

Internet gaming disorder: Inadequate diagnostic criteria wrapped in a constraining conceptual model

Commentary on: Chaos and confusion in DSM-5 diagnosis of Internet Gaming Disorder: Issues, concerns, and recommendations for clarity in the field (Kuss et al.)

VLADAN STARCEVIC*

Discipline of Psychiatry, Sydney Medical School – Nepean, University of Sydney, Penrith, NSW, Australia

(Received: October 28, 2016; revised manuscript received: December 27, 2016; accepted: December 27, 2016)

Background and aims: The paper “Chaos and confusion in DSM-5 diagnosis of Internet Gaming Disorder: Issues, concerns, and recommendations for clarity in the field” by Kuss, Griffiths, and Pontes (in press) critically examines the DSM-5 diagnostic criteria for Internet gaming disorder (IGD) and addresses the issue of whether IGD should be reconceptualized as gaming disorder, regardless of whether video games are played online or offline. This commentary provides additional critical perspectives on the concept of IGD. *Methods:* The focus of this commentary is on the addiction model on which the concept of IGD is based, the nature of the DSM-5 criteria for IGD, and the inclusion of withdrawal symptoms and tolerance as the diagnostic criteria for IGD. *Results:* The addiction framework on which the DSM-5 concept of IGD is based is not without problems and represents only one of multiple theoretical approaches to problematic gaming. The polythetic, non-hierarchical DSM-5 diagnostic criteria for IGD make the concept of IGD unacceptably heterogeneous. There is no support for maintaining withdrawal symptoms and tolerance as the diagnostic criteria for IGD without their substantial revision. *Conclusions:* The addiction model of IGD is constraining and does not contribute to a better understanding of the various patterns of problematic gaming. The corresponding diagnostic criteria need a thorough overhaul, which should be based on a model of problematic gaming that can accommodate its disparate aspects.

Keywords: Internet gaming disorder, addiction, gaming addiction, diagnostic criteria, withdrawal symptoms, tolerance

INTRODUCTION

The paper by Kuss, Griffiths, and Pontes (in press) demonstrates numerous difficulties with the diagnostic criteria for Internet gaming disorder (IGD), introduced in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013) as a condition for further study. Kuss et al. (in press) also make important comments about the implications of the ambiguous DSM-5 conceptualization of IGD as a condition that pertains to both online and offline gaming. Their paper continues a debate on the issues surrounding the concept of IGD (e.g., Griffiths et al., 2016), shows that there is little consensus on IGD, and makes suggestions about the way forward.

There are additional reasons to examine the concept of IGD, and this commentary aims to discuss further problems with it. The focus is on the addiction model on which the concept of IGD is based, the nature of the DSM-5 diagnostic criteria for IGD, and the inclusion of withdrawal symptoms and tolerance as the diagnostic

criteria for IGD. Ultimately, the goal of this commentary is to draw attention to the additional aspects of IGD that undermine its utility and validity and offer alternatives.

ADDICTION AS THE FRAMEWORK FOR IGD

The diagnostic criteria for IGD reflect a condition that is based on the model of addiction. All the key features of an addiction disorder have been included in the diagnostic criteria, for example, preoccupation with and loss of control over gaming, its negative consequences and even tolerance and withdrawal symptoms. However, there are reasons to question the addiction model as the conceptual framework for IGD.

* Corresponding address: Vladan Starcevic; Discipline of Psychiatry, Sydney Medical School – Nepean, University of Sydney, PO Box 63, Penrith, NSW 2751, Australia; Phone: +61 2 4734 2585; Fax: +61 2 4734 3343; E-mail: vladan.starcevic@sydney.edu.au

First, addiction-based conceptualization of IGD is constraining because it interferes with the development and testing of the alternative conceptual frameworks for problematic gaming, such as those based on the idea that this behavior may be a consequence of maladaptive coping or a way of meeting particular needs (Karddefelt-Winther, 2014). The addiction model has also been criticized as potentially misleading and unable to explain incongruent findings (Karddefelt-Winther, *in press*).

Second, reasons for the persistence of problematic gaming need to be better understood, instead of implying that this occurs mainly to avoid withdrawal symptoms. The theories that invoke avoidance of withdrawal symptoms as the key factor in maintaining addictive behaviors have not been able to fully account for addiction (e.g., West, 2013). From this perspective, it is simplistic to suggest that the persistence of problematic gaming solely reflects addiction, that is, avoidance of withdrawal symptoms.

Third, addictive disorders are generally chronic and progressive, if not treated. Recent studies show that the natural course of excessive gaming is often transient or episodic, thus suggesting its low temporal stability (Konkolý Thege, Woodin, Hodgins, & Williams, 2015; Rothmund, Klimmt, & Gollwitzer, *in press*). These findings indicate that excessive or problematic gaming may appear relatively quickly in certain contexts and disappear just as quickly when the circumstances change.

Fourth, problematic gaming has been frequently and consistently associated with various psychopathology (e.g., depressive and anxiety symptoms and symptoms of social anxiety, attention deficit and attention-deficit/hyperactivity disorders) (Chan & Rabinowitz, 2006; Gentile, 2009; Männikkö, Billieux, & Käätäinen, 2015; Mentzoni et al., 2011; van Rooij, Schoenmakers, Vermulst, van den Eijnden, & van de Mheen, 2011; Wei, Chen, Huang, & Bai, 2012; Yen et al., 2017). The direction of causality remains to be clarified, but in many cases problematic gaming and addictive pattern of video game use may be a consequence of other psychopathology rather than a *bona fide* addiction disorder.

Finally, it is important to consider the stigmatizing and misleading connotations of the term “addiction.” Using this term loosely and arbitrarily, whether implicitly or explicitly, cannot help raise awareness in a non-sensationalist way of the problematic patterns of gaming and subject these behaviors to a scientific scrutiny.

THE HETEROGENEITY OF IGD AND ITS DIAGNOSTIC THRESHOLD

In line with the diagnostic criteria for other disorders in the DSM-5, those for IGD are polythetic. Therefore, any combination of the five criteria for IGD can reach the diagnostic threshold, creating high levels of heterogeneity. Consequently, there are many different ways of meeting the DSM-5 criteria for IGD. Some include the symptoms suggesting an addiction disorder, such as tolerance and withdrawal symptoms, but the diagnostic criteria can also be met without the presence of these symptoms. As a result, the same diagnostic designation – IGD – refers to very

different behavioral presentations, ranging from those that barely indicate a disorder to clinical manifestations of a severe form of addiction.

All diagnostic criteria for IGD have equal weight, that is, some are not considered primary or more important than others. This non-hierarchical approach is also consistent with the nature of the diagnostic criteria for most DSM-5 diagnoses. However, such an approach is problematic because of the failure to distinguish between the “core” or absolutely essential features of IGD and those that are auxiliary or more peripheral. Although making this distinction is not straightforward, there is research supporting the notion that some IGD diagnostic criteria are more valid and thus more important than others. For example, Ko et al. (2014) demonstrated that the criterion pertaining to continued excessive use of Internet games despite knowledge of problems had a diagnostic accuracy of 92.0%–100%, whereas the diagnostic accuracy of the criterion of deceiving people about the “amount” of Internet gaming was only 68.0%–70.7%.

One task for the future is to ascertain whether polythetic, non-hierarchical diagnostic criteria for IGD and the corresponding checklist approach to diagnosis can be replaced by a diagnostic system that relies on prototypes (e.g., Livesley, 1986) or “ideal types” (Schwartz & Wiggins, 1987). Such a system emphasizes characteristics that are “the best example” of the diagnostic construct, that is, the necessary, most characteristic features without which the diagnosis cannot be made. This might reduce the heterogeneity of IGD and tighten it conceptually.

Another task is to examine the diagnostic threshold for IGD. This is important because diagnostic thresholds are crucial for establishing the boundaries between psychopathological entities and between disorders and normality. As with so many diagnostic thresholds in the DSM-5 system, the one for IGD seems somewhat arbitrary, and it is not clear why the minimum of five out of nine diagnostic criteria has been chosen as the cutoff. Although there is some support for the validity of this cutoff point (Király et al., 2017; Ko et al., 2014), the diagnostic threshold for IGD needs to be further examined to address a concern that it may be too low and thus lead to overdiagnosis of IGD.

WITHDRAWAL SYMPTOMS AND TOLERANCE AS THE DIAGNOSTIC CRITERIA FOR IGD

Kuss et al. (*in press*) point out the difficulties with almost every diagnostic criterion for IGD. Of these, withdrawal symptoms and tolerance deserve particular attention because of the traditional role that these symptoms have played in the conceptualization of addiction.

Recent general definitions of addiction (American Society of Addiction Medicine, 2011; Potenza, 2006) do not mention withdrawal symptoms and tolerance because these phenomena do not always occur in addiction. Therefore, it comes as a surprise that both withdrawal symptoms and tolerance have been included among the DSM-5 diagnostic criteria for IGD. However, as pointed out by Kuss et al. (*in press*) and others (Starcevic & Aboujaoude, 2017), many researchers and experts still consider withdrawal symptoms

and tolerance useful for the conceptualization of IGD. Furthermore, the diagnostic accuracy of these DSM-5 criteria for IGD was found to be fairly good, ranging from 84.6% to 90.0% (Ko et al., 2014).

Withdrawal symptoms occurring after an abrupt cessation of gaming in the context of IGD have received relatively little research attention. However, a recent systematic review of the withdrawal symptoms in IGD (Kaptsis, King, Delfabbro, & Gradisar, 2016a) noted that although current evidence is “very underdeveloped,” many studies reported no withdrawal symptoms and no study reported any physical withdrawal symptoms; the most consistently reported emotional and behavioral withdrawal symptoms were irritability and restlessness.

Using a prospective, qualitative research design, King, Kaptsis, Delfabbro, and Gradisar (2016) reported the occurrence of boredom and drive for mental stimulation during an 84-hr period after cessation of online gaming in both individuals with and without IGD; these experiences are quite different from the withdrawal symptoms – irritability, anxiety, or sadness – listed in the DSM-5 criteria for IGD. Data from the same study also demonstrated that negative affect, psychological distress (depression, anxiety, and stress), and “withdrawal symptoms” (craving/urge, thoughts about gaming, and inability to resist gaming) decreased quickly after cessation of online gaming, with IGD individuals experiencing a particularly prominent and rapid decline in “withdrawal symptoms” (Kaptsis, King, Delfabbro, & Gradisar, 2016b). Although these data are from a pilot study in need of replication, they suggest a pattern of the rapidly decreasing, predominantly emotional symptoms and craving that occur in the aftermath of gaming cessation. It seems doubtful that such diminishing withdrawal experiences play an important role in the maintenance of problematic gaming. In contrast, strong craving for playing video games, regardless of whether or not it occurs in the context of withdrawal, may be more likely to play this role, as also suggested by other authors (e.g., Ko et al., 2014).

Tolerance in IGD has received even less attention. It has been noted, however, that the DSM-5 designation of tolerance in IGD as “the need to spend increasing amounts of time engaged in Internet games” (American Psychiatric Association, 2013, p. 795) is inadequate (King & Delfabbro, 2016; Starcevic, 2016). This description of tolerance does not stipulate the reasons for an increased engagement in gaming, with an implication that any increase in time spent gaming denotes tolerance (Starcevic, 2016). The original meaning of tolerance relates to a need to receive increasing “doses” of an activity, that is, to spend increasing amounts of time performing that activity, to experience the initial or desired level of *satisfaction or excitement*. However, individuals with IGD may have very different and tolerance-unrelated reasons for spending more time gaming (e.g., Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015). Indeed, they often do so because they adhere to an increasingly demanding or complex schedule of gaming to obtain rewards that are novel or more valued (King & Delfabbro, 2016), but are often uncertain and do not necessarily result in a sense of satisfaction or excitement.

The role of emotional withdrawal symptoms and increased amounts of time spent playing in IGD requires further study. Thus far, there is no evidence that problematic

gaming persists as a consequence of an effort to avoid the unpleasant emotional withdrawal symptoms. Similarly, these symptoms were not demonstrated to be important in maintaining pathological gambling (Orford, Morison, & Somers, 1996). Understanding the factors that play a vital role in maintaining problematic gaming remains a challenge; some of these factors may be unique to particular persons, whereas others may be shared among individuals with problematic gaming. Perhaps some of the latter may be proposed as the diagnostic criteria. They may include potentially specific cognitive and behavioral features of problematic gaming, such as overvaluation of gaming rewards, activities and identities, maladaptive and inflexible rules about gaming behavior, excessive reliance on gaming to meet self-esteem needs, and gaming as a way of gaining social acceptance (King & Delfabbro, 2014).

CONCLUSIONS

This article has focused on several problematic aspects of IGD in DSM-5, such as the conceptualization of IGD as an addiction disorder, the heterogeneity of IGD and its relatively arbitrary diagnostic threshold, and the controversies surrounding the inclusion of withdrawal symptoms and tolerance among the diagnostic criteria for IGD. Further research into the patterns of problematic online gaming should not be constrained by these limitations of the DSM-5 concept of IGD. This concept should only be regarded as a hypothesis that needs to be tested and compared with the alternatives. It is the responsibility of the research community to come up with such alternatives. Specifically, there is a need to develop a testable concept of problematic gaming that does not espouse the addiction model as the only correct theoretical framework and that acknowledges a variety of motivations for engagement in problematic gaming; such a concept should avoid a checklist approach to diagnosis and include potentially specific cognitive, behavioral, and emotional features of problematic gaming. Finally, if emotional withdrawal symptoms and tolerance-like features are to be retained as the diagnostic criteria, they would need to be substantially revised.

Funding sources: No financial support was received for this commentary.

Conflict of interest: The author declares no conflict of interest.

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