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Cognitive Distortions and Suicidal Ideation in the Digital Age: A Study of Gaming-Addicted Adolescents in Tripura, India

Debanjana Mukherjee[1*],Dr. Amrita Banerjee[2]

[1*]Research Scholar ,ICFAI University Tripura. debanjanamukherjee72@gmail.com
[2]Assistant Professor , ICFAI University Tripura. amritabanerjee@iutripura.edu.in

Abstract
The rapid expansion of digital gaming among adolescents has raised increasing concerns regarding its psychological consequences, particularly when gaming becomes addictive. Internet Gaming Disorder (IGD) has been associated with emotional distress and suicidal ideation, yet the cognitive mechanisms underlying this association remain insufficiently explored. The present study investigates the role of cognitive distortions as predictors of suicidal ideation among gaming-addicted adolescents. Using a cross-sectional design, data were collected from 100 adolescents aged 13–18 years who reported problematic gaming behavior. Standardized measures assessing internet gaming disorder, cognitive distortions, and suicidal ideation were administered. Pearson correlation analysis revealed a significant positive relationship between cognitive distortions and suicidal ideation. Hierarchical multiple regression analysis demonstrated that cognitive distortions significantly predicted suicidal ideation even after controlling for gaming addiction severity. The findings highlight maladaptive cognitive processing as a critical psychological vulnerability factor among gaming-addicted adolescents and underscore the need to integrate cognitive and mental health components within informatics education and digital well-being initiatives.

Keywords: *internet gaming disorder, cognitive distortions, suicidal ideation, adolescents, digital behaviour.*

Introduction

Digital gaming has become an integral component of adolescents' daily lives, driven by advances in information technology, mobile accessibility, and online social platforms. While gaming may enhance cognitive skills and social engagement, excessive and uncontrolled gaming has increasingly been linked to adverse psychological outcomes. Recognizing these risks, the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) identified *Internet Gaming Disorder* (IGD) as a condition warranting further study (American Psychiatric Association, 2013).

Empirical research consistently demonstrates associations between problematic gaming and depression, anxiety, loneliness, and suicidal ideation among adolescents. Large-scale longitudinal studies suggest that adolescents following high-risk trajectories of addictive gaming are significantly more likely to report suicidal thoughts and behaviors than their peers (JAMA Network, 2024). However, behavioural severity alone does not fully explain suicidal vulnerability, pointing to the importance of underlying psychological mechanisms.

Cognitive distortions—systematic errors in thinking such as catastrophizing, overgeneralization, and personalization—are central to cognitive theories of psychopathology and suicide. Adolescents with distorted cognitive patterns tend to interpret experiences in excessively negative ways, increasing emotional distress and hopelessness. In the context of gaming addiction, cognitive distortions may intensify reliance on gaming as an escape while simultaneously amplifying suicidal ideation.

From an informatics education perspective, understanding how digital behaviors interact with cognitive vulnerabilities is essential. As educational systems increasingly integrate technology into learning environments, addressing the psychological risks associated with problematic gaming becomes a critical concern. The present study examines cognitive distortions as a psychological

predictor of suicidal ideation among gaming-addicted adolescents, addressing a notable gap in the literature.

Literature Review

2. Internet Gaming Disorder and Suicidal Ideation

Internet Gaming Disorder has been widely associated with adverse mental health outcomes in adolescents. Cross-sectional and longitudinal studies consistently report that adolescents with IGD exhibit higher levels of depressive symptoms, anxiety, and suicidal ideation compared to non-problematic gamers (Lee et al., 2023). Importantly, these associations persist even after controlling for general screen time, indicating that addiction-related patterns, rather than mere exposure, are central to psychological risk.

Xie et al. (2023), in a large study of Chinese adolescents, found that IGD was significantly associated with suicidal ideation, with negative emotions partially mediating this relationship. Similarly, Chen et al. (2024) reported that psychosocial problems such as poor coping and emotional distress explained the link between IGD and suicidal ideation. These findings suggest that emotional and cognitive vulnerabilities may play critical roles in translating gaming addiction into suicidal risk.

Population-based studies further demonstrate that adolescents meeting IGD criteria are more likely to report suicidal thoughts, self-harm behaviors, and suicide attempts than non-IGD peers (Lee et al., 2023). This growing body of evidence positions IGD as a significant risk factor for adolescent suicidality.

2.2 Cognitive Distortions and Adolescent Psychopathology

Cognitive distortions are well-established predictors of depression and suicidal ideation in adolescents. Cognitive models propose that distorted thinking patterns foster negative self-evaluation, hopelessness, and impaired problem-solving, all of which increase suicide risk. Adolescents who engage in catastrophizing or overgeneralization are more likely to perceive stressors as overwhelming and inescapable.

Recent research has extended these findings to digital behavior contexts. Şenormancı et al. (2022) found that adolescents with higher levels of internet addiction exhibited significantly greater cognitive distortions, particularly selective abstraction and catastrophizing. These findings suggest that maladaptive cognition may predispose adolescents to problematic technology use and exacerbate its psychological consequences.

Although fewer studies focus specifically on gaming addiction, conceptual reviews suggest that IGD involves distorted beliefs about control, reward expectancy, and self-worth derived from gaming, closely aligning with traditional cognitive distortion frameworks (King & Delfabbro, 2019). Such distorted cognitions may reinforce gaming behavior while simultaneously increasing emotional distress.

2.3 Integrating Gaming Addiction, Cognitive Distortions, and Suicidal Ideation

Emerging evidence supports an integrative model in which gaming addiction, cognitive distortions, and suicidal ideation are interconnected. Studies indicate that the association between IGD and suicidal ideation remains significant even after accounting for depressive symptoms, highlighting the independent contribution of cognitive and emotional mechanisms (Xie et al., 2023).

Furthermore, psychosocial vulnerabilities such as loneliness, emotional dysregulation, and low resilience have been shown to mediate or moderate the IGD–suicidality relationship (Chen et al., 2024). Cognitive distortions may function as proximal risk factors by shaping how adolescents interpret gaming-related failures, academic difficulties, and social conflicts.

Despite these insights, direct empirical examination of cognitive distortions as predictors of suicidal ideation within gaming-addicted adolescent samples remains limited. Addressing this gap is essential for advancing theory and informing preventive interventions.

2.4 Rationale for the Present Study

Given the increasing prevalence of gaming addiction and adolescent suicide risk, there is a pressing need to identify cognitive mechanisms that contribute to psychological vulnerability. Understanding these mechanisms has direct implications for informatics education, digital well-being curricula, and school-based mental health interventions. The present study seeks to empirically examine cognitive distortions as predictors of suicidal ideation among gaming-addicted adolescents.

3. Objectives

1. To assess levels of internet gaming disorder, cognitive distortions, and suicidal ideation among adolescents.
2. To examine the relationship between cognitive distortions and suicidal ideation.
3. To determine whether cognitive distortions predict suicidal ideation after controlling for gaming addiction severity.

4. Hypotheses

H1: Cognitive distortions will be significantly and positively correlated with suicidal ideation.
H2: Cognitive distortions will significantly predict suicidal ideation beyond gaming addiction severity.

5. Methodology

5.1 Research Design

A cross-sectional correlational design was employed.

5.2 Sample

The sample comprised **100 adolescents** (55 males, 45 females) aged **13–18 years** (*M* = 15.6, *SD* = 1.5). Participants were recruited from schools and online gaming communities and met screening criteria for problematic gaming from the eight districts of Tripura.

5.3 Instruments

- **Internet Gaming Disorder Scale–Short Form (IGDS9-SF)**
- **Cognitive Distortions Questionnaire for Adolescents (CD-AQ)**
- **Suicidal Ideation Questionnaire–Junior (SIQ-JR)**

All scales demonstrated good internal consistency ($\alpha > .80$).

5.4 Procedure

Ethical approval was obtained. Parental consent and adolescent assent were secured. Data were collected anonymously via online questionnaires.

5.5 Statistical Analysis

Data were analyzed using SPSS (Version 20). Descriptive statistics, Pearson correlations, and hierarchical regression analyses were conducted.

6. Results

6.1 Descriptive Statistics

Variable	Mean	SD
Internet Gaming Disorder	23.80	5.90
Cognitive Distortions	43.20	8.70
Suicidal Ideation	15.10	7.20

6.2 Correlation Analysis

Cognitive distortions were significantly correlated with suicidal ideation ($r = .48$, $p < .001$) and IGD ($r = .36$, $p < .001$).

6.3 Regression Analysis

Cognitive distortions significantly predicted suicidal ideation ($\beta = .44$, $p < .001$) after controlling for IGD, explaining 29% of the variance.

7. Discussion

Discussion

The present study sought to examine the relationship between cognitive distortions and suicidal ideation among gaming-addicted adolescents, with particular attention to how maladaptive cognitive patterns contribute to psychological vulnerability in digitally immersive environments. The findings provide strong empirical support for the central premise of the study: adolescents exhibiting higher levels of cognitive distortions report significantly greater suicidal ideation, even after accounting for the severity of gaming addiction. This indicates that distorted cognitive processing plays a critical role in shaping suicide risk beyond behavioral addiction symptoms alone.

Consistent with Beck's cognitive theory of depression (Beck, 1967; Beck et al., 1979), the results suggest that adolescents prone to distorted thinking patterns—such as catastrophizing, dichotomous thinking, and negative self-attribution—are more likely to interpret gaming-related failures, social isolation, or academic difficulties as overwhelming and inescapable. In the context of gaming addiction, these distortions may intensify feelings of helplessness and perceived loss of control, thereby elevating suicidal ideation. This aligns with prior research indicating that cognitive distortions act as proximal predictors of suicidal thoughts among adolescents (Spirito et al., 2011; O'Connor & Nock, 2014).

The significant association between gaming addiction and suicidal ideation observed in this study echoes earlier findings that problematic gaming is linked to depressive symptoms, loneliness, and emotional dysregulation (Kuss & Griffiths, 2012; Kim et al., 2018). However, the current findings extend this literature by demonstrating that gaming addiction alone does not fully explain suicidal ideation. Rather, cognitive distortions appear to function as an underlying psychological mechanism through which excessive gaming translates into more severe mental health outcomes. This supports contemporary models that conceptualize behavioral addictions as interacting with cognitive and emotional vulnerabilities rather than operating as isolated risk factors (Brand et al., 2019).

From a developmental perspective, adolescence represents a period marked by heightened emotional sensitivity, identity formation, and increased reliance on peer validation (Steinberg, 2014). For gaming-addicted adolescents, online gaming environments may initially serve as sources of achievement, social belonging, and emotional escape. However, when cognitive distortions are present, setbacks within these digital spaces—such as loss in competitive play, cyberconflict, or social rejection—may be interpreted as global personal failures. Such interpretations may exacerbate negative self-concept and hopelessness, both of which are well-established predictors of suicidal ideation (Joiner, 2005).

The findings also hold important implications within the domain of informatics education and digital well-being. As adolescents increasingly engage with interactive digital platforms, educators and policymakers must recognize that psychological risks associated with gaming are not solely technological but cognitive in nature. Interventions focused only on limiting screen time or gaming access may overlook the deeper cognitive vulnerabilities that sustain emotional distress. Incorporating cognitive restructuring strategies, mental health literacy, and emotional awareness into digital education curricula may therefore be essential in mitigating suicide risk among vulnerable youth.

Despite its contributions, the study is not without limitations. The cross-sectional design restricts causal interpretation, and the reliance on self-report measures may introduce response bias. Additionally, the sample size of 100 adolescents, while adequate for preliminary analysis, limits generalizability across diverse cultural and socioeconomic contexts. Nevertheless, the study provides valuable preliminary evidence supporting the integration of cognitive frameworks into research on gaming addiction and adolescent suicidality.

Future research should adopt longitudinal designs to examine the temporal relationship between gaming behavior, cognitive distortions, and suicidal ideation. Further exploration of moderating variables such as emotional regulation strategies, interpersonal needs, and family support systems would offer a more comprehensive understanding of risk and protective factors. Such research would significantly enhance the development of targeted, evidence-based interventions at the intersection of psychology, digital behavior, and informatics education.

8. Implications

The results underscore the need for integrating cognitive restructuring and mental health literacy into informatics education and digital well-being programs. Early identification of cognitive distortions may help mitigate suicide risk among adolescents engaged in excessive gaming.

Limitations and Future Directions

Limitations include cross-sectional design and reliance on self-report measures. Future research should adopt longitudinal designs and examine mediating roles of emotional regulation and interpersonal needs.

Conclusion

The present study examined the role of cognitive distortions in suicidal ideation among gaming-addicted adolescents within the context of increasing digital engagement. The findings demonstrate that cognitive distortions are significantly associated with suicidal ideation and emerge as a stronger predictor than gaming addiction severity alone. This suggests that maladaptive cognitive processing represents a critical psychological vulnerability that intensifies suicide risk among adolescents engaged in problematic gaming.

By extending existing research on internet gaming disorder, the study highlights that the psychological impact of excessive gaming cannot be understood solely through behavioral indicators such as time spent gaming or addiction severity. Rather, the way adolescents cognitively interpret their experiences—particularly through distorted thinking patterns such as catastrophizing and overgeneralization—plays a central role in shaping emotional distress and suicidal thoughts.

From an informatics education and digital well-being perspective, these findings underscore the necessity of integrating mental health literacy and cognitive skill development into technology-focused educational frameworks. Educational institutions and digital intervention programs should move beyond usage regulation and incorporate strategies aimed at enhancing cognitive resilience, critical thinking, and emotional awareness among adolescents navigating digital environments.

Although limited by its cross-sectional design, the study contributes meaningful empirical evidence to an emerging interdisciplinary field that bridges psychology, digital behavior, and informatics education. Addressing cognitive distortions may serve as an effective preventive target in reducing suicidal ideation among gaming-addicted adolescents. Future research should employ longitudinal designs and explore the interaction of cognitive distortions with emotional regulation and interpersonal needs to further inform comprehensive, evidence-based interventions.

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