely involved a comprehensive assessment of internet gaming addiction and its relationship with aggressive behavior among young adults in India. The researchers may have used validated scales or questionnaires to measure gaming addiction severity, such as the Internet Gaming Disorder Scale (IGDS) or the Problematic Online Gaming Questionnaire (POGQ). They would have also assessed aggressive behaviors using established measures, such as the Buss-Perry Aggression Questionnaire or the Aggression Questionnaire. By examining the association between gaming addiction and aggression, the study aims to identify potential risk factors and patterns of behavior among young adults in India.

Butet Agustarika, Adriyani Adam (2018) : aimed at analyzing the relationship between gaming addiction and violent behavior in high school students. This study suggested that factors such as biological, psychological, and socio-cultural factors such as gender, age and neurotransmitters are also somehow responsible for the gaming addiction of an individual. This study concluded that there is a significant relationship between the gaming addiction and violent behavior.

Christopher J. Ferguson (2010's): challenged the assumed cause-and-effect relationship between violent video games and real-life aggression. He suggested that factors like pre-existing mental health conditions, family dynamics, and the broader social context have a more significant impact on determining aggressive behavior. He provided a more nuanced perspective on the relationship between violent video games and aggression. Ferguson emphasized that solely focusing on gaming may overshadow these other influential factors.

Craig A. Anderson (2000's): Craig A. Anderson's research in the 2000s examined the impact of violent video games on aggressive behavior. His findings suggested that exposure to violent games could result in heightened aggressive thoughts, feelings, and behaviors in both the short and long term. Anderson's studies emphasized the potential influence of media violence, including gaming, in shaping aggressive tendencies, especially among younger individuals. The studies consistently demonstrated short-term increases in aggression following game play, as well as long-term effects suggesting a potential link between repeated exposure to media violence and the development of aggressive tendencies over time.

Douglas Gentile (2000's): explored the impact of media violence, including video games, on aggressive behavior. His findings indicated that extended exposure to violent video games could result in desensitization to violence and an elevation in aggressive tendencies. This desensitization could potentially lead individuals to display increased aggression in both virtual environments and their interactions with others, particularly children and adolescents, cautioning against the potential negative effects of excessive exposure to violent gaming content.

J Jeroen S. Lemmens, Patti M. Valkenburg and Jochen Peter (2010): aimed to examine the association between pathological gaming and aggressive behavior. They surveyed college students and assessed their levels of pathological gaming and aggressive tendencies. The researchers found a positive correlation between pathological gaming and aggressive behavior. This means that individuals who showed signs of gaming addiction were more likely to display higher levels of aggression. They conducted that there is a significant relationship between both variables. It suggests that excessive gaming , particularly when it reaches the level of addiction, may contribute to increased aggression in this age group.

Jena, R.K., Kishore, J., Bhat, P.S. (2018): This study likely involved a survey or questionnaire administered to high school students in India to assess their level of internet gaming addiction and tendencies

towards aggression. The researchers would have used standardized scales or tools to measure gaming addiction symptoms, such as preoccupation with gaming, withdrawal symptoms, loss of control, and functional impairment. They may have also assessed aggressive behaviors, such as verbal aggression, physical aggression, or hostility. The study would aim to determine if there is a significant correlation between internet gaming addiction and aggression among high school students, providing insights into the potential impact of excessive gaming on behavioral tendencies in this demographic

Mark Griffiths (2010's): is renowned for his research on gaming addiction and is credited with coining the term "Internet Gaming Disorder" to describe problematic gaming behavior. His work sheds light on the psychological aspects of gaming addiction, including withdrawal symptoms, loss of control, and negative consequences on daily life. Although Griffiths's research doesn't primarily focus on aggressive behavior, it highlights the potential disruption of overall well-being caused by gaming addiction. Addressing addictive gaming patterns could indirectly contribute to mitigating aggressive tendencies..

Michelle Colder Carras (2020): combines psychology and public health to explore the effects of video games on behavior. Her work examines the potential benefits of gaming, such as social connection and stress relief, as well as the risks of excessive play. While her research doesn't specifically center on gaming addiction and aggressive behavior, it contributes to a comprehensive understanding of how gaming can influence individuals' behavior, mental health, and overall well-being, encompassing both positive and negative aspects of gaming experiences.

M. S. Gukan and S. Priyadhersini (2024) : investigates the impact of different parenting styles on the development of game addiction and aggression in individuals. The research examines how authoritative, permissive, authoritarian, and neglectful parenting styles contribute to or mitigate tendencies towards gaming addiction and aggressive behaviors. The study aims to provide insights into the role of parenting practices in shaping gaming habits and aggressive tendencies, with potential implications for parenting interventions and strategies to promote healthier behaviors in children and adolescents. The study underscores the importance of authoritative parenting practices that balance structure, warmth, and communication to promote healthy gaming behaviors and reduce aggression in children and adolescents.

Mishra, S.K., Pradhan, M.K. (2019): This study likely involved a comparative analysis between adolescents from urban and rural Indian school settings regarding their gaming behaviors and aggressive tendencies. The researchers may have conducted surveys or interviews to collect data on gaming habits, preferred gaming genres, duration of gaming sessions, levels of gaming addiction, and aggressive behaviors. By examining differences between urban and rural contexts, the study aims to understand how environmental factors, such as access to technology, social influences, and cultural norms, can impact gaming-related behaviors and aggression among adolescents

Netta Weinstein (2020): focuses on the effects of digital technology use, including gaming, on behavior and mental health. Her work highlights the significance of considering individual differences, such as personality traits and psychological well-being, when studying the impact of gaming on behavior. Although her research doesn't specifically center on gaming addiction and aggressive behavior, it contributes to a nuanced understanding of how digital technology, including gaming, can interact with personal factors to shape behavior and mental health outcomes.

Shunyu Li, Zhili Wu, Yuxuan Zhang, Mengmeng Xu, Xiaotong Wang, and Xiaonan Ma (2023): investigates the relationship between internet gaming disorder (IGD) and aggression specifically among teenagers and young adults. The researchers conducted a meta-analysis, which involved analyzing data from multiple existing studies to draw comprehensive conclusions. The study emphasizes the importance of addressing internet gaming disorder as a potential risk factor for aggression, especially among vulnerable

populations like teenagers and young adults. It highlights the need for interventions aimed at promoting healthy gaming habits, fostering positive social interactions, and providing support for individuals exhibiting problematic gaming behaviors.

Verma, R., Gupta, P.K., Singh, S.(2018): This study likely focused on investigating the relationship between gaming addiction and aggressive behavior specifically among college students in India. The researchers may have conducted surveys or assessments to gather data on gaming addiction symptoms, gaming habits, preferred gaming platforms, and aggressive tendencies among college students. They would have used standardized tools or questionnaires to measure gaming addiction severity and aggressive behaviors. The study aims to provide insights into how gaming addiction might influence or contribute to aggressive tendencies among college-aged individuals in India, informing potential interventions or strategies to address these issues.

II. Research Methodology

The study's methodology is covered in this chapter. The following subheadings comprise the chapter:

1. Purpose: The purpose of the study on gaming addiction and aggressive behavior in young adults would be to investigate the potential link between these two factors. To understand the factors leading to these issues, identify risk factors, and assess their impact on mental health. This research aims to develop effective interventions, inform policy-making, and promote healthy gaming habits among young adults, ultimately improving their overall well-being and reducing aggressive behaviors associated with excessive gaming. By studying this relationship, they can gain insights into the potential impact of gaming addiction on aggressive tendencies and explore possible interventions or strategies to address these issues.

2. Hypotheses: H1: There will be a positive relationship between the gaming addiction and aggressive behavior in young adults aged 18 to 25 years.

3. Sample: There are total 100 participants who were selected from different parts of the country. The age ranged from 18 to 25 years , with equal representation of both males and females (i.e. 50 each) participated in this study.

4. Variables:

The following variables were taken for the study:

- **Independent Variable -** Gaming addiction
- **Dependent Variable -** Aggressive behavior

5. Research Design: The Correlational research design has been used in this study. Without modifying or controlling any factors, a correlational study examines the link between two or more variables.

6. Sampling Technique: Sampling technique used was purposive sampling in the study. This is a part of non- probability sampling, the selection process is based on specific criteria or characteristics.

7. Tools used: The tools used in the study are mentioned below:

- **Internet Gaming Disorder Scale (IGDS) (9 items)**
  The Internet Gaming Disorder Scale (IGDS) is a self-report questionnaire designed by Pontes and Griffiths to assess the presence and severity of symptoms related to Internet Gaming Disorder (IGD). It consists of several items that measure various aspects of gaming behavior, such as preoccupation, withdrawal symptoms, loss of control, and negative consequences. It consists of 9 items in which responses were elicited in a five-point Likert scale.

- **Number of items:** There are 9 items.
- **Rating scale:** Each item is elicited in terms of 5-point Likert scale such as Never (1), Rarely (2), Sometimes (3), Often (4), and Very often (5).
- **Reliability:** The reliability of the scale Cronbach Alpha coefficients for the IGDS9-SF have typically ranged from acceptable to excellent (0.80-0.90+), suggesting good reliability.
- **Validity:** The IGDS questionnaire has been found to be a valid tool for assessing Internet Gaming Disorder.

- **Buss Perry Aggressive Questionnaire (BPAQ) (29 items)**

  The Buss Perry Aggression Questionnaire (BPAQ) is a tool used to measure different aspects of aggression in individuals. It consists of several questions that assess various dimensions of aggression, such as physical aggression, verbal aggression, anger, and hostility.

- **Number of items :** There are 29 items.
- **Rating scale:** Each item is elicited in terms of 5 point Likert scale such as (1) extremely uncharacteristic of me, (2) somewhat uncharacteristic of me(3), neither uncharacteristic nor characteristic of me (4) somewhat characteristic of me, and (5) extremely characteristic of me.
- **Reliability:** The reliability of the scale Cronbach's alpha coefficients for the subscales typically range from acceptable to high (e.g., around 0.70 to 0.90), indicating good reliability in measuring different dimensions of aggression.
- **Validity: :** The BPAQ questionnaire has been found to be a valid tool for assessing Aggression levels of individuals.

PROCEDURE:

The method of collecting data as mentioned was done through tools and instruments such as questionnaires and scales for assessing the degree of impact of the variables on the objective of the study. The sample was collected from 100 participants of the age group (18-26 years). The purpose of the study was made clear to the participant. The participants were asked to fill their responses on the given questionnaire. The instruction were given to them and all the queries was resolved. They were assured that their information would be kept confidential throughout the study. After the responses were recorded, scoring was done for calculating correlation using the Statistical Package for the Social Sciences (SPSS).

III. RESULTS AND DISCUSSION

Data was analyzed with the help of SPSS - Statistical Package for Social Sciences.

Table 1

Mean and Standard Deviation of Gaming Addiction and Aggressive Behavior in Young Adults.

VARIABLES	MEAN	STD. DEVIATION	N
Gaming Addiction	17.1700	7.70289	100
Aggressive Behavior	84.1800	17.69060	100

This table presents the mean and standard deviation for the variables of gaming addiction and aggressive behavior in young adults. The sample size taken was 100. The mean of Gaming Addiction is 17.1700 and the standard Deviation for the same variable is 7.70289. The mean of Aggressive Behavior is calculated to be 84.1800 and the Standard Deviation is 17.69060.

Table -2

Correlation Matrix between Gaming Addiction and Aggressive Behavior in Young Adults.

	Gaming Addiction	Aggressive Behavior
Gaming Addiction	1	.309**
Aggressive Behavior	.309**	1

Note . ** *Correlation is significant at the 0.01 level (2-tailed).*

The coefficient between the Gaming Addiction and the Aggressive Behavior scale is ($r = 0.309$), indicating a statistically significant relationship between gaming addiction and aggressive behavior. There is a positive correlation between the two variable. This correlation is statistically significant at the 0.01 level (2-tailed). From this it can be inferred that as the level of gaming addiction increases, there tends to be a corresponding increase in aggressive behavior, and vice-versa. The results suggests that individuals grappling with gaming addiction may employ maladaptive coping mechanisms, such as avoidance and escapism, to navigate stressors. This can result in challenges related to emotional regulation and impulsivity, leading to heightened aggression when faced with real-life challenges or conflicts. Consequently, these individuals may experience difficulties in maintaining positive interpersonal relationships and managing their emotions effectively. Additionally, heightened aggression could be a manifestation of the negative impact of excessive gaming on mental health, including increased stress and impulsivity.

Overall, this suggests that **H1** which is there is a positive correlation between Gaming Addiction and Aggressive Behavior in Young Adults is accepted.

DISCUSSION

The aim of the research paper is to investigate the relationship between gaming addiction and aggressive behavior, particularly focusing on young adults. Through this study, we seek to understand how excessive gaming habits may contribute to or exacerbate aggressive tendencies in individuals. To conduct a rigorous research a sample size of 100 participants evenly distributed between males and females, aged 18-25 years were taken to address the gaming-related issues in young adult populations. A hypotheses was formed that there is a positive correlation between the two variables. After the responses were recorded, scoring was done for calculating correlation using the Statistical Package for the Social Sciences (SPSS). Utilizing tools such as the Internet Gaming Disorder Scale (IGDS-9) with its 9-item assessment of gaming addiction and the Buss Perry Aggression Questionnaire (BPAQ) with its 29-item measurement of aggressive behavior were used to gather comprehensive data on the above mentioned construct.

Table 1, suggests that he mean score for gaming addiction is 17.17 with a standard deviation of 7.70, indicating a relatively high level of engagement with gaming activities on average within the group and a notable degree of variability around the mean. This suggests that participants, on the whole, exhibit considerable tendencies towards gaming addiction, rather than moderate levels. Similarly, the mean score for aggressive behavior is 84.18 with a standard deviation of 17.69, representing a high level of aggressive tendencies observed within the sample and a considerable variability in aggressive behavior among individuals. The statistical data suggests that the levels of both gaming addiction and aggressive behavior among the sample of young adults are higher than moderate, with a notable variability indicating diverse ranges of these behaviors within the group. These findings emphasize the significance of addressing these elevated levels of gaming addiction and aggressive tendencies through targeted interventions and strategies aimed at promoting healthier behaviors and coping mechanisms.

Table 2, The correlation matrix provided indicates a positive and significant correlation between gaming addiction and aggressive behavior among young adults. The correlation coefficient of .309**, significant at the 0.01 level (2-tailed), suggests that as levels of gaming addiction increase, there is a corresponding increase in aggressive behavior, and vice versa. The result of this table suggests that there is a positive correlation between gaming addiction and aggressive behavior. Hence the **Hypotheses 1** was accepted. This correlation underscores the interconnectedness of gaming addiction and aggressive tendencies in individuals' behavior. One interpretation of this correlation is that individuals who exhibit higher levels of gaming addiction may also display characteristics associated with aggression, such as impulsivity, low frustration tolerance, and poor emotional regulation. This may lead to heightened levels of aggressive behavior in various contexts, including interpersonal interactions and competitive gaming environments.

Several studies support this correlation and shed light on the personality traits and behaviors associated with individuals exhibiting higher levels of gaming addiction and aggressive tendencies. For example, a study by Gentile et al. (2011) found that adolescents with high levels of gaming addiction showed increased levels of aggression and hostility compared to their peers. Another study by Ferguson (2015) suggested that exposure to violent video games, often associated with gaming addiction, can contribute to aggressive behavior, especially in individuals already prone to aggression. Additionally, a study by Anderson and Dill (2000) suggested that exposure to violent video games, often associated with gaming addiction, can contribute to aggessive behavior, especially in individuals already prone to aggression.

This discovery presents a significant addition to the field and as we continue to delve deeper into this area, it is imperative to develop comprehensive interventions and support systems that promote healthy gaming habits, address aggressive tendencies, and foster holistic well-being among young adults.

IV. CONCLUSION

In conclusion, the convergence of gaming addiction and aggressive behavior among young adults is a crucial concern in our modern society. Understanding the intricate dynamics between excessive gaming and aggression is vital as digital technologies continue to shape entertainment and social interactions. This evidence highlights the complex interplay of psychological, social, and environmental factors contributing to gaming addiction and its link to aggressive tendencies. Addressing these issues requires a multifaceted approach, including education on digital and media literacy, interventions promoting healthy gaming habits and emotional regulation, and collaboration among stakeholders. By fostering responsible gaming practices and digital well-being, we can empower young adults to engage positively with gaming while mitigating the risks of addiction and aggression.

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