



AKADÉMIAI KIADÓ

# Toward resolving normality-disorder boundary issues in gaming disorder research

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## VIEWPOINT



### ABSTRACT

A longstanding challenge in the behavioral addictions field has been determining the point at which gaming involvement becomes clinically significant problematic use. Gaming disorder (GD) and hazardous gaming as recent ICD-11 diagnoses have attracted polarized perspectives due in part to the global popularity of recreational gaming and gaming culture. The broad continuum of gaming can often be perceived differently by different parties, including gamers themselves; what might be seen as regular, harmless, and normative to some, may be considered risky and problematic by others. The ICD-11 guidelines provide some clarity by advising that gaming disorder should not be diagnosed based on persistent gaming alone; that gaming as part of a routine, developing skills, changing mood or relieving boredom, or facilitating social interaction is not sufficient for a diagnosis; and that cultural and peer group norms should be considered in diagnosis. In this paper, we examine gaming normality-disorder boundary issues in the areas of conceptualization, assessment, and interventions. Some examples of the complex personal, social, and cultural considerations that arise in gaming diagnoses are provided. We call for researchers in the addiction and health disciplines to grapple with conceptual controversy and conduct the empirical and clinical research needed to ensure that normal recreational gaming is always clearly distinguished from harm and disorder.

### KEYWORDS

**gaming disorder, boundary with normality, assessment, high engagement, harm**

Digital gaming is a globally popular phenomenon that is celebrated for its artistic and technical merits. Gaming can be found across many public institutions and areas of public life, including workplaces, schools, hospitals, libraries, and public transport, and has very few restrictions or barriers to entry. Many families routinely, or on special occasions, play games together and it is typical for children and teenagers to play games (designed primarily for them) without supervision. These aspects of gaming arguably distinguish it from other activities such as online gambling that have attracted public health attention because of evidence of significant harm and addictive behavior. Nevertheless, there is growing scientific evidence that digital games are not always harmless entertainment. Over the last three decades, clinical, epidemiological, and neurobiological evidence has documented the negative psychosocial and physical effects of excessive gaming, particularly among young people (Reed et al., 2022). Although problem gaming measurement varies greatly (King, Chamberlain, et al., 2020), recent reviews and meta-analyses have reported that the prevalence of GD is estimated to be about 1–3%, and the condition is more common among young males (Kim et al., 2022; Stevens, Dorstyn, Delfabbro, & King, 2021).

Decades of research on problem gaming has ultimately led to the World Health Organization's official inclusion of gaming disorder (GD) and hazardous gaming (HG) categories in

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the ICD-11 (WHO, 2024). GD is characterized by a pattern of persistent gaming manifested by impaired control, increasing priority given to gaming, and continuation of gaming despite negative consequences, which results in marked distress or functional impairment; HG refers to a pattern of gaming that appreciably increases the risk of harmful physical or mental health consequences. In the academic literature, these conditions (before and after their ICD-11 inclusion) have generated debates that have centered on the apparent difficulty in reconciling the notions of gaming as ‘healthy’ versus ‘unhealthy’ (or similar terminology). In this discourse, some have argued that recognizing problem gaming as a diagnostic condition may have negative consequences for recreational gaming or gaming culture, such as misdiagnosis, overpathologization, or stigma (Aarseth et al., 2017; Galanis, Weber, Delfabbro, Billieux, & King, 2023). The global gaming industry has often entered these debates (e.g., via media releases, social media posts) by selectively endorsing research opposed to the existence of a gaming disorder diagnosis and which exclusively underscores the benefits and life-enhancing qualities of gaming (King & Games Industry Consortium, 2018).

In this paper, our intent is not to revisit debates on the validity of gaming disorder evidence or to speculate on the broader social and cultural implications of the diagnosis. Our view is that each end of the continuum of gaming, from non-problem gaming to gaming disorder, represents a distinct and valid category of behavior. Gaming can be beneficial for many players and the GD classification should not be taken to convey that gaming is inherently problematic. Instead, here, we will consider issues related to the boundary between normal gaming and problematic gaming (i.e., the point at which gaming has negative consequences, which includes the HG and GD categories in the ICD-11). The normality-disorder boundary issue has received limited attention in the literature, although many papers on assessment, for example, have reflected on this issue as it relates to a measure’s cut-off score, or its specificity/sensitivity, and its effect on prevalence rates. The difference between gaming and other recognized behavioral addictions (e.g., gambling) is that it is often easy, because of its high popularity, for gaming to attract polarized perspectives: what might be seen as regular, harmless and normative to some, may be considered “addictive” by others. Further complicating the issue, the language of addiction or mental disorder (e.g., “obsessed” and “hooked”) may be used colloquially by gamers themselves to describe the desirable elements, effects, and/or personal attachments to gaming.

Against this background, we aim to provide a brief overview of gaming normality-disorder boundary issues in the areas of conceptualization, screening and assessment, and interventions. The ICD-11 refers to three normality-disorder considerations, which may be summarized as:

1. GD should not be diagnosed based on persistent gaming alone;
2. Gaming as part of a routine, developing skills, changing mood or relieving boredom, or facilitating social interaction is not sufficient for a diagnosis; and

3. Cultural and peer group norms should be considered in diagnosis.

## TIME SPENT GAMING

A longstanding challenge for the field has been making sense of gaming time in relation to problem gaming. Time spent playing is a metric or variable that seems to be used frequently and is valued in research despite its many limitations (Kaye, Orben, Ellis, Hunter, & Houghton, 2020; King, Billieux, & Delfabbro, 2024). Fundamentally, problem gaming diagnoses are complicated by the fact that gaming is not *inherently* harmful (and gaming can be beneficial) despite the focus across health disciplines on limiting ‘screen time’ based on an assumption that increasing use increases risk of harms. Regular gaming behavior and routines can be quite mundane such that even daily gaming for multiple uninterrupted hours is clinically unremarkable. Genuine concerns about a pattern of gaming tend to be raised once a very high level of gaming involvement is observed, and usually only in conjunction with warning signs (e.g., mood changes, fatigue, decreased engagement in other activities) or when observed to be a primary means of coping with problems. Both problem and non-problematic gamers alike could report a pattern of 30 h per week, and gaming problems could arise in cases involving less gaming time. Similarly, an individual’s gaming routine may become problematic due to changes in life circumstances (e.g., increased work or caring responsibilities) rather than due to increased gaming activity.

Research supports the heterogeneity of gaming time in GD profiles, as studies indicate that time spent gaming is only moderately correlated with GD symptoms and even frequent gaming is not necessarily problematic (Király, Tóth, Urbán, Demetrovics, & Maraz, 2017). In research and practice, then, describing a pattern of gaming, can be useful for conveying the ‘life of the person’ (i.e., indicating that games are of major importance), but gaming time information on its own can be arbitrary and have limited clinical and public health utility. We support the view, then, that defining the boundary between normality and problematic use should avoid reliance on, or references to, gaming time in raw or absolute terms – as many clinical studies have done (e.g., a requirement of playing 30 h per week to meet eligibility requirements for a clinical trial). Further, researchers should exercise caution when investigating differences across comparison groups based on gaming time (e.g., designating those who play 4 h per day as ‘heavy’ or ‘extreme’ gamers). Gaming time is most useful with information on context and consequences.

## RECONCILING DIFFERENT PERSPECTIVES ON GAMING

Another normality-disorder boundary issue relates to challenges in navigating different views about gaming held by



clinicians, partners, family members, and, importantly, the gaming individual. Following ICD-11 guidelines, diagnosing GD involves identifying the important features of problematic gaming as distinct from typical, even frequent, gaming behavior that may involve positive elements such as skill-building, coping with stress, and socializing. This process involves identifying symptoms of impaired control, for example, that explain and predict harmful gaming behaviors. For some individuals referred for assessment, the HG/GD diagnoses are valid, appropriate, and necessary. For example, a young gamer may be playing constantly, have become socially withdrawn, failing or no longer attending school, and locked in conflict with parents. However, the gamer may disagree with the view that their gaming is excessive or problematic, and claim that gaming gives them a routine, builds skills, helps to cope with negative mood, and/or provides social connections. In such cases, an assessor would have to carefully identify whether the HG/GD features are present. This may require multiple supporting sources – parents, schools, other professionals – to generate a consensus view that the client’s gaming is no longer healthy and an intervention is needed.

It may be more challenging to evaluate individuals with many years of gaming experience and who fit the colloquial characterization of the ‘avid’, ‘heavy’, or ‘hardcore’ gamer. For these players, there may be many positive aspects of gaming in their lives. The notion of what is considered “normal” gaming will be shaped by their status and norms within their gaming group or community. For example, normal gaming in some gaming subcultures (particularly in the areas of esports and online streaming) may appear excessive to outsiders. A gamer may report a longstanding (e.g., decades-long) pattern of gaming and restricted lifestyle that reflects the accumulation of decisions (influenced by personal circumstances, including their resources, supports, and alternative opportunities) to prioritize and engage in gaming ahead of other pursuits, including education or employment opportunities. They may have developed gaming skills, knowledge, and a gaming or online identity. For this person, the notion of gaming as “problematic” may be difficult to separate from the many positive aspects of gaming, e.g., a belief that being a “gamer” involves justified opportunity costs as well as some inevitable conflicts with other priorities or expectations. Benefits may include membership of a social group, a sense of autonomy, and coping with stress, which have been difficult to find elsewhere. A clinician will have to navigate the views of the gamer and others (e.g., a partner) about the relative balance of these positives and negatives. Ultimately, some gamers will meet the criteria for HG/GD regardless of considerations of gaming identity, other benefits, and social norms.

In our view, an effective conceptualization should nevertheless recognize both sides to the client’s gaming, rather than emphasizing only one side of the normality-disorder boundary. Identifying positives may inform treatment goals among those clients (who seem to constitute the majority) who seek to play games more adaptively rather than quit games indefinitely (e.g., optimize ‘fun’ experiences, feel in

control, focus on learning, or play only with friends). As a final note, for those who do not meet the HG/GD criteria, there may still be social, practical, and existential elements of their gaming-centric lifestyle that could be heard, conceptualized, and offered support (Karhulahti, Behm, & Lukka, 2023).

## SCREENING AND ASSESSMENT ISSUES

The normality-disorder gaming boundary has been challenging for screening and assessment. Although GD is a recent addition to the ICD-11 (and the DSM-5’s Section III in 2013), there exist more than 30 self-report screening tools that vary in their focus and scoring approach (King, Chamberlain, et al., 2020). The field is currently working toward the development of a gold standard tool for clinical interviewing and screening GD (Carragher et al., 2022). Known issues affecting current tests’ capabilities to distinguish problems from normality include: (1) test items that pathologize normal gaming or refer to gaming behaviors that are poor indicators of harm, such as losing track of time while gaming, gaming to relieve mood, making friendships in online games, or thinking about games when not playing (King, Billieux, Carragher, & Delfabbro, 2020); (2) tests lacking items that capture the scope and severity of impaired functioning, and lack of time frame information; and (3) tests that lack consistency with the ICD-11 or fail to measure important features of GD. Another issue is that some of the ICD-11 additional clinical features of GD, such as tolerance and withdrawal, reportedly have lower diagnostic relevance and prognostic value (Castro-Calvo et al., 2021). For example, Ko et al. (2020) reported that only 28% of their GD group reported tolerance symptoms because they were already gaming >8 h per day, so there was limited capacity to further expand their gaming. For the GD field to advance, there is a need for critical reflection on the essential elements of HG/GD (and calibration of measures in *clinical* samples) among greater efforts to achieve a more unified and standard approach to measuring and monitoring these conditions.

## HELP-SEEKING CONSIDERATIONS

Our final point for discussion relates to the normality-disorder boundary in treatment-seeking populations, including the associated task of determining treatment needs. Some individuals voluntarily seek help, but many are not self-referred; they seek treatment under pressure from family or on the advice of friends (Karhulahti et al., 2023). Some may pass through conventional screening without meeting criteria for gaming-related problems but still request help (or others may request help on their behalf). Some ‘healthy’ gamers may have other mental health issues (e.g., depression) that are identified and receive treatment. Some individuals in therapy to address their gaming may not meet the conventional criteria for HG or GD. For



example, Starcevic et al. (2020) reported that 64% of patients who sought treatment for gaming from outpatient psychiatry departments and hospital gaming units did not meet the GD criteria. The authors concluded that the diagnostic criteria for GD did not appear to perform very well in identifying individuals who need treatment. We share the authors' view that there is a need to more closely examine the sometimes uncertain relationships between clinical profile and treatment needs in GD, including studying the problem gaming 'spectrum' and clarifying the boundaries between various gaming patterns. In the meantime, the field may benefit from wider consideration and adoption of a stepped care approach that offers more flexibility and options to respond to gaming problems and matches treatment to the severity and needs of each client (Park, Wilkinson-Meyers, King, & Rodda, 2021).

## CONCLUSION

The normality-disorder boundary requires close attention in the digital addictions field. To summarize our main points: (1) not all problem gaming should be viewed within the context of GD diagnosis, and research approaches should study the continuum of gaming behavior; (2) data relating to the duration of gaming behavior is often useful when combined with other information relating to the context and consequences of use (e.g., indicators of harm); as a result, distinguishing problematic from non-problematic gaming based solely on the hours spent may be misleading; (3) even problematic levels of gaming involvement may confer some benefits to the individual in the form of socialisation, skill development and as a source of recognition and identity; (4) current tools for assessing GD vary greatly and have psychometric limitations that affect their consistency with the DSM and ICD classification systems; and (5) treatment approaches to GD require flexibility to cater to different GD symptom profiles and treatment needs, which can include gamers in distress who meet the GD criteria as well as those who seek treatment for a pattern of gaming that may seem relatively normal.

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