

states may pass citizen-initiated referenda to legalize the medical use of psychedelic mushrooms and plants, such as ibogaine and ayahuasca, by appealing to the putative “entourage” effects of whole plants and the misconception that medicines derived from plants are safer than “synthetic” pharmaceuticals⁹.

For all these reasons, we need public funding of independent evaluations of the efficacy of psychedelic drugs. Trials should involve larger numbers of patients who are representative of those clinical disorders for which these drugs may be used, and should include longer-term follow-up evaluations of safety and sustainability of favorable outcomes.

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DOI:10.1002/wps.20847

Rationale for and usefulness of the inclusion of gaming disorder in the ICD-11

Video games are among the most popular consumer electronic products in the world. They are having a growing mass appeal both as an interactive recreational activity, in which one can engage individually or with other players, and as a passive entertainment in the form of viewership of broadcasted gaming events, including e-sports and live-streamed games (e.g., twitch.tv). Modern games offer a diverse range of unique and highly immersive experiences. Portable consoles and smart devices have promoted the ubiquity of video games by making them easily accessible almost anywhere.

Gaming can produce numerous benefits for many players, including the fulfilment of psychological needs of social relatedness, autonomy and competence. However, over the last three decades, there has been increasing research interest in the phenomenon of problematic gaming. Survey studies and clinical case reports have highlighted that some individuals experience difficulties in regulating their engagement in gaming activities and play to an excessive degree, resulting in mental and physical symptoms as well as functional impairment^{1,2}. A meta-analysis³ reported that the worldwide prevalence of problematic gaming, as defined by standard addiction criteria, can be estimated to be 1-2%.

Internet gaming disorder was considered as a potential mental disorder for the DSM-5, but the decision was for it to be listed only as a condition for further study. The DSM-5 criteria were consistent with substance use and addictive disorders, including reference to loss of control, tolerance, and withdrawal. Gaming disorder is now included in the ICD-11 among “disorders due to addictive behaviours”. Here we outline the approach taken in the ICD-11.

In the ICD-11, gaming disorder is defined as a dysfunctional pattern of gaming, characterized by: a) impaired control (e.g., failed attempts to cut or diminish gaming involvement; gaming performed in a more prolonged or intensive way than planned); b) an increasing priority given to gaming to the extent that it takes

precedence over other life interests and daily activities; and c) a continued involvement in gaming despite negative consequences for the individual and his/her acquaintances. To meet the diagnosis, the maladaptive gaming pattern has to be either continuous or episodic and recurrent, be manifested over an extended period of time (typically 12 months), and cause psychological distress or significant impairment in personal, family, social, professional, and/or other important areas of functioning.

Several features are key to emphasize. First, the guidelines include only a few essential requirements, making them practical for use in multiple settings by different health care practitioners. Second, the guidelines do not include withdrawal and tolerance, as these are not relevant to gaming⁴. Third, the emphasis on functional impairment is key for differentiating between people with gaming disorder and the large proportion of individuals engaged in intense or persistent patterns of gaming (e.g., 20-30 hours per week) without experiencing associated negative consequences⁵.

The decision to introduce gaming disorder in the ICD-11 was guided by epidemiological, clinical and neurobiological studies, as well as data obtained from treatment providers^{1,2}. These lines of evidence have consistently shown that problematic gaming behaviours are associated with a range of negative outcomes (e.g., depressed mood, poorer work performance and school grades, worse sleep, interpersonal conflicts). In addition, there is a growing treatment demand internationally for gaming-related problems, particularly among adolescents and young adults, and an increasing number of clinical trials involving self-referred patients seeking help for these problems⁶. The treatment literature, while still developing, indicates that some therapies targeting the mechanisms underlying gaming disorder and promoting adaptive coping strategies can have positive long-term outcomes⁷.

Although there is increasing agreement among researchers and practitioners, in the areas of psychiatry, clinical psychology and public health, that gaming-related harms constitute an im-

portant mental health issue^{1,2,8}, a key concern is the potential for this diagnosis to lead to inappropriate medicalization, policies and treatment⁹. In particular, some researchers have argued that the introduction of the diagnostic category of gaming disorder may encourage the pathologization of all forms of gaming behaviours, including safe or adaptive gaming activities. Certainly, it is important for clinical guidelines to carefully define and delineate harmful and pathological involvement in video games from those behaviours consistent with a healthy passion or hobby. Such considerations are crucial to ensure the clinical validity and utility of a clinical diagnosis⁵. In the ICD-11, this important demarcation includes an explicitly stated reference to functional impairment caused by gaming.

A recent Delphi study⁴ provides further support for the ICD-11 approach to gaming disorder. This study involved a representative and international panel of experts asked to critically evaluate, in terms of the available evidence base, all of the proposed gaming disorder criteria according to their diagnostic validity (defined as the extent to which a specific criterion is a feature of the condition), clinical utility (defined as the extent to which a specific criterion is able to distinguish normal from problematic behaviour), and prognostic value (defined as the extent to which a specific criterion is crucial in predicting chronicity of the condition). Following the structured and iterative Delphi expert consensus method, the study indicated that there was strong agreement on the ICD-11 guidelines for gaming disorder, and that these guidelines would enable clinically valid and relevant diagnosis of gaming disorder without pathologizing healthy gaming.

The inclusion of gaming disorder in the ICD-11 is an important step toward meeting global challenges related to harmful overuse of digital technologies. This includes the development of a public health framework that identifies and promotes steps to reduce gaming-related harms⁸. Moreover, the recognition of gaming disorder promotes the value of multiple research efforts, aimed at testing the efficacy and effectiveness of preventive and clinical interventions, and elucidating the etiological mechanisms (e.g., personality, environmental and neurobiological fac-

tors) that affect the onset, maintenance and progression of the condition. Research efforts to be promoted are also those aimed at rethinking how to map the effects of gaming on children and adolescents, in particular with regard to the most popular game genres.

The recognition of gaming disorder is likely to encourage steps toward greater social responsibility measures, either enforced by governments and/or developed from within the gaming industry itself. Gaming products are currently largely unregulated, despite concerns that some in-game purchasing systems (e.g., “loot-boxes”) are similar to electronic gambling and may financially exploit vulnerable players. Important assistance that the industry can provide includes telemetry data-sharing, disclosure of product design features, and/or access to special populations (e.g., highly engaged users).

The above collaborative efforts will ultimately help individuals who are vulnerable to or affected by gaming-related problems, while recognizing the popular cultural status and the enjoyment of gaming experiences for most people.

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DOI:10.1002/wps.20848