

Perspective

Developmental Pathways and Risk Mechanisms in Problematic Gaming Among Children and Adolescents: The Role of Psychological, Social and Structural Determinants

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Abstract

Behavioral addictions among children and adolescents have become an increasing public health concern, particularly in the context of the rapid expansion of digital technologies and the profound social changes following the COVID-19 pandemic. Among these conditions, problematic gaming has attracted growing scientific attention due to its potential impact on psychological well-being, social functioning, and developmental outcomes. While Gaming Disorder (GD) has been formally recognized as a diagnosable condition, emerging evidence suggests the existence of subclinical patterns of excessive gaming that may represent early stages of vulnerability. The concept of Gaming Non-Pathological Abuse (GNPA) offers a useful framework for understanding these intermediate manifestations and their role within developmental trajectories leading to behavioral addiction. Drawing on findings from a representative sample of Italian children and adolescents and integrating current evidence from developmental psychopathology and behavioral addiction research, this chapter examines the psychological, social, and environmental determinants associated with problematic gaming behaviors. Particular attention is devoted to transdiagnostic mechanisms, including emotional dysregulation, impulsivity, stress reactivity, and psychiatric comorbidity, as well as to broader contextual influences such as family functioning, socioeconomic disadvantage, social exclusion, minority stress, and structural inequalities. The chapter further explores how these factors interact across developmental stages to shape risk trajectories and contribute to differential vulnerability among underrepresented and marginalized populations. The available evidence supports a socioecological and life-course perspective in which problematic gaming behaviors emerge from the dynamic interaction between individual susceptibilities and environmental conditions. Within this framework, GNPA may represent an important early indicator of psychosocial vulnerability and a potential target for preventive intervention. Understanding the developmental pathways that underlie problematic gaming is essential for informing early identification strategies, reducing health disparities, and promoting equitable prevention and treatment approaches for behavioral addictions across diverse populations.

Introduction

Behavioral addictions have increasingly emerged as a significant public health concern among children and adolescents, particularly following the profound social and environmental changes associated with the COVID-19 pandemic. While Gaming Disorder (GD) has been formally recognized within international diagnostic systems, growing evidence suggests that problematic gaming behaviors exist along a continuum that extends beyond categorical diagnoses. Within this framework, the construct of Gaming Non-Pathological Abuse (GNPA) provides a valuable perspective for understanding subclinical forms of excessive gaming that, although not meeting full diagnostic criteria, are associated with meaningful psychological, behavioral, and social impairment. Such conditions may represent early manifestations of vulnerability and constitute critical developmental stages preceding the emergence of clinically significant behavioral addiction. Our findings, derived from a representative sample of 531 Italian children and adolescents aged 8–18 years, indicate a substantial increase in gaming engagement during the post-pandemic period, accompanied by higher levels of emotional and behavioral difficulties. Participants displaying elevated gaming involvement reported greater emotional dysregulation, social withdrawal, interpersonal difficulties, impulsive tendencies, aggressive behaviors, and reduced participation in educational and extracurricular activities. These results support developmental models proposing that problematic gaming behaviors emerge through progressive and dynamic trajectories shaped by the interaction of individual vulnerabilities and environmental influences rather than through abrupt transitions into disorder.

Discussion

The multifactorial process is influenced by biological, psychological, family, social and structural determinants

From a developmental psychopathology perspective, the progression from recreational gaming to problematic involvement and eventually to Gaming Disorder can be conceptualized as a multifactorial process influenced by biological, psychological, familial, social, and structural determinants. Emotional regulation difficulties appear to represent one of the most robust transdiagnostic mechanisms underlying problematic gaming. For many adolescents, digital environments function as compensatory spaces that provide temporary relief from distress, loneliness, social anxiety, low self-esteem, or adverse life experiences. When gaming becomes a

primary strategy for coping with negative affect, repeated reinforcement processes may consolidate maladaptive behavioral patterns, increasing the risk of dependency-like symptoms over time. Impulsivity constitutes a second key vulnerability factor. Deficits in inhibitory control, heightened reward sensitivity, and a preference for immediate gratification may contribute to excessive gaming engagement and diminished self-regulation. These mechanisms are particularly relevant during adolescence, a developmental period characterized by ongoing maturation of executive functions and increased susceptibility to reward-driven behaviors. Furthermore, psychiatric comorbidities including anxiety disorders, depressive symptoms, attention-deficit/hyperactivity disorder, conduct problems, and emotional dysregulation syndromes may, amplify vulnerability by creating reciprocal interactions between psychological distress and problematic digital engagement.

Particular attention should be devoted to populations that remain underrepresented in addiction research despite experiencing disproportionate exposure to risk factors. Adolescents living in socioeconomically disadvantaged contexts often face cumulative adversities, including limited educational opportunities, reduced access to mental health services, neighborhood deprivation, and fewer opportunities for structured recreational activities. Within such environments, gaming may become one of the most accessible and affordable forms of escape, socialization, and emotional compensation. Similarly, young individuals exposed to family conflict, neglect, traumatic experiences, chronic stress, or social marginalization may demonstrate increased susceptibility to maladaptive gaming behaviors. Emerging evidence also highlights the relevance of minority stress and social exclusion processes. Youth belonging to marginalized social groups frequently experience chronic stressors associated with discrimination, stigma, reduced social support, and barriers to healthcare access. These experiences may contribute to emotional distress and promote engagement in online environments perceived as safer, more controllable, or more socially rewarding than offline contexts. Consequently, problematic gaming may function as both a coping mechanism and a manifestation of broader psychosocial vulnerabilities rooted in structural inequalities.

The social determinants

The observed group differences cannot be fully explained by individual psychological characteristics alone. Broader social determinants of health play a critical role in shaping exposure to risk and access to protective resources. Structural inequalities, socioeconomic disadvantage, educational disparities, and unequal

availability of prevention and treatment services influence developmental trajectories and may contribute to the persistence of behavioral addiction vulnerabilities across the lifespan. Understanding these mechanisms requires moving beyond individual-level explanations toward ecological and multilevel models that integrate psychological, familial, community, and societal factors. Collectively, these findings support a life-course approach to behavioral addictions, emphasizing the importance of early identification of subclinical problematic gaming behaviors and associated vulnerability profiles. GNPA may represent a clinically meaningful intermediate phenotype that facilitates the detection of at-risk individuals before the onset of full-blown Gaming Disorder. Prevention strategies should therefore target not only individual symptoms but also the broader social and environmental conditions that contribute to risk accumulation. Interventions promoting emotional regulation, adaptive coping skills, family support, social inclusion, and equitable access to mental health resources may be particularly effective in reducing progression toward more severe forms of behavioral addiction. Such an approach is especially relevant for vulnerable and underrepresented populations, for whom the interaction between psychological risk factors and structural disadvantage may create enduring trajectories of maladaptive digital engagement and adverse developmental outcomes.

Conclusion

The present findings contribute to the growing body of literature suggesting that behavioral addictions should be conceptualized within a developmental and socioecological framework rather than as isolated clinical phenomena. Specifically, the identification of Gaming Non-Pathological Abuse (GNPA) highlights the importance of recognizing intermediate and subthreshold manifestations of problematic gaming that may precede the onset of Gaming Disorder. Such manifestations appear to reflect the cumulative influence of multiple risk factors operating across individual, familial, community, and societal levels. Emotional dysregulation, impulsivity, stress reactivity, and psychiatric comorbidity constitute relevant individual-level mechanisms, whereas family dysfunction, social exclusion, socioeconomic disadvantage, and limited access to healthcare resources represent broader contextual determinants capable of shaping developmental trajectories.

These findings support contemporary models emphasizing the interaction between transdiagnostic vulnerabilities and social determinants of health in the emergence of behavioral addictions. Rather than representing merely a maladaptive leisure activity, problematic gaming may function as a behavioral response to unmet emotional, relational, and environmental needs. This perspective is particularly relevant when examining underrepresented and marginalized populations, whose exposure to chronic stressors and structural inequalities may increase susceptibility to addictive behaviors while simultaneously reducing opportunities for prevention and treatment. Consequently, future research should adopt longitudinal and multilevel approaches capable of capturing the dynamic interplay between psychological processes, social environments, and structural conditions across development. From a public health perspective, the early identification of GNPA may provide a valuable opportunity for preventive intervention before clinically significant impairment emerges. Targeting emotional regulation skills, strengthening family and community support systems, reducing barriers to mental healthcare, and addressing social inequalities may represent critical strategies for interrupting risk trajectories and promoting healthier developmental outcomes. Ultimately, a comprehensive understanding of behavioral addictions requires moving beyond diagnostic categories toward a broader framework that acknowledges the developmental, social, and environmental contexts in which these behaviors arise and evolve.