

## Effect of Digital Gaming Addiction on Positive Mental Health of High School Students

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**How to cite this paper as:** Jyoti Mishra, Prof. (Dr.) Sanjeet Kumar Tiwari (2023) Effect of Digital Gaming Addiction on Positive Mental Health of High School Students *Library Progress International*, 3224-3228

**Published:** Received on 12th Oct-2023 | Revised on 17th Oct-2023 | Accepted on 22nd Oct-2023 | Published on 28th Oct-2023

### ABSTRACT

The objective of this study was to analyze the effect of digital gaming addiction on the mental health of high school students. For the present study, a total of 1000 high school students were selected from the Durg district of Chhattisgarh. The sample included 500 male and 500 female students, representing both government and private schools of the district. A stratified random sampling technique was adopted to ensure proper representation of the population. To assess digital gaming addiction among high school students, the DGAS-SSKP prepared by Saini and Kaur was used, while positive mental health was assessed through an inventory prepared by Agashe and Helode (2007). The result reveals that students with a lower magnitude of digital gaming addiction have the highest mean score on positive mental health, followed by those students with average digital gaming addiction levels, while students with high levels of digital gaming addiction have the lowest mean score on positive mental health. The ANOVA statistics confirm that these differences in positive mental health across various levels of digital gaming addiction ( $F=68.95$ ,  $p<.05$ ). In conclusion, digital gaming addiction has a potentially detrimental impact on students' positive mental health, hence increased gaming addiction lowers the positive mental health of high school students. The findings suggest the need for awareness programs in schools to address excessive gaming and its impact on positive mental health..

**KEYWORDS:** Digital gaming addiction, positive mental health, high school

### 1. INTRODUCTION

In the 21st century, digital gaming has been a source of recreation and engagement across all age groups and more so in children and adolescents. Digital gaming is also termed as video or electronic gaming, which involves a variety of computerised platforms and sources such as PC, tablet, smartphones, etc.

The digital games vary as per their complex nature, content, purpose and more sophisticated multi-layer virtual simulations. Digital games work through a human-computer interaction mechanism, wherein the user inputs commands through a controller, keyboard, or touchscreen, which are processed by the game system to provide real-time visual and auditory feedback. This level of interactivity distinguishes digital games from traditional games and passive media forms like television or film (Granic, Lobel, & Engels, 2014).

The inclusion of gaming disorder in ICD-11 is grounded in comprehensive reviews of available scientific evidence and represents a global expert consensus formed through WHO-led technical consultations involving specialists from diverse regions and disciplines.

Research further highlighted the need to establish standardised diagnostic criteria for gaming disorder (WHO, 2018). Recognising gaming disorder in ICD-11 also reflects the growing implementation of treatment programs worldwide targeting symptoms consistent with the disorder.

This inclusion is expected to enhance awareness among healthcare professionals about the risks associated with problematic gaming behaviour and to encourage the development of effective prevention and intervention strategies.

**Original Article**

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A growing body of research has consistently shown that prolonged gaming is associated with several negative outcomes. Psychologically, excessive gaming has been linked to increased levels of anxiety, depression, attention deficits, and emotional dysregulation.

On a physical level, it may contribute to a sedentary lifestyle, resulting in musculoskeletal issues and disturbed sleep patterns. The other main concern is how much it affects the positive mental health of adolescents. Mental health refers to an individual's emotional, psychological, and social well-being, shaping how they think, feel, and behave. It affects how one manages stress, builds relationships, and makes decisions.

The World Health Organization (WHO) defines mental health as a state where a person realises their abilities, can handle everyday stress, work productively, and contribute to their community. From the positive psychology perspective, mental health includes psychological resilience and the pursuit of a meaningful life.

Carol Ryff's (1989) model of psychological well-being outlines six key dimensions: self-acceptance, personal growth, autonomy, life purpose, environmental mastery, and positive relationships. These components focus on optimal human functioning beyond temporary emotional states.

Schneiders (1965) and Chaplin (1975) highlighted that positive mental health involves adjustment, a zest for life, and fulfilment of personal abilities. Similarly, Strupp and Hadley (1977) emphasized self-acceptance and a life philosophy as key indicators.

Hence, keeping the importance of positive mental health in the adolescent period, it was decided to take an unexplored topic of the effect of digital gaming addiction on the positive mental health of high school students

**OBJECTIVES**

1. To analyze the effect of digital gaming addiction on the mental health of high school students.

**HYPOTHESIS**

**H<sub>01</sub>** There is no significant association between digital gaming addiction and positive mental health of high school students.

**2. REVIEW OF LITERATURE:**

Sheetal (2023) reviewed existing tools measuring digital gaming addiction among adolescents, with a focus on gender differences. Findings emphasize the need to consider gender-specific factors when addressing gaming addiction in adolescents.

Karthikeyan et al. (2021) reported that higher gaming issues were linked to more sleep problems.

Singh (2019) highlights the growing concern of excessive digital gaming as a mental health disorder, especially among youth who lose control over time and social life. India's gaming market is rapidly expanding, with games offering a virtual community that often replaces real-world interactions.

**3. METHODOLOGY**

**Sample**

For the present study, a total of 1000 high school students were selected from the Durg district of Chhattisgarh. The sample included 500 male and 500 female students, representing both government and private schools of the district. A stratified random sampling technique was adopted to ensure proper representation of the population.

**Tools:**

**Digital Gaming Addiction Scale :**

To assess digital gaming addiction among high school students, the DGAS-SSKP prepared by Saini and Kaur was used. The construction of the scale was based on parameters such as impaired control over gaming, increasing priority given to gaming ....., continuation and escalation of gaming ... and behaviour pattern of sufficient severity to negatively affect certain areas of functioning. The scale consists of 20 items, and the students' responses can be recorded with a 5-point Rating Scale. The range of scores is between 20 and 100. This scale is highly reliable and valid, with a higher score indicating greater gaming addiction. Norms - Scores of 54 or below are considered a low level of digital gaming, scores in the range of 55-69 denote an average level of digital gaming addiction, and scores equal to or above 70 denote a high level of digital gaming addiction.

**Positive Mental Health Inventory :**

The positive mental health of the selected high school students was evaluated using the Three-Dimensional Positive Mental Health Inventory (PMHI) developed by Agashe and Helode (2007). This instrument comprises 36 items, evenly distributed across three dimensions: Self-Acceptance, Ego Strength, and Philosophy of Life. Each dimension is represented by 12 items. The total score on the PMHI may range from 0 to 36, with higher scores denoting superior levels of positive mental health. The original test–retest reliability coefficient of the inventory was reported as 0.723, thereby indicating satisfactory stability over time.

**Procedure:**

1000 high school students (500 male and 500 female students) from Durg district of Chhattisgarh were selected. The digital gaming addiction scale and positive mental health inventory were administered. The responses were numerically coded, and scores on positive mental health were arranged according to level of digital gaming addiction and analysed using Python open source code.

**4. RESULTS**

**Table 1**

**One-Way ANOVA: Effect of Digital Gaming Addiction on Positive Mental Health of High School Students**

Level of Digital Gaming Addiction	N	Positive Mental Health	
		Mean	S.D.
Low	516	24.00	3.75
Average	318	23.12	3.66
High	166	19.95	4.55

**Table 1(a)**

**ANOVA Summary**

Source	df	Sum of Squares (SS)	Mean Squares (MS)	F	p value
Between Groups	02	2068.532	1034.266	68.95	0.05
Within Groups	997	14954.552	15.000		
Total	999	17023.084			

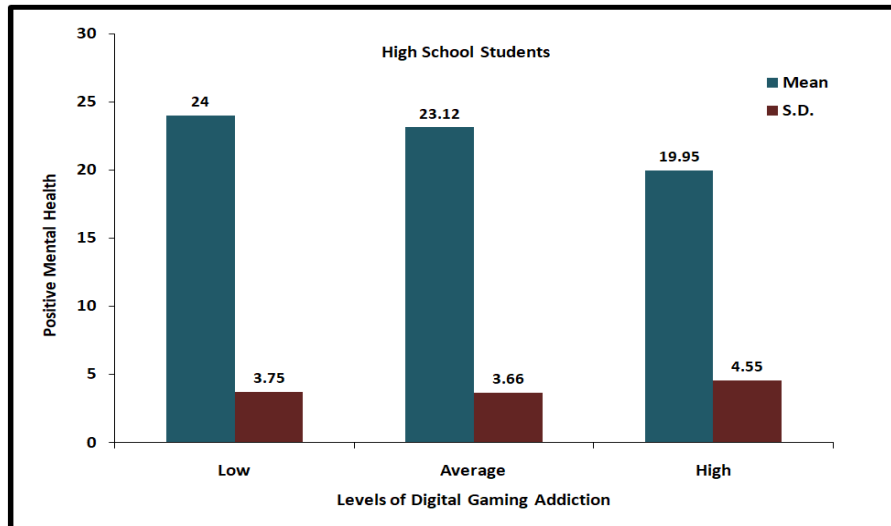
The one-way ANOVA elaborating the effect of digital gaming addiction on positive mental health among high school students shows a significant difference based on three levels of digital gaming addiction. Table 1 reported that students with a lower magnitude of digital gaming addiction have the highest mean score on positive mental health, followed by those students with average digital gaming addiction levels, while students with high levels of digital gaming addiction have the lowest mean score on positive mental health. The ANOVA summary confirms that these differences in positive mental health across various levels of digital gaming addiction ( $F=68.95, p<.05$ )

The ANOVA summary presented in Table 1(a) confirms that the differences between groups are statistically significant. The obtained F-value is significant at the 0.05 level, indicating that the level of digital gaming

addiction has a meaningful effect on students' positive mental health. In other words, as gaming addiction increases, positive mental health tends to decrease.

**Figure 1**

**Bar Chart Showing Positive Mental Health of High School Students based on Levels of Digital Gaming Addiction**



To further examine the nature of these differences, the Least Significant Difference (LSD) post-hoc test was conducted, as shown in Table 1(b).

**Table 1(b)**

**Least Significant Difference Test: Comparing Positive Mental Health Based on Categories of Digital Gaming Addiction in High School Students**

Mean (I)	Mean (J)	Mean Difference (I-J)
Low Digital Gaming Addiction	Average Digital Gaming Addiction	0.88*
	High Digital Gaming Addiction	4.05*
Average Digital Gaming Addiction	High Digital Gaming Addiction	3.17*

\* Significant at .05 level

The results showed that high school students with a low level of digital gaming addiction showed better positive mental health (M=24.00) compared to students belonging to average (M=23.12) and high levels of digital gaming addiction (M=19.95). The post-hoc test reveals a significant mean difference of 0.88 and 4.05, respectively ( $p < 0.05$ ). Similarly, students with an average level of digital gaming addiction have better positive mental health than students with severe addiction to digital gaming (Mean Diff. = 3.17).

Hence, results support a graded relation between digital gaming addiction and positive mental health, i.e. higher the level of digital gaming addiction, the lower the level of positive mental health.

**DISCUSSION:**

The results reveal that high school students with a low level of digital gaming addiction possessed better positive mental health. Positive mental health is not merely the absence of mental illness but about flourishing growth and psychological well-being rather than avoiding it. Positive mental health encompasses self-acceptance, ego strength and philosophy of life. Results can be explained through the compensatory internet use theory of Kardefelt-Winther (2014). Theory suggests that individuals overuse gaming to cope with stressors in real life, but it turns out to be insufficient because excessive gaming reduces family

interaction and social engagement, apart from academic engagements. Hence, excessive digital gaming may induce negative mood states. In other words, students who spend more time on digital games often report lower levels of well-being, self-acceptance, emotional balance, and life satisfaction. Excessive gaming may lead to stress, poor social interactions, reduced academic performance, and even isolation, all of which can undermine positive mental health. Thus, instead of contributing to growth, resilience, or a meaningful sense of life, high engagement in digital gaming may be linked with diminished psychological resources and weaker coping mechanisms.

## **CONCLUSION**

In conclusion, digital gaming addiction has a potentially detrimental impact on students' positive mental health, and increased gaming addiction lowers the positive mental health of high school students. The findings suggest the need for awareness programs in schools to address excessive gaming and its impact on positive mental health.

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