RE-THINKING INTERNET GAMING: FROM RECREATION TO ADDICTION

Engagement with digital media has increased exponentially in the past decade and children, youth and adults consider activities such as messaging and online games integral to daily life. Internet gaming is a booming market. The PC Gaming Alliance (PCGA) reported the robust growth of the gaming software market in 2012, reaching a record US$20 billion with no geographical segments tracked showing a decline in 2012 in overall PC game revenue [1]. While some video games may improve visual/spatial skills [2], concerns have been raised about the association between violent video games and aggressive behaviour [3]. Research has shown that under certain conditions, video-gaming may become psychologically, socially and or physically detrimental to the user [4,5].

Research on gaming addiction dates back to 1983 [6]; however, these early studies as well as those conducted in recent years suffer from lack of comparability. Conceptualization of internet gaming addiction, varied use of terminology (internet gaming addiction, dependence, excessive play), diverse instruments and lack of standardized diagnostic criteria have all contributed to the problem, with prevalence rates ranging from as low as 0.1% to more than 50% across studies [7,8].

Despite the extensive extant literature on the phenomenon, little is known about the biomarkers, prevalence, course and treatment outcomes associated with internet gaming disorder [9]. The varying conceptualizations and problems of inconsistency highlight the growing need for consensus on the classification and assessment of video-gaming disorder.

The DSM-5 Workgroup has recommended the inclusion of internet gaming disorder in Section 3 of DSM-5. The paper by Petry et al. [10] is extremely timely, given the recent development including the identification of the unmet needs that must be addressed. The authors have attempted to standardize the DSM-5 internet gaming criteria and made a case for the use of structured questions with consistent wording, while ensuring that clinicians and researchers in different countries could contribute to the development and wording of these items. The translation of the items in different languages and making them freely available has ensured that researchers can use the items ‘off the shelf’ and not invest in stringent translation protocols that are often expensive and delay project time-lines. This expert consensus, while ensuring the development of standardized criteria and items which can be used to compare and contrast the phenomenon globally, is open to modification, as the authors acknowledge that further research is needed to determine if the nine criteria indeed define the features of the condition as well as the appropriateness of the suggested wording.

A recent commentary by King & Delfabbro [11] has highlighted some issues pertaining to the appropriateness of the criteria. The authors have questioned whether these nine criteria are adequate in defining video-gaming disorder, and whether additional criteria more specific to video-gaming behaviour are required. Furthermore, while internet gaming remains the most significant avenue of gaming, ‘offline gaming’ should not be ignored and it has been suggested that a diagnostic category of ‘video gaming disorder’ that encompasses both online and offline gaming should be established [12].

Obviously, there is much that needs to be conducted in this field; the criteria proposed by Petry et al. and the development of standardized items represent an important step towards overcoming many of the existing problems. By including internet gaming disorder as a discrete disorder, DSM-5 has paved the way for increased public awareness and improved the identification of cases. Hopefully, this will stimulate further research for the development of assessment protocols, elucidation of its pathophysiology and the trialling of treatment modalities for those suffering from the disorder.

Declaration of interests
None.

Keywords DSM-5, expert consensus, internet gaming disorder, prevalence, standardized criteria, treatment.

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References
DSM-5 is controversial, due primarily to concerns that it raise several issues. Given global rises in access and interaction with increasingly pervasive digital technologies, these developments could result in a ‘slippery slope’ in which almost any human activity is viewed as the target of addiction [6]. This concern reflects the continuing debate regarding the definition of addiction, whereby traditional models emphasizing biological changes, physiological dependence and neuroadaptation contrast with contemporary models emphasizing impairment of control [7]. Moreover, although Petry et al. [3] encourages research investigating if the criteria represent the defining features of the condition, the category may prematurely confirm the status of IGD as a behavioural addiction, despite limited evidence of requisite features such as impaired control and intolerance [8,9]. All conditions, including IGD, will require strong empirical data for inclusion in future editions of the DSM [2].

The IGD category may promote further conceptual confusion

Criticisms of internet addiction relate to its construct validity, focus on a medium of delivery and over-inclusiveness [1,6,8,9]. Accordingly, it has been argued that addictions to the internet fundamentally differ from addictions on the internet [10]. IGD can be viewed as a subtype of either internet addiction or video gaming addiction [11]. In the context of insufficient data to justify classification of internet activities other than video gaming [3], the DSM-5 category of IGD may create additional conceptual confusion by conflating video gaming and internet use within a single classification [1]. Presumably, whether or not subsequent editions of the DSM include a diagnosis of internet use disorder with subtypes of specific online activities or a diagnosis of video gaming disorder regardless of the medium [1] will depend upon future research findings.

IGD may be culturally determined

Asian countries report the highest prevalence of IGD [12]. Conclusive explanations of cultural differences are lacking, and further research is required to determine if IGD is culturally determined. Translations of the criteria in 10 languages [3] will clearly facilitate this research.

IGD will experience the same difficulties as disordered gambling

It is likely that, as the second behavioural addiction considered for inclusion in the DSM, IGD will experience similar difficulties to gambling disorder. These include, but are not limited to, a delay in research advances while basic conceptual issues are debated [13], a lack of biochemical markers due to the absence of an ingested substance [14], tautological difficulties resulting from conceptual similarity of the criteria to gambling and

ISSUES RAISED BY THE DSM-5
INTERNET GAMING DISORDER CLASSIFICATION AND PROPOSED DIAGNOSTIC CRITERIA

Significant variability in the classification and assessment of internet gaming disorder (IGD) has resulted in inconsistent evidence relating to its phenomenology, prevalence, cross-cultural application, course, biomarkers and treatment [1,2]. Petry and colleagues [3] have made an important contribution to research and practice by standardizing the diagnostic criteria for this disorder, which is included as a condition for further study in the DSM-5 [4]. It is likely that these developments will stimulate a more consistent evidence base and enhance diagnosis, prognosis, treatment opportunities, prevention efforts and industry regulation [5]. Although timely, given global rises in access and interaction with increasingly pervasive digital technologies, these developments raise several issues.

The IGD category should not facilitate inclusion of other behavioural addictions

Petry and colleagues [3] note that including IGD in the DSM-5 is controversial, due primarily to concerns that it