

# From Policy to Behavior: Examining Adolescents' Awareness of the Promotion and Regulation of Online Gaming Act, 2025 and Its Association with Problematic Gaming Behavior and Academic Achievement

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**Abstract :** The rapid growth of online gaming has significantly transformed adolescents' digital lifestyles, raising concerns regarding problematic gaming behaviour, mental health, and academic engagement (World Health Organization, 2019; Kuss & Griffiths, 2012). Recognising these concerns, the Government of India enacted the **Promotion and Regulation of Online Gaming Act, 2025** to establish a regulatory framework for online gaming and address harmful gaming practices (Government of India, 2025). Despite the policy's significance, limited empirical evidence is available regarding adolescents' awareness of the Act and its relationship with problematic gaming behaviour and academic achievement. The present study examines adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and its association with problematic gaming behaviour and academic achievement. A quantitative cross-sectional survey design was employed with **150 students from Classes VII–IX in a selected CBSE school in Aligarh**. Data were collected using a researcher-developed **Awareness Scale on the Promotion and Regulation of Online Gaming Act, 2025 (ASPROG-2025)**, the **Internet Gaming Disorder Scale–Short Form (IGDS9-SF)**, and students' latest academic achievement scores. Descriptive and inferential statistical techniques, including frequency, percentage, mean, standard deviation, Pearson's correlation, and regression analysis, were used to analyse the data. The study provides empirical insights into adolescents' awareness of the emerging regulatory framework and its relationship with problematic gaming behaviour and academic achievement. The findings contribute to educational research and digital citizenship by highlighting the relevance of awareness, responsible digital engagement, and appropriate educational strategies for adolescents.

**IndexTerms** - Online gaming, Promotion and Regulation of Online Gaming Act, 2025, adolescents, problematic gaming behaviour, academic achievement, digital citizenship

## INTRODUCTION

The rapid growth of digital technology has made online gaming a dominant recreational activity among adolescents. While gaming offers entertainment, cognitive benefits, and social interaction, excessive use has emerged as a public health and educational concern, linked to adverse physical, psychological, behavioural, and academic outcomes.

Globally, problematic gaming is associated with poorer health and well-being. Purwaningsih and Nurmala (2021) reported a significant negative relationship between gaming behaviour and adolescent health, while Khor et al. highlighted neurobiological changes affecting reward processing and decision-making due to excessive gaming.

In India, gaming addiction is increasingly prevalent. Amudhan et al. identified it as the most common form of technology addiction among adolescents, Association by individual, family, and school factors. Studies by Singh et al. and Jayalakshmi et al. further link excessive gaming with emotional problems, reduced physical activity, sleep disturbances, and impaired social functioning.

Protective factors have also been identified. Sensua et al. found prolonged gaming duration as a key predictor of Internet Gaming Disorder, while parental monitoring acts as a significant safeguard.

Policy and regulation are gaining importance. Sarkhel emphasized gaps in existing legal frameworks, particularly in child protection and responsible gaming measures. Similarly, Jha et al. highlighted deficiencies in regulation and governance, advocating for stronger oversight mechanisms.

In response, the Government of India introduced the Promotion and Regulation of Online Gaming Act, 2025, aiming to promote responsible gaming, restrict harmful practices, and protect vulnerable users.

Despite growing research, there is limited evidence on adolescents' awareness of this Act and its impact on behaviour. This study addresses this gap by examining adolescents' awareness of the Act and its relationship with responsible gaming behaviour and educational outcomes.

## 1.2 NEED OF THE STUDY.

The rapid spread of internet-enabled devices and affordable connectivity has significantly increased adolescents' engagement with online gaming, making it a dominant form of digital entertainment. While gaming can enhance cognitive skills and social interaction, excessive use has emerged as a serious public health and educational concern. Recognising this, the **World Health Organization (WHO)** classified Gaming Disorder as a behavioural addiction in the *ICD-11*, underscoring the need for early intervention.

Evidence shows a rising prevalence of gaming disorder among adolescents. A meta-analysis of **84 studies (641,763 participants)** reported a global prevalence of **8.6%**, with an increasing trend over time. Purwaningsih and Nurmala (2021) linked problematic gaming to poorer health outcomes, while Khor et al. (2023) found associations with neurobiological changes affecting decision-making and impulse control.

In India, similar patterns are evident. Amudhan et al. (2021) reported **10.69%** technology addiction among adolescents, with **gaming addiction (2.55%)** as the most common subtype. Singh et al. (2021) found links between excessive gaming and emotional and behavioural issues, while Jayalakshmi et al. (2025) reported that nearly **29%** of adolescents met criteria for gaming addiction, accompanied by sleep disturbances, reduced physical activity, and depressive symptoms. Sensua et al. (2025) further identified prolonged gaming as a key risk factor, with parental monitoring acting as a protective factor.

Despite growing evidence on gaming addiction, research on regulatory effectiveness remains limited. Sarkhel (2024) highlighted gaps in India's fragmented regulatory framework, and Jha et al. (2025) pointed to deficiencies in content control and addiction prevention. In response, the Government of India enacted the **Promotion and Regulation of Online Gaming Act, 2025** to regulate gaming and protect minors. However, no study has examined adolescents' awareness of this Act or its Association on gaming behaviour and educational outcomes. Addressing this gap is the focus of the present study.

Existing literature has extensively examined adolescent online gaming in terms of addiction, mental health, behavioural outcomes, academic performance, sleep disturbances, and parental monitoring (Amudhan et al., 2021; Khor et al., 2023; Purwaningsih & Nurmala, 2021; Singh et al., 2021). Policy-focused studies have also emphasized the need for stronger regulatory frameworks, age safeguards, and governance mechanisms in India (Jha et al., 2025; Sarkhel, 2024).

However, a critical gap persists. Following the enactment of the **Promotion and Regulation of Online Gaming Act, 2025**, no empirical study has assessed adolescents' awareness, understanding, or perceived effectiveness of the legislation. Existing research largely focuses on adverse outcomes rather than evaluating whether regulatory interventions Association legal awareness, responsible gaming behaviour, or educational outcomes (World Health Organization [WHO], 2019; Khor et al., 2023).

Moreover, limited research has explored the link between awareness of gaming regulations and factors such as self-regulation, parental monitoring, digital well-being, and academic engagement (Amudhan et al., 2021; Singh et al., 2021). This lack of evidence constrains policymakers and educators in evaluating the reach and impact of the Act.

The present study addresses this gap by examining adolescents' awareness of the **Promotion and Regulation of Online Gaming Act, 2025** and its association with responsible gaming behaviour and educational outcomes, thereby contributing empirical insights to inform policy and educational interventions.

### 1.3 Research Objectives

To examine adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and its association with problematic gaming behaviour and academic achievement..

- To assess the level of awareness of the Promotion and Regulation of Online Gaming Act, 2025 among adolescents.
- To examine the relationship between adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and their problematic gaming behaviour.
- To examine the relationship between adolescents' problematic gaming behaviour and academic achievement.

To examine the relationship between adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and their academic achievement

### 1.4 Research Questions

The present study seeks to address the following research questions:

1. What is the level of awareness of the Promotion and Regulation of Online Gaming Act, 2025 among adolescents?
2. Is there a significant relationship between adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and their problematic gaming behaviour?
3. Is there a significant relationship between adolescents' problematic gaming behaviour and their academic achievement?
4. Is there a significant relationship between adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and their academic achievement?

### 1.5 Research Hypotheses

The study will test the following hypotheses:

#### Null Hypotheses ( $H_0$ )

**$H_{01}$ :** There is no statistically significant relationship between adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and their problematic gaming behaviour.

**$H_{02}$ :** There is no statistically significant relationship between adolescents' problematic gaming behaviour and their academic achievement.

**$H_{03}$ :** There is no statistically significant relationship between adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and their academic achievement.

### 3.1 Population and Sample

KSE-100 index is an index of 100 companies selected from 580 companies on the basis of sector leading and market capitalization. It represents almost 80% weight of the total market capitalization of KSE. It reflects different sector company's performance and productivity. It is the performance indicator or benchmark of all listed companies of KSE. So it can be regarded as universe of the study. Non-financial firms listed at KSE-100 Index (74 companies according to the page of KSE visited on 20.5.2015) are treated as universe of the study and the study have selected sample from these companies.

The study comprised of non-financial companies listed at KSE-100 Index and 30 actively traded companies are selected on the bases of market capitalization. And 2015 is taken as base year for KSE-100 index.

### 3.2 Data and Sources of Data

For this study secondary data has been collected. From the website of KSE the monthly stock prices for the sample firms are obtained from Jan 2010 to Dec 2014. And from the website of SBP the data for the macroeconomic variables are collected for the period of five years. The time series monthly data is collected on stock prices for sample firms and relative macroeconomic variables for the period of 5 years. The data collection period is ranging from January 2010 to Dec 2014. Monthly prices of KSE - 100 Index is taken from yahoo finance.

### 3.3 Theoretical framework

Variables of the study contains dependent and independent variable. The study used pre-specified method for the selection of variables. The study used the Stock returns are as dependent variable. From the share price of the firm the Stock returns are calculated. Rate of a stock salable at stock market is known as stock price.

## RESEARCH METHODOLOGY

### 3. Methodology

#### 3.1 Research Design

The study employed a quantitative cross-sectional survey design to assess adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025 and examine its association with problematic gaming behaviour and academic achievement. Data were collected from 150 adolescents studying in Classes VII to IX in selected CBSE schools in Aligarh using a structured questionnaire on the Promotion and Regulation of Online Gaming Act, 2025, the Internet Gaming Disorder Scale–Short Form (IGDS9-SF) developed by Pontes and Griffiths (2015), and students' latest academic achievement (percentage/grade).

The study focused on three major variables: awareness of the Promotion and Regulation of Online Gaming Act, 2025, problematic gaming behaviour, and academic achievement. The collected data were analysed using descriptive and inferential statistical techniques to examine the relationships among these variables.

Awareness Scale on the Promotion and Regulation of Online Gaming Act, 2025 (ASPROG-2025)

A researcher-developed Awareness Scale on the Promotion and Regulation of Online Gaming Act, 2025 (ASPROG-2025) was used to assess adolescents' awareness of the Act. The scale consists of 12 statements covering awareness of the Act, its objectives, protection of children and adolescents, regulation of online gaming activities, responsible gaming practices, and sources of authentic information regarding the legislation.

Each statement was rated on a five-point Likert scale: The total awareness score ranges from 12 to 60, with higher scores indicating a higher level of reported awareness.

| Score Range | Level of Awareness |
|-------------|--------------------|
| 12–28       | Low Awareness      |
| 29–44       | Moderate Awareness |
| 45–60       | High Awareness     |

These categories are based on the scoring framework used in the present study.

Internet Gaming Disorder Scale–Short Form (IGDS9-SF)

Problematic gaming behavior was assessed using the Internet Gaming Disorder Scale–Short Form (IGDS9-SF) developed by Pontes and Griffiths (2015). The scale consists of nine items assessing symptoms associated with Internet Gaming Disorder. Higher scores indicate greater severity of problematic gaming symptoms. Each item is scored on a five-point response scale. Since the instrument consists of nine items, the total score ranges from 9 to 45. The IGDS9-SF score was used as a measure of problematic gaming behavior and was not treated as a clinical diagnosis.

#### 3.2 Statistical Analysis

The collected data were analyzed using appropriate descriptive and inferential statistical techniques. Frequency and percentage were used to describe the demographic characteristics and distribution of respondents. Mean and standard deviation were calculated for awareness, problematic gaming behavior, and academic achievement.

The internal consistency of the research instruments was assessed using Cronbach's alpha. Pearson's Product-Moment Correlation was used to examine the relationships between:

1. awareness of the Promotion and Regulation of Online Gaming Act, 2025 and problematic gaming behaviour;
2. problematic gaming behaviour and academic achievement; and
3. awareness of the Promotion and Regulation of Online Gaming Act, 2025 and academic achievement.

Regression analysis was additionally used to examine the predictive relationships among the study variables, where appropriate. The hypotheses were tested at the 0.05 level of significance.

### 3.3 Academic Achievement

Students' latest academic achievement (percentage/grade) was recorded and used as the measure of academic achievement. The academic achievement scores were subsequently analyzed in relation to adolescents' awareness of the Act and problematic gaming behavior.

## IV. RESULTS AND DISCUSSION

This chapter presents the study's findings derived from data collected from 150 adolescents enrolled in Classes VII to IX at a selected CBSE school in Aligarh. The analysis focused on adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025, their problematic gaming behavior, and academic performance. Both descriptive and inferential statistical methods were used to explore the distribution of study variables and the relationships among them.

The analysis includes demographic details of the participants, the reliability of research tools, descriptive statistics, levels of awareness, correlation analysis, regression analysis, and hypothesis testing.

### 4.2 Participant Demographics

The study involved 150 adolescents, with demographic variables including gender and class.

| Variable | Category | Frequency (n) | Percentage (%) |
|----------|----------|---------------|----------------|
| Gender   | Male     | 100           | 66.67          |
|          | Female   | 50            | 33.33          |
| Class    | VII      | 46            | 30.67          |
|          | VIII     | 50            | 33.33          |
|          | IX       | 54            | 36.00          |
| Total    |          | 150           | 100.00         |

**Table 4.1:** Demographic Characteristics of Participants (N = 150)

### 4.3 Reliability of Measurement Instruments

The internal consistency of the Awareness Scale on the Promotion and Regulation of Online Gaming Act, 2025 (ASPROG-2025) and the Internet Gaming Disorder Scale – Short Form (IGDS9-SF) was evaluated using Cronbach's alpha.

| Instrument  | Number of Items | Cronbach's Alpha ( $\alpha$ ) |
|-------------|-----------------|-------------------------------|
| ASPROG-2025 | 12              | 0.889                         |
| IGDS9-SF    | 9               | 0.868                         |

**Table 4.2:** Internal Consistency of Instruments

Both instruments showed good to high reliability, with  $\alpha$  values well above the acceptable threshold of 0.70, confirming the internal consistency of the scales.

### 4.4 Descriptive Statistics

Descriptive statistics for awareness of the Act, problematic gaming behaviour, and academic achievement are summarized below.

| Variable                                | Mean (M) | Standard Deviation (SD) | Minimum | Maximum |
|-----------------------------------------|----------|-------------------------|---------|---------|
| Awareness of the Act (ASPROG-2025)      | 35.67    | 9.89                    | 14      | 56      |
| Problematic Gaming Behaviour (IGDS9-SF) | 25.17    | 7.74                    | 11      | 39      |
| Academic Achievement (%)                | 61.97    | 18.93                   | 31      | 96      |

**Table 4.3:** Descriptive Statistics for Key Variables (N = 150)

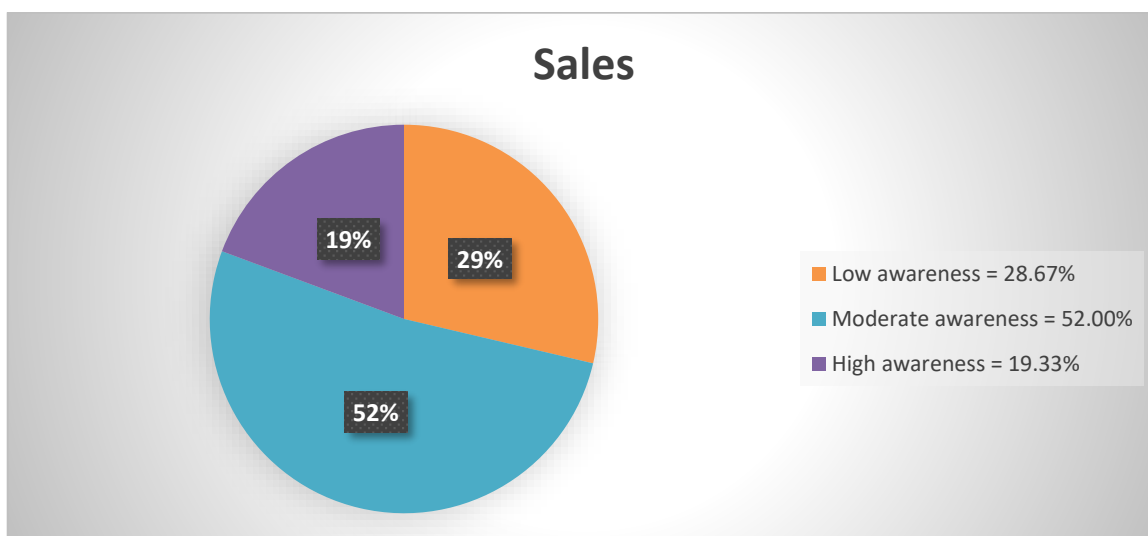
The results indicate moderate awareness levels and notable variation in problematic gaming symptoms. Academic achievements spanned a broad range, reflecting diverse performance levels.

#### 4.5 Levels of Awareness of the Promotion and Regulation of Online Gaming Act, 2025

The ASPROG-2025 scores were categorized into three levels for analysis: low (12–28), moderate (29–44), and high (45–60) awareness.

| Awareness Level | Score Range | Frequency (n) | Percentage (%) |
|-----------------|-------------|---------------|----------------|
| Low             | 12–28       | 43            | 28.67          |
| Moderate        | 29–44       | 78            | 52.00          |
| High            | 45–60       | 29            | 19.33          |
| Total           |             | 150           | 100.00         |

**Table 4.4:** Awareness Level Distribution



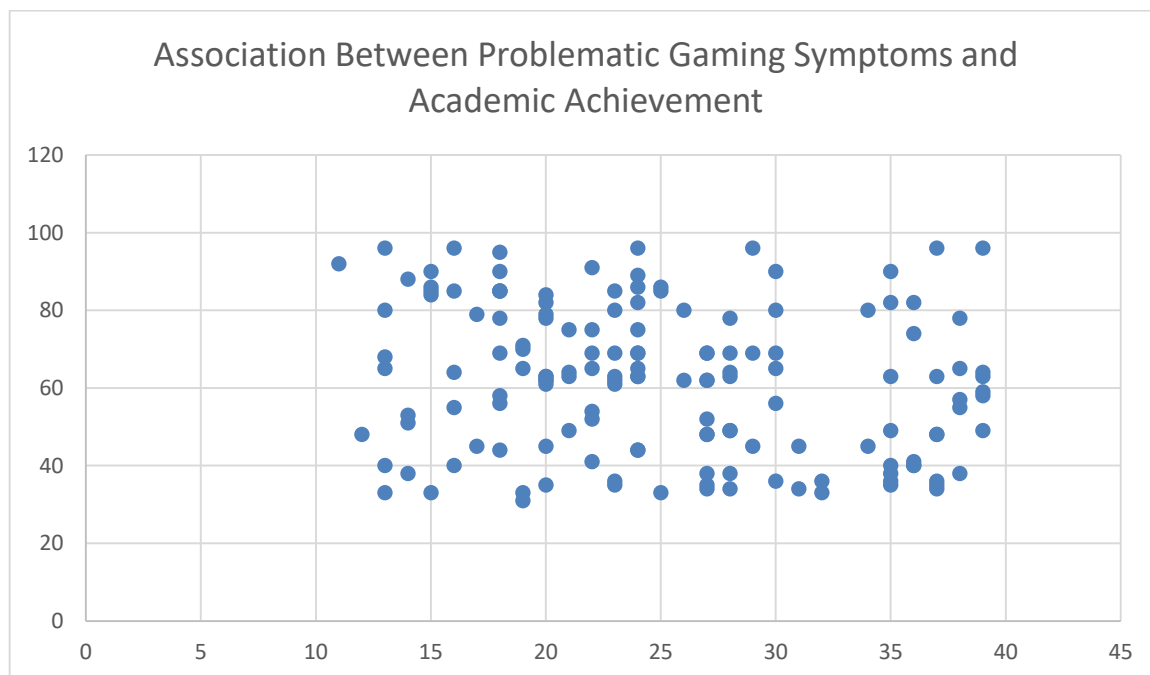
Most participants (52%) showed moderate awareness, while less than one-fifth (19.33%) exhibited high awareness, indicating room for improvement in awareness of the legislation.

#### 4.6 Problematic Gaming Behaviour

Problematic gaming behaviour, assessed via IGDS9-SF scores treated as continuous variables, showed the following characteristics:

| Statistic          | Value |
|--------------------|-------|
| Mean               | 25.17 |
| Standard Deviation | 7.74  |
| Minimum            | 11    |
| Maximum            | 39    |

**Table 4.5:** Problematic Gaming Behaviour Scores



**Figure 4.2: Association Between Problematic Gaming Symptoms and Academic Achievement**

Scores demonstrate a wide range of severity in gaming-related problems among participants.

#### 4.7 Correlational Analysis

Pearson correlation coefficients were calculated to assess relationships among awareness, problematic gaming behaviour, and academic achievement.

| Variable                        | 1         | 2        | 3    |
|---------------------------------|-----------|----------|------|
| 1. Awareness of the Act         | 1.00      |          |      |
| 2. Problematic Gaming Behaviour | -0.353*** | 1.00     |      |
| 3. Academic Achievement         | 0.060     | -0.214** | 1.00 |

**Table 4.6: Correlation Matrix** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$

A statistically significant negative association was observed between awareness of the Act and problematic gaming behaviour between awareness and problematic gaming behaviour, suggesting higher awareness associates with fewer problematic gaming symptoms. Problematic gaming also negatively correlated with academic achievement, indicating that more severe gaming problems corresponded with lower academic performance. No significant relationship was observed between awareness and academic achievement.

#### 4.8 Regression Analyses

##### 4.8.1 Predicting Problematic Gaming Behaviour

A simple linear regression showed that awareness significantly predicted problematic gaming behaviour ( $\beta = -0.353$ ,  $p < 0.001$ ), explaining 12.5% of its variance.

| Statistic               | Value  |
|-------------------------|--------|
| R                       | 0.353  |
| R <sup>2</sup>          | 0.125  |
| Adjusted R <sup>2</sup> | 0.119  |
| F (1, 148)              | 21.10  |
| p                       | <0.001 |

**Table 4.7: Regression Summary for Problematic Gaming Behaviour**

#### 4.8.2 Predicting Academic Achievement

Multiple regression including awareness and problematic gaming as predictors revealed a significant model ( $p = 0.031$ ) explaining 4.6% of variance in academic achievement. Problematic gaming was a significant negative predictor ( $\beta = -0.220$ ,  $p = 0.012$ ), whereas awareness was not significant ( $\beta = -0.017$ ,  $p = 0.830$ ).

| Predictor          | B      | SE B  | $\beta$ | t     | p     |
|--------------------|--------|-------|---------|-------|-------|
| Constant           | 76.823 | 9.340 | —       | 8.22  | <.001 |
| Awareness          | -0.035 | 0.164 | -0.017  | -0.22 | 0.830 |
| Problematic Gaming | -0.540 | 0.211 | -0.220  | -2.56 | 0.012 |

**Table 4.8:** Multiple Regression Predicting Academic Achievement

#### 4.9 Hypothesis Testing

At the 0.05 significance level, the hypotheses were tested with the following outcomes:

| Hypothesis                                                                            | Result       | p-value | Decision     |
|---------------------------------------------------------------------------------------|--------------|---------|--------------|
| H <sub>01</sub> : No relationship between awareness and problematic gaming behaviour  | $r = -0.353$ | <0.001  | Rejected     |
| H <sub>02</sub> : No relationship between problematic gaming and academic achievement | $r = -0.214$ | 0.008   | Rejected     |
| H <sub>03</sub> : No relationship between awareness and academic achievement          | $r = 0.060$  | 0.469   | Not rejected |

**Table 4.9:** Summary of Hypothesis Testing

- H<sub>01</sub> was rejected, indicating a significant negative relationship between awareness and problematic gaming behaviour.
- H<sub>02</sub> was rejected, confirming a significant negative relationship between problematic gaming behaviour and academic achievement.
- H<sub>03</sub> was not rejected, as no significant relationship was found between awareness and academic achievement.

## CHAPTER 5

### DISCUSSION, IMPLICATIONS AND CONCLUSION

#### 5.1 Discussion

The study examined adolescents' awareness of the Promotion and Regulation of Online Gaming Act, 2025, problematic gaming behaviour, and academic achievement among 150 students of Classes VII–IX. Overall awareness was moderate. Awareness was significantly and negatively associated with problematic gaming behaviour, while problematic gaming behaviour showed a significant negative association with academic achievement. However, awareness of the Act was not significantly related to academic achievement.

##### 5.1.1 Awareness of the Act

A majority of respondents (52.00%) demonstrated moderate awareness, while only 19.33% showed high awareness. This indicates that adolescents have some knowledge of the emerging regulatory framework but lack comprehensive understanding. Given the recent introduction and implementation of the Act and its associated Rules, schools should provide age-appropriate information on online gaming regulations and responsible digital behaviour.

##### 5.1.2 Awareness and Problematic Gaming

Awareness was significantly and negatively associated with problematic gaming behaviour ( $r = -.353$ ,  $p < .001$ ) and significantly predicted it, explaining approximately **12.5% of the variance**. This suggests that greater awareness may be associated with fewer problematic gaming symptoms. However, the cross-sectional design does not permit causal conclusions.

##### 5.1.3 Problematic Gaming and Academic Achievement

Problematic gaming behaviour showed a significant negative association with academic achievement ( $r = -.214$ ,  $p = .008$ ) and significantly predicted academic achievement ( $\beta = -.220$ ,  $p = .012$ ). However, the model explained only **4.6% of the variance**, indicating that academic achievement is influenced by several factors beyond gaming behaviour.

##### 5.1.4 Awareness and Academic Achievement

No significant relationship was found between awareness and academic achievement ( $r = .060$ ,  $p = .469$ ). Awareness also did not significantly predict academic achievement ( $\beta = -.017$ ,  $p = .830$ ). This suggests that knowledge of gaming regulations alone does not directly translate into better academic outcomes. Academic achievement is multidimensional and influenced by motivation, learning habits, family environment, school climate and other psychosocial factors.

#### 5.2 Overall Interpretation

The findings indicate that policy awareness is more closely associated with **gaming behaviour than with academic achievement directly**. Awareness may therefore represent an indirect or proximal factor influencing digital behaviour. However, longitudinal research is required to establish causal pathways.

### 5.3 Educational Implications

The findings suggest the need for:

- **Digital Citizenship Education:** Integrate gaming regulations, responsible gaming and digital decision-making into school programmes.
- **Preventive Interventions:** Promote self-regulation, balanced screen use and healthy digital habits.
- **Teacher and Counsellor Support:** Identify students experiencing persistent gaming-related difficulties or declining academic engagement.
- **Parental Involvement:** Strengthen parental awareness and constructive monitoring of adolescents' gaming habits.
- **Accessible Policy Communication:** Translate complex gaming regulations into simple, adolescent-friendly educational resources.

### 5.4 Policy Implications

The study indicates that legislation should be accompanied by effective awareness and educational strategies. Policy implementation should include:

- school-based awareness programmes;
- age-appropriate digital-literacy resources;
- parental awareness initiatives;
- responsible-gaming education; and
- support mechanisms for adolescents showing problematic gaming symptoms.

### 5.5 Conclusion

The study found **moderate awareness** of the Promotion and Regulation of Online Gaming Act, 2025 among adolescents. Greater awareness was significantly associated with lower problematic gaming behaviour, while problematic gaming was associated with lower academic achievement. However, awareness itself had no significant direct relationship with academic achievement.

The findings highlight the importance of combining regulatory awareness with **digital citizenship, self-regulation and responsible-gaming education**. Schools, parents and policymakers should work together to help adolescents convert knowledge of gaming regulations into responsible digital behaviour.

### 5.6 Limitations

The study was limited by its cross-sectional design, selected sample of 150 adolescents from a CBSE school in Aligarh, reliance on self-reported data, and use of a researcher-developed ASPROG-2025 instrument requiring further validation. Further, general problematic gaming behaviour should not be equated with the specific category of online money gaming addressed by the Act.

### 5.7 Suggestions for Future Research

Future research should use **larger, geographically diverse and longitudinal samples** to examine changes in awareness and gaming behaviour over time. Studies should also investigate the roles of **parental monitoring, self-regulation, digital well-being and peer influence**, and compare adolescents across different regions and school boards in India.

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