

The Moderating Role of Personal Autonomy in the Relationship Between Depression and Internet Gaming Disorder

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Introduction

Internet Gaming Disorder (IGD) is characterized by an uncontrollable urge to engage in online gaming, leading to repetitive behaviors, routines, and psychological dependence (American Psychiatric Association, 2023). Although prevalence estimates vary depending on sample demographics and measurement methods, a recent meta-analysis suggests that IGD affects roughly 8.8% of adolescents, 10.4% of young adults, and 3.05% of the general population worldwide, making it an important public health concern (Barboza et al., 2026).

This issue is particularly crucial during adolescence, a critical period for brain development and building social connections, which could be jeopardized by excessive gaming activities (Byeon, 2025).

Additionally, IGD is strongly linked to depression (Hidaka, 2012), which is defined as a persistent sad, empty, or irritable mood severe enough to cause functional impairment (Onyemaechi, 2024). Yen et. al found that associations between perceived stress, resilience and IGD decreased to statistical insignificance when depression was introduced (2019). This emphasises the strong correlation between depression and IGD. However, the exact moderators influencing this link remain unclear; for instance, Tsui and Cheng (2021) reported a null moderating effect for gender. Thus, this review examines current literature on IGD onset, severity, and its association with depression to help identify potential moderators that can inform targeted clinical interventions in the future.

Development

Building on this relationship between IGD and depression that was outlined above, it is essential to understand how IGD is conceptualized and investigate its development across childhood and adolescence. Paulus et al. (2018) performed a systematic review, where he described the development of IGD as a gradual, dynamic pathway rather than a fixed state. While gaming remains a benign recreational activity for most, individuals facing specific internal vulnerabilities (e.g. impaired self-regulation and decision-making) and external stressors (e.g. family dysfunction, domestic instability, and poor parental care) may experience a loss of control, which could ultimately escalate into a clinical disorder (Paulus et al., 2018). The biopsychosocial model developed by Engel (1977) could also explain this complex relationship (Miles, 2013). These suggest that IGD development results from an interplay of personal and environmental risk factors, rather than a single isolated cause.

Due to the fact that IGD arises from these multidimensional psychological and environmental interactions, only a subset of adolescents progress toward problematic use. Similar to this view, Lee et al. (2021) found that, while most individuals began participating in online games from a young age (e.g. 7-12 years old), only 10.8% met the diagnosis criteria for IGD. These findings

elucidate that early and frequent gaming exposure alone is insufficient to trigger disorder onset, underscoring the presence of critical moderating factors in its etiology.

Severity

While individuals may meet the criteria for Internet Gaming Disorder (i.e. develop IGD), the experience or symptoms they have of IGD solely depends on the severity of their diagnosis. Severity, in terms of IGD, is defined as the extent to which compulsive gaming behavior disrupts an individual's daily life (World Health Organization, 2020). For instance, an individual experiencing severe IGD may suffer from a decline in academic performance as well as a lack of social interactions due to the game enveloping their daily life. The DSM-5-TR outlines three severity classifications in IGD – mild, moderate, and severe (Lee et al., 2017). Higher severity levels show positive correlations with more intense internal distress and more visible disruptions in daily functioning (Lee et al., 2017).

Another widely used diagnostic instrument is the Internet Gaming Disorder Scale-Short Form (IGDS9-SF), which is developed by Pontes and Griffiths. IGDS9-SF can be used to measure IGD severity by using different criteria scored on 5-point Likert scale (Pontes & Griffiths, 2015). Similar to the diagnostic process of DSM-5-TR, higher total points earned by an individual represents a more severe case of IGD (Pontes & Griffiths, 2015).

The Relationship Between Depression and IGD Severity And Development

To expand on the relationship between mood disorders and problematic gaming, Liu et al conducted a study and found that depressive symptoms significantly predicted the onset of IGD during adolescence ($p = 0.02$). (Liu et al., 2021) Furthermore, Wang and colleagues used the Patient Health Questionnaire-9 (i.e a questionnaire that helps diagnose depression, made by Kroenke et al., 2001) and observed a direct relationship – that is, as the severity of IGD increases, the severity of depression increases (2025). Longitudinal evidence suggests this interaction may be bidirectional; while depressive symptoms push individuals toward gaming as a maladaptive coping mechanism to escape negative affect, chronic severe gaming exacerbates mood dysregulation through social isolation, sleep disruption, and impaired real-world reward processing (Kowalik et al., 2025).

This relationship is particularly pronounced in clinical populations diagnosed with Major Depressive Disorder (MDD). Research indicates high comorbidity rates between MDD and IGD, with depressive disorders occurring in approximately 30% to 34% of individuals diagnosed with IGD (Ostinelli et al., 2021). Neuroimaging studies reveal that individuals with comorbid MDD and IGD exhibit altered resting-state functional connectivity between emotional networks (e.g. the amygdala) and executive control regions (e.g. dorsolateral prefrontal cortex), impairing cognitive control over gaming impulses and emotion regulation (Dang et al., 2024).

A primary psychological mechanism underlying this link involves withdrawal-induced distress, where attempts to reduce gaming lead to heightened irritability and emotional dysregulation, further temporarily disabling an individual's sense of personal agency. Due to the fact that

literature exploring autonomy as a potential moderating variable remains scarce, examining autonomy within the context of IGD and clinical depression is critical for elucidating the precise pathways that drive psychological distress and disorder progression.

Autonomy

Autonomy is hypothesized to serve as a crucial moderator in the relationship between depression and IGD severity (Liu et al., 2018). Autonomy, one of the three primary psychological needs as stated in the Self-determination theory (i.e. three psychological needs that must be fulfilled for daily functioning) (Ryan & Deci, 2000) is defined as “the fundamental need to experience a sense of volition, agency, and self-endorsement over one’s actions” (Wright, 2015). This review focuses specifically on personal autonomy (PA). According to Weir, personal autonomy is defined as “the experience of making independent choices and acting on them from personal desire rather than feeling controlled or pressured by others”(2025). Fulfilling this need for autonomy is especially crucial during adolescence, a developmental stage where individuals aged 10 to 19 are striving for greater independence while still operating within family and academic structures (American Psychological Association, 2023). A longitudinal study conducted by Wang et. al reveals that when an adolescent's autonomy is unfulfilled (e.g. experiencing excessive parental control over daily decisions), it directly affects their mental health, corresponding to higher levels of depressive symptoms over time (2025). Similarly, Vuorinen et al. (2022) found that a lack of perceived autonomy directly correlates with increased IGD severity.

However, the perceived and expressed levels of autonomy vary across different cultural contexts. For instance, adolescents in many East Asian societies often experience higher levels of parental involvement compared to their peers in Western countries (Tsai et al., 2020), which may indicate different views or lack of consensus on perceived autonomy levels across regions. As a result, this influences the baseline expectation and clinical impact of perceived autonomy.

Conclusion

Existing literature establishes autonomy as being associated with both depressive symptoms and both IGD severity and development in adolescents. However, few empirical studies have directly investigated how PA effects the relationship between IGD and depression, or utilized quantifiable measurements of PA such as the Autonomy Scale Amsterdam (ASA), developed by Bergamin et al. (2024) briefly defined as a 21-item questionnaire that allows researchers to measure a person's capability to act independently, make self-directed choices, and resist social pressure.

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