

# Emerging experience with selected new categories in the ICD-11: complex PTSD, prolonged grief disorder, gaming disorder, and compulsive sexual behaviour disorder

Geoffrey M. Reed<sup>1</sup>, Michael B. First<sup>1,2</sup>, Joël Billieux<sup>3,4</sup>, Marylene Cloitre<sup>5,6</sup>, Peer Briken<sup>7</sup>, Sophia Achab<sup>8,9</sup>, Chris R. Brewin<sup>10</sup>, Daniel L. King<sup>11</sup>, Shane W. Kraus<sup>12</sup>, Richard A. Bryant<sup>13</sup>

<sup>1</sup>Department of Psychiatry, Columbia University Vagelos College of Physicians and Surgeons, New York, NY, USA; <sup>2</sup>New York State Psychiatric Institute, New York, NY, USA; <sup>3</sup>Institute of Psychology, University of Lausanne, Lausanne, Switzerland; <sup>4</sup>Center for Excessive Gambling, Addiction Medicine, Lausanne University Hospitals, Lausanne, Switzerland; <sup>5</sup>National Center for PTSD Dissemination and Training Division, VA Palo Alto Health Care, Menlo Park, CA, USA; <sup>6</sup>Department of Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA, USA; <sup>7</sup>Institute for Sex Research and Forensic Psychiatry, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; <sup>8</sup>Outpatient Treatment Unit for Addictive Behaviors ReConnecte, Geneva University Hospitals, Geneva, Switzerland; <sup>9</sup>Psychological and Sociological Research and Training Unit, Department of Psychiatry, University of Geneva, Geneva, Switzerland; <sup>10</sup>Department of Clinical, Educational and Health Psychology, University College London, London, UK; <sup>11</sup>College of Education, Psychology, and Social Work, Flinders University, Adelaide, SA, Australia; <sup>12</sup>Department of Psychology, University of Nevada, Las Vegas, NV, USA; <sup>13</sup>School of Psychology, University of New South Wales, Sydney, NSW, Australia

*Among the important changes in the ICD-11 is the addition of 21 new mental disorders. New categories are typically proposed to: a) improve the usefulness of morbidity statistics; b) facilitate recognition of a clinically important but poorly classified mental disorder in order to provide appropriate management; and c) stimulate research into more effective treatments. Given the major implications for the field and for World Health Organization (WHO) member states, it is important to examine the impact of these new categories during the early phase of the ICD-11 implementation. This paper focuses on four disorders: complex post-traumatic stress disorder, prolonged grief disorder, gaming disorder, and compulsive sexual behaviour disorder. These categories were selected because they have been the focus of considerable activity and/or controversy and because their inclusion in the ICD-11 represents a different decision than was made for the DSM-5. The lead authors invited experts on each of these disorders to provide insight into why it was considered important to add it to the ICD-11, implications for care of not having that diagnostic category, important controversies about adding the disorder, and a review of the evidence generated and other developments related to the category since the WHO signaled its intention to include it in the ICD-11. Each of the four diagnostic categories appears to describe a population with clinically important and distinctive features that had previously gone unrecognized as well as specific treatment needs that would otherwise likely go unmet. The introduction of these categories in the ICD-11 has been followed by a substantial expansion of research in each area, which has generally supported their validity and utility, and by a significant increase in the availability of appropriate services.*

**Key words:** International Classification of Diseases, ICD-11, diagnosis, complex post-traumatic stress disorder, prolonged grief disorder, gaming disorder, compulsive sexual behaviour disorder, clinical utility, mental health care

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The eleventh revision of the World Health Organization (WHO)'s International Classification of Diseases (ICD-11) was approved by the World Health Assembly, comprising the health ministers of all WHO member states, on May 25, 2019<sup>1</sup>. Reporting of health statistics to the WHO based on the new diagnostic system began on January 1, 2022<sup>2</sup>. WHO member states are now transitioning from the ICD-10 to the ICD-11, a process that will take several years to implement fully around the world. Countries that have not yet implemented the ICD-11 in their health information and reporting systems will use conversion algorithms in order to comply with the WHO reporting requirement in the meantime.

The primary purpose of the ICD classification is to provide a framework for the collection and reporting of information on mortality and morbidity by WHO member states, including disease surveillance and national and global health statistics. The ICD is also used by member states in the organization of clinical services from the institutional to the national level, and as an integral part of the framework for defining their obligations to provide free or subsidized health services to their citizens<sup>3</sup>. For individual users, the ICD organizes and facilitates clinical practice and research.

Over the past decade and within the context of the overall development of the ICD-11, the WHO Department of Mental Health

and Substance Use has developed Clinical Descriptions and Diagnostic Requirements (CDDR) for ICD-11 Mental, Behavioural and Neurodevelopmental Disorders, which are intended to provide sufficient information for reliable implementation in clinical settings<sup>4</sup>. The Department had previously published Clinical Descriptions and Diagnostic Guidelines (CDDG) for ICD-10 Mental and Behavioural Disorders<sup>5</sup> simultaneously with the publication of the ICD-10. The development of the ICD-11 CDDR, based on the principles of clinical utility and global applicability, has been the most broadly international, multilingual, multidisciplinary and participative revision process ever implemented for a classification of mental disorders<sup>6</sup>. In part, the structure and methodology for developing the ICD-11 CDDR were specifically intended to address some of the shortcomings of the ICD-10 CDDG<sup>4</sup>. The change in title from CDDG to CDDR relates to the development by the WHO over the past decade of a body of policies that define guidelines in a specific way that is not applicable to the CDDR.

Among the important changes introduced in the ICD-11 classification of mental disorders<sup>6</sup> is the addition of 21 new categories, shown in Table 1. Proposals to add new categories are invariably intended to increase the recognition and prominence of a disorder that does not appear as a specific entity in the prior edition of the classification. The most frequent rationales for such addi-

Ko et al<sup>207</sup> compared individuals formally diagnosed with gaming disorder with non-problematic gamers. They found that those with gaming disorder reported significant functional impairment across multiple domains, including academic and work performance, social functioning, and physical health (including problems related to sleep, pain, body weight, vision, and physical exercise). Psychological interventions designed to reduce gaming time and gaming disorder symptoms have demonstrated significant improvements in global measures of functional impairment<sup>154,204</sup>.

At the same time, it must be acknowledged that, in the context of the dramatic increase in scientific publications on problem gaming, many low-quality studies have also been published. Weaker studies have relied extensively on self-selected samples that do not necessarily include regular and/or problematic gamers, have used unvalidated or psychometrically poor self-report assessment instruments, or have made causal inferences based on insufficient evidence<sup>167,169,170</sup>. This has fuelled criticisms about the robustness of the supporting evidence. Opponents of the disorder have selectively cited low-quality studies to advance their arguments that the totality of evidence in favour of gaming disorder is insufficient or invalid, usually via news media and social media.

Additional research is important to understand more completely the nature of gaming disorder, its pathological mechanisms, its commonalities with gambling disorder and disorders due to substance use, its long-term course and comorbidities, and its treatment. Nonetheless, there is clearly more than enough evidence to conclude that: a) individuals with gaming disorder are a legitimate clinical population for whom health services can be appropriately provided; b) it is of sufficient clinical and public health interest to WHO member states to collect and report health information about gaming disorder; and c) on this basis, the inclusion of this diagnostic category in the ICD-11 is justified. If necessary, the CDDR for gaming disorder can be modified in future updates of the ICD-11 in response to emerging evidence, but such evidence would be much less likely to become available if the category were not included in the ICD-11.

## Implications of the gaming disorder diagnosis

The recognition of gaming disorder in the ICD-11, as well as its inclusion in the DSM-5 research appendix, has accelerated basic and applied research endeavours<sup>211,212</sup>. Research into problem gaming has advanced particularly in the areas of epidemiology, neurobiology and interventions, and has also stimulated scientific interest in problematic engagement in other online activities (e.g., social networking sites, Internet pornography use, and e-commerce)<sup>213,214</sup>. An advantage of the more streamlined ICD-11 conceptualization of gaming disorder as compared to DSM-5's has been its clarity regarding the scope and clinical description of the condition, eschewing some traditional addiction concepts that have been criticized or have received mixed support as applied to problem gaming<sup>140,141,172</sup>. The WHO has also supported

several initiatives related to problem gaming, including the development of new screening and diagnostic tools, promotion of standardized decision-making tools, and support for health systems internationally<sup>215</sup>.

Research on psychological interventions for gaming disorder is an area that has grown in conjunction with the recognition of the disorder<sup>159,162</sup>. These interventions, particularly cognitive-behavioural therapy (CBT), have been examined in more rigorous studies and thus far demonstrated strong short-term efficacy<sup>147</sup>. Recently, a randomized controlled trial evaluating the efficacy of a manualized CBT program for gaming disorder found that most patients (69%) who received the intervention showed remission compared with less than one-fourth (24%) of those in a wait-list control group<sup>154</sup>. Other approaches that have been tested in clinical trials include motivational interviewing and counseling, family therapy, and psychosocial rehabilitation<sup>204,216</sup>.

Government support for research programs and public health responses to gaming disorder have varied greatly by region<sup>217</sup>. In East Asian countries, there have been long-standing coordinated governmental efforts to support research and public health initiatives<sup>149,157</sup>. In comparison, more limited funding for research and fewer public resources for treatment have been available across Western countries<sup>218</sup>. Examples of concrete developments following the release of the ICD-11 include the opening in the United Arab Emirates of the first outpatient clinic for the treatment of gaming disorder, and the establishment by the NHS in the UK of the National Centre for Behavioural Addictions, which provides treatment for gambling and gaming disorders. Across many countries worldwide, there remains a need for training programs for health care professionals on identifying and managing gaming disorder.

The global gaming industry has adopted a public stance in opposition to the inclusion of gaming disorder in the ICD-11<sup>218,219</sup>. The industry has also used its public platform and reach to endorse scholars who challenge the disorder and to direct public attention to research highlighting the benefits of gaming. To date, there has been very limited collaboration between the industry and public health stakeholders in relation to problem gaming, despite some calls from researchers for the industry to leverage its capabilities to assist in identifying and assisting vulnerable gamers. There have also been some proposals for the industry to consider more ethical game design standards and business practices<sup>141</sup>, particularly in relation to games marketed to children<sup>220</sup> and monetized games (e.g., prohibiting “loot boxes” that enable in-game purchases of advantageous game features using virtual currencies or real-world money)<sup>221</sup>.

## COMPULSIVE SEXUAL BEHAVIOUR DISORDER

### The need for a compulsive sexual behaviour disorder diagnosis

Compulsive sexual behaviour disorder is a new diagnostic category in the ICD-11, included in the grouping of Impulse Control

**Table 5** Essential (required) features for compulsive sexual behaviour disorder in the ICD-11 Clinical Descriptions and Diagnostic Requirements (CDDR)

- A persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behaviour, manifested in one or more of the following:
  - Engaging in repetitive sexual behaviour has become a central focus of the individual's life to the point of neglecting health and personal care or other interests, activities and responsibilities.
  - The individual has made numerous unsuccessful efforts to control or significantly reduce repetitive sexual behaviour.
  - The individual continues to engage in repetitive sexual behaviour despite adverse consequences (e.g., marital conflict due to sexual behaviour, financial or legal consequences, negative impact on health).
  - The person continues to engage in repetitive sexual behaviour even when the individual derives little or no satisfaction from it.
- The pattern of failure to control intense, repetitive sexual impulses or urges and resulting repetitive sexual behaviour is manifested over an extended period of time (e.g., 6 months or more).
- The pattern of failure to control intense, repetitive sexual impulses or urges and resulting repetitive sexual behaviour is not better accounted for by another mental disorder (e.g., Manic Episode) or other medical condition and is not due to the effects of a substance or medication.
- The pattern of repetitive sexual behaviour results in marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning. Distress that is entirely related to moral judgments and disapproval about sexual impulses, urges, or behaviours is not sufficient to meet this requirement.

Disorders. The essential features of this condition in the CDDR are presented in Table 5. The diagnostic category is intended to identify a clinical population of people who experience being unable to control their sexual impulses and for whom health services might reasonably be provided. The inclusion of the category in the classification is responsive to the needs of WHO member states to identify this population and to develop relevant clinical services and policies, including subsidized treatment provided by governments or via other insurance mechanisms.

Compulsive sexual behaviour disorder replaces the ICD-10 category of “excessive sexual drive”, but is defined and operationalized quite differently. The ICD-10 CDDG for “excessive sexual drive” contain no specific diagnostic requirements and instead simply state that “both men and women may occasionally complain of excessive sexual drive as a problem in its own right, usually during late teenage or early adulthood”<sup>5,p.152</sup>. However, complaints of excessive desire alone do not identify a clinically relevant problem with public health significance<sup>222</sup>. The challenge in defining compulsive sexual behaviour disorder in the ICD-11 was to balance its ability to identify people in need of treatment against the risk of pathologizing variants of sexual desire and behaviour that are not inherently harmful or pathological<sup>223,224</sup>.

Clearly, the ICD-10 description of “excessive sexual drive” would encompass a range of individuals whose sexual interests, desires and impulses are not pathological but who may experience them as excessive because they are unwanted or “morally incongruent”<sup>225</sup> (e.g., a woman who believes that she should not have sexual impulses at all; a religious young man who believes that he should never masturbate; persons who are distressed about their homosexual attraction or behaviour). The ICD-11 makes clear that distress related to the individual's (or others') moral judgements and disapproval related to sexual impulses, urges or behaviours that would otherwise not be considered indicative of psychopathology is not an appropriate basis for diagnosing compulsive sexual behaviour disorder. The “additional clinical features” section of the CDDR for the disorder also indi-

cates that particular attention must be paid to the evaluation of individuals who self-identify as having the condition (e.g., calling themselves “sex addicts” or “porn addicts”) in terms of whether they actually exhibit the clinical characteristics of the disorder<sup>14</sup>.

## History of the disorder

The existence of a clinical population of individuals who feel unable to control their sexual impulses and as a result engage in repetitive and problematic sexual behaviour, sometimes with very serious consequences, has long been recognized. Prior to the proposal to introduce compulsive sexual behaviour disorder in the ICD-11<sup>223,226</sup>, there has been more than a quarter century of active research<sup>227,228</sup> on the symptomatology, comorbidities, etiology, and linkages to clinical outcomes (such as risk for sexually transmitted infections<sup>229</sup>) of a condition defined in relation to repetitive sexual behaviour, as well as on the related risks in the forensic context (especially for sexual reoffending<sup>230</sup>).

It is therefore not the case, as some have claimed, that this diagnostic category is simply a fashionable new label that has emerged in relation to the increased use of digital media for sexual purposes (e.g., use of Internet as a source of pornographic material or a means of finding casual or anonymous sex)<sup>231</sup>. However, there is no question that greatly increased opportunities to engage in sexual behaviour via the Internet without even having to leave one's home have changed the nature of these behaviours and greatly facilitated their frequent repetition<sup>232</sup>, therefore possibly contributing to an increase in the prevalence of compulsive sexual behaviour disorder.

ICD-11 Working Groups agreed on the relevance of the clinical phenomenon, but it was less clear where to place the disorder within the classification, how to operationalize it, and how to name it<sup>226</sup>. The term “sexual addiction” in the US came mainly from the self-help group movement<sup>233</sup>. The term “sexual compulsivity” emerged in the field of human immunodeficiency virus (HIV) research, primarily from studies with samples of men

who had sex with men<sup>234-236</sup>. “Sexual impulsivity” was described as a symptom of borderline personality disorder<sup>237</sup>, and “hypersexuality” had been used to describe a symptom associated with various other disorders, for example dementia<sup>238</sup> or Parkinson’s disease<sup>239</sup>.

A category called “hypersexual disorder” had been proposed for inclusion in the DSM-5<sup>228</sup>. This was conceptualized as being “characterized by an increased frequency and intensity of fantasies, urges, and enacted behaviors associated with an impulsivity component”<sup>228, p.385</sup>. The disorder was proposed for inclusion in the DSM-5 chapter on Sexual Dysfunctions because increased or disinhibited expressions of sexual arousal were considered to be its primary component, although some of its criteria had been modeled after those of substance dependence. There was substantial criticism of the proposal. The main arguments against it were that it represented a pathologization of normal variation (i.e., high sex drive), that there was insufficient evidence of its validity as a distinct clinical syndrome, and fears that the diagnosis could be misused in forensic settings by individuals seeking to evade responsibility for sexual misbehaviour<sup>16,240</sup>. In the end, hypersexual disorder was not included even in the DSM-5 section on “Conditions for Further Study”, despite relatively successful application in a field trial<sup>241</sup>.

Although there is clearly similarity between ICD-11 compulsive sexual behaviour disorder and hypersexual disorder as proposed for DSM-5, the ICD-11 entity is not conceptualized as a sexual desire disorder, and its diagnostic requirements do not focus on determining whether sexual interests and behaviour are excessive in their intensity, frequency, or time spent on them. Rather, the central feature of the ICD-11 diagnostic category is the persistent pattern of failure to control intense, repetitive sexual impulses or urges, resulting in repetitive sexual behaviour with a variety of negative consequences for the individual, including marked distress or significant functional impairment.

This conceptualization clearly aligns compulsive sexual behaviour disorder with impulse control disorders, although aspects of its description are similar to those of ICD-11 disorders due to addictive behaviours. The ICD-11 CDDR explicitly state that a diagnosis of compulsive sexual behaviour disorder should not be assigned to individuals with high levels of sexual interest and behaviour (e.g., due to a high sex drive) who do not exhibit impaired control over their sexual behaviour. The WHO explicitly decided not to classify the new diagnostic category in the grouping of Disorders Due to Addictive Behaviours (i.e., with gambling disorder and gaming disorder), because the evidence was not considered to be strong enough to support this model<sup>223,226</sup>. The WHO specifically declines to use the term “sex addiction”.

## Controversies related to the diagnosis of compulsive sexual behaviour disorder

Controversies about the nature of this phenomenon and its classification have existed since the 1990s, particularly in relation to the term “sex addiction” and the condition’s etiology<sup>227</sup>. More

than 20 years ago, Gold and Heffner<sup>242</sup> reviewed the available literature – comparing the competing conceptualizations as an addictive, obsessive-compulsive, or impulse control disorder – and subtitled the resulting article *Many Conceptions, Minimal Data*. These controversies were never definitively resolved, which contributed to a diversification of research in different areas independently of one another, with the result that studies based on different paradigms were often not directly comparable.

These controversies were also reflected in adversarial and sometimes *ad hominem* comments made on the ICD-11 platform about the inclusion of compulsive sexual behaviour disorder in response to the public draft version of the classification<sup>13</sup>. One focus of controversy revolved around whether certain patterns of sexual behaviour can reasonably be considered to represent an addiction<sup>243,244</sup>. A more extreme perspective reflected in some comments on the ICD-11 platform was that sex addiction is a false construct that has been promoted by profiteering providers of unvalidated services and is fundamentally based on sex-negative moral or religious judgments. The disagreement about the diagnostic construct and the lack of uniform diagnostic guidelines has fuelled discussions in the media and questions among the public regarding its legitimacy as a disorder<sup>245</sup>, and has also hindered the development of evidence-based therapeutic approaches<sup>227</sup>.

Nonetheless, a large number of people describe themselves as having difficulty controlling their sexual behaviour, even though it is not always clear what they mean. In a US nationally representative sample of adult Internet users, 1% of men and 3% of women reported some agreement with the statement “I am addicted to pornography”<sup>246</sup>. In another nationally representative US study, 10.3% of men and 7.0% of women endorsed clinically relevant levels of distress and/or impairment associated with difficulty controlling sexual feelings, urges and behaviours<sup>247</sup>.

The WHO has attempted to sidestep many of the controversies in the area while acknowledging the existence of a clinical population of individuals who feel unable to control their own sexual behaviour and as a result experience substantial distress and sometimes quite severely negative functional outcomes. These presentations were considered to meet the basic definition of a mental disorder<sup>223,226</sup> and to be associated with substantial suffering for which health services might reasonably be provided. The CDDR point out that the relevant behaviours do not represent true compulsions (as defined in obsessive-compulsive disorder), but this term was adopted to describe the behaviour pattern because of the prevalence of its use in the scientific literature.

## Review of the evidence

Prevalence data using the ICD-11 diagnostic requirements are not yet available at the general population level. Castro-Calvo et al<sup>248</sup> studied compulsive sexual behaviour disorder in two independent convenience samples in Spain, one comprising university students and the other community members who had volunteered to participate in a study about their sexual be-

haviour. The estimated prevalence of the disorder was 10.1% in the student sample and 7.8% in the community sample. Participants reporting symptoms meeting the requirements for the disorder were mostly heterosexual males, younger than the other respondents, and with higher levels of sexual sensation-seeking and interest in sex, increased offline and especially online sexual activity, more depressive and anxious symptoms, and poorer self-esteem.

Another study of US university students found that same-sex attraction was significantly correlated with compulsive sexual behaviour<sup>249</sup>. However, Gleason et al<sup>250</sup> reported that the prevalence of clinically significant compulsive sexual behaviour among gay men in the US (7.9%) was not higher than in the general population<sup>247</sup>.

Across studies, endorsement of items related to compulsive sexual behaviour seems to be associated with male gender<sup>247,248</sup>, younger age<sup>246,250</sup>, religiousness<sup>246,250</sup>, and moral incongruence (i.e., the experience of engaging in activities that violate one's moral values)<sup>225</sup>. In the absence of the other essential features, such subjective reports would not be sufficient for a diagnosis of compulsive sexual behaviour disorder in the ICD-11. In studies of men who have sex with men, self-reported compulsive sexual behaviour has been found to be correlated with depression<sup>251</sup>, anxiety<sup>252</sup>, and minority stress (i.e., the stress associated with stigma-related social disadvantage that compounds general life stress)<sup>253</sup>, as well as to be associated with higher rates of sexual risk-taking behaviours<sup>254,255</sup>.

A Swedish study reported a high need for health care specific to experiencing compulsive sexual behaviour<sup>256</sup>. During the first 7 years of its operation, 1,573 participants contacted a Swedish helpline specifically set up to provide counseling and treatment for high-risk sexual behaviours to men and women with self-identified out-of-control sexual behaviour and unwanted paraphilic arousal patterns. Compulsive sexual behaviour was reported by 69% of helpline users.

Clinical studies often investigate comorbidities between compulsive sexual behaviour disorder and other disorders. In one such study of a convenience sample of Spanish college students<sup>257</sup>, more than 91.2% of participants with that ICD-11 diagnosis also had symptoms that met the diagnostic requirements for at least one other Axis I mental disorder during their lifetime, as assessed by the Structured Clinical Interview for DSM-IV-TR, compared to 66% of those without the diagnosis. Participants with compulsive sexual behaviour disorder were more likely to report disorders due to alcohol and other substances (mainly cannabis and cocaine), major depression, bulimia nervosa, and adjustment disorder.

In another study, 6.5% of treatment-seeking individuals with gambling disorder reported experiencing compulsive sexual behaviour<sup>258</sup>. The lifetime prevalence of ICD-11 compulsive sexual behaviour disorder was found to be 5.6% in patients with current obsessive-compulsive disorder<sup>259</sup>. Elevated rates of compulsive sexual behaviour have also been found among individuals with attention-deficit/hyperactivity disorder (ADHD)<sup>260</sup>, bipolar disorder<sup>261</sup>, borderline personality disorder<sup>257,262</sup>, PTSD<sup>263</sup>, para-

philia<sup>264</sup>, and erectile dysfunction<sup>264,265</sup>. Many individuals with compulsive sexual behaviour also report a history of sexual abuse as a child<sup>266</sup>, and the relationship between child sexual abuse and the behaviour appears to be stronger in men<sup>267</sup>.

Neurobiological and neuropsychological evidence about compulsive sexual behaviour and compulsive sexual behaviour disorder has also been accumulating. Individuals who report compulsive sexual behaviour, as compared to individuals who do not, exhibit increased blood flow in the reward system of the brain in response to erotic cues<sup>268-270</sup>, greater responsivity and attention to erotic cues<sup>271-273</sup>, increased gray matter volume in the left amygdala<sup>274</sup>, and decreased right caudate nucleus volume<sup>275</sup>. Men with compulsive sexual behaviour disorder, relative to controls without the disorder, also show increased anticipatory response to cues predictive of erotic rewards in the ventral striatum and anterior orbitofrontal cortex<sup>276</sup>. Current findings suggest that compulsive sexual behaviour disorder shares similar brain region abnormalities with both obsessive-compulsive disorder and substance addiction, although further work is needed to elucidate the underlying brain mechanisms<sup>277</sup>.

One group of researchers has studied the pathophysiological mechanisms in men who report problems with compulsive sexual behaviour. They found that MIR4456 (an mRNA gene) had lower expression in males reporting vs. those not reporting the behaviour, and posited that this gene may play an important role in the oxytocin signaling pathway related to the expression of the behaviour<sup>278</sup>. They also found subtle deregulation of the hypothalamic-pituitary-gonadal axis, with increased luteinizing hormone plasma levels, but not differences in testosterone levels, between men reporting vs. those not reporting issues with compulsive sexual behaviour<sup>279</sup>.

In terms of treatment of the disorder, there have been several relevant advances since earlier reviews on the topic<sup>280,281</sup>. Randomized controlled trials have been conducted using a 7-week CBT group intervention<sup>282</sup> as well as Internet-administered CBT<sup>283</sup>, both of which showed significant reductions in symptoms as compared to waitlist control groups. Individuals treated with acceptance and commitment therapy reduced their Internet pornography use as compared to a waitlist control<sup>284</sup>, as did participants in a CBT-based self-help intervention<sup>285</sup>. Other studies have shown beneficial effects on compulsive sexual behaviour of a 12-step self-help group<sup>286</sup>, a mindfulness-based intervention<sup>287</sup>, an intervention to reduce sexual risk behaviour in HIV-positive men<sup>288</sup>, and an intervention designed to reduce minority stress<sup>253</sup>.

With regard to pharmacological treatment, a small study with no control group found a reduction in compulsive sexual behaviour in response to 25-50 mg of naltrexone for four weeks<sup>289</sup>. No clear longer-term beneficial effects were seen in response to the SSRI paroxetine in a case series<sup>290</sup>, consistent with the results of an earlier study<sup>291</sup>. Single case studies have been published on successful use of transcranial magnetic stimulation<sup>292,293</sup>.

In spite of uncertainties about compulsive sexual behaviour disorder, its course, and its relationship to other disorders, there is ample evidence of the existence of a clinical population of in-

dividuals who experience themselves as unable to control their repetitive sexual behaviour, in whom the behaviour pattern is manifest over an extended period of time and is associated with significant functional impairment or marked distress that is not solely related to moral judgments and disapproval.

Compulsive sexual behaviour disorder is associated with significant suffering and may have a substantial negative impact on the health and lives of the individuals it affects. It is therefore a legitimate focus of health services and is of interest to WHO member states in their efforts to provide or facilitate subsidized health services to their populations and for the collection and reporting of health information. It is expected that the expansion of research on the disorder will continue given its status as a WHO official diagnostic entity, with its own set of diagnostic requirements for use in identifying clinical and research populations. Researchers who had previously been connected to the DSM-5 proposal for hypersexual disorder have acknowledged that the inclusion of compulsive sexual behaviour disorder in the ICD-11 will have a significant impact on clinical research and practice and have suggested possible refinements to the ICD-11 CDDR that can be tested in future research<sup>294</sup>.

## Implications of the compulsive sexual behaviour disorder diagnosis

Since the inclusion of compulsive sexual behaviour disorder in the ICD-11 was proposed, there has been a major expansion of research in this area<sup>227</sup>. A good deal of the early research was based on a conceptualization of “sex addiction”<sup>242</sup>, that later began to shift to a discussion of compulsive sexual behaviour, that does not entirely map to ICD-11 compulsive sexual behaviour disorder<sup>291,258-297</sup>, or simply “problematic sexual behaviours”<sup>298</sup> or “problematic pornography use”<sup>299</sup>. A good deal of the research in the past several years has focused on “hypersexuality”<sup>e.g.,301,302</sup>, although this has only occasionally been operationalized as hypersexual disorder as it had been proposed for DSM-5. So, there continue to be issues with comparability across studies.

The lack of theoretical integration in the literature has also produced discrepancies in the measurement of compulsive sexual behaviour disorder<sup>227</sup>. The most commonly used measures include the Sexual Compulsivity Scale<sup>234</sup>, the Sexual Addiction Screening Test-Revised<sup>303</sup>, the Hypersexual Behavior Inventory<sup>304</sup>, and the Compulsive Sexual Behavior Inventory<sup>235</sup>. Despite their popularity, there has been little methodologically rigorous research to confirm the validity and reliability of these measures in clinical populations<sup>305</sup>.

Based on the draft ICD-11 diagnostic requirements for compulsive sexual behaviour disorder, an international group of researchers developed the Compulsive Sexual Behavior Disorder-19 (CSBD-19) scale to assess the extent of repetitive sexual urges, thoughts and behaviours and their consequences during the previous six months<sup>306</sup>. The scale yielded a five-factor structure (i.e., control, salience, relapse, dissatisfaction, and general and domain-specific negative consequences), and its psychome-

tric properties were robust across the three countries involved in the initial study (Germany, Hungary and the US). In 2021, an expanded consortium of researchers launched the International Sex Survey, a large-scale multi-language study involving over 40 countries. Upon its completion, the project will make the CSBD-19 publicly available in over 30 languages for research and clinical practice<sup>307</sup>.

Resources to equip clinicians to assess and treat ICD-11 compulsive sexual behaviour disorder have also begun to appear<sup>231,245</sup>. An expert group is being formed by the International Society for Sexual Medicine to launch position papers and develop guidelines on this topic. It is noteworthy that the American Psychiatric Association was the first to publish a clinical and treatment-oriented book on compulsive sexual behaviour disorder<sup>308</sup>, despite its own decisions regarding hypersexuality in the DSM-5.

In summary, the decision by the WHO to include compulsive sexual behaviour disorder in the ICD-11 has broken the stasis due to questions about how to best conceptualize the condition. The ICD-11 CDDR very carefully address concerns about false positives and the stigmatization of non-pathological sexual behaviour. The inclusion of the disorder in the ICD-11 has facilitated the provision of appropriate services and the development and testing of empirically-supported treatments. Our understanding of the etiology, diagnostic classification, assessment, and treatment of the disorder will continue to evolve as we gain new insights from future research efforts. We anticipate that remaining controversies will be resolved over the next few years as scholarship on the disorder and related clinical experience continues to grow exponentially.

## DISCUSSION

The rationale for the inclusion of each of the four disorders discussed in this paper illustrates the principles for adding new disorders in the ICD-11 that we described in the introduction: a) to allow collection of morbidity statistics by WHO member states on health conditions with public health significance; b) to facilitate identification of clinically important but poorly classified mental disorders so that appropriate management can be provided; and c) to stimulate research into effective treatments for the conditions. The ICD-11 now provides a consistent rubric and definitions for tracking and reporting of these conditions at the health system, national and global level. Having specific diagnostic requirements rather than using vague “other specified” or “unspecified” residual categories to capture the relevant phenomena obviously facilitates the identification of these conditions. Introducing these disorders into the ICD-11 appears to have been followed by a significant increase in the availability of appropriate services for each condition and an uptick in research to evaluate available interventions.

The research literature on these disorders has expanded substantially since it was publicly announced that the WHO was planning to add them to the ICD-11. A significant increase of interest in these categories was already underway, but their in-

clusion in the ICD-11 has facilitated additional research by providing investigators with standardized definitions and diagnostic requirements, which can be used as a basis for developing appropriate measures, as well as building up a more compelling case for research funding from member state governments and other agencies.

As highlighted earlier in this paper, the decisions made by the WHO to add these categories are different from those taken by the American Psychiatric Association for the DSM-5. In the case of complex PTSD, the DSM-5 Workgroup decided to broaden the PTSD criteria to include elements of DESNOS, the earlier version of complex PTSD that had been tested for DSM-IV, rather than adding a new diagnostic category. This has had the effect of substantially expanding the complexity of the PTSD diagnosis in the DSM-5<sup>309</sup>. A variety of studies in different populations have since demonstrated the validity of the ICD-11 approach<sup>31,32</sup>. Nonetheless, as the ICD-11 is adopted in clinical systems, it will be important to examine whether the DSM-5 PTSD and the ICD-11 PTSD plus complex PTSD identify different groups and whether the implementation of the ICD-11 leads to difficulties for some individuals in accessing services. This is a concern that some have expressed<sup>310</sup>, although available data suggest that the DSM-5 criteria identify fewer cases than either the ICD-11 or the DSM-IV<sup>311</sup>.

In contrast to the situation with complex PTSD, versions of prolonged grief disorder and gaming disorder had been included in the DSM-5 research appendix under slightly different names. Placement in this appendix suggests that there was substantial interest in the categories as candidate entries in the DSM-5, but also an overall conclusion that the proposed criteria sets had not been sufficiently validated to include these disorders in the main classification. In the past, several DSM research categories have eventually been moved to the main classification, but this does not occur invariably. The ICD has no equivalent to a research appendix; a category is either included or not. In a few cases the entity in question may be added as an index term for an "other specified" residual category to indicate the recommended ICD-11 category for classifying it, but there is no provision for including research definitions that can be tested. At the same time, the WHO has to consider the needs of the member states that form its governance. For national governments, the regular occurrence of a condition in clinical systems that appears to demand some specific treatment response is a valid reason for its inclusion in the classification.

The description of "persistent complex bereavement disorder" in the DSM-5 research appendix in part represented an attempt to reconcile two somewhat divergent models in the field<sup>312</sup>. Based on additional work conducted during the intervening period, the entity has been included in the main classification for the DSM-5-TR, the ICD-11 name has been adopted, and the criteria have been altered to be more similar to the ICD-11 CDDR<sup>124</sup>. Internet gaming disorder as described in the DSM-5 research appendix attempts to model more closely diagnostic criteria for substance use disorders, whereas the essential features of ICD-11 gaming disorder are more streamlined and more

strongly emphasize loss of control over gaming behaviour. Still, they are both clearly attempting to describe the same group of people. **The complete absence of a hypersexual disorder in DSM-5 (as opposed to its being placed in the research appendix or listed as an example of a sexual disorder not otherwise specified, as it was in prior editions of the DSM) was ostensibly based on concerns that there was insufficient evidence that this disorder represented a distinct clinical syndrome and that it could be misused in forensic settings, although Workgroup members opined that these concerns had been addressed<sup>240</sup>. The ICD-11 Working Groups attempted to avoid some of the pitfalls encountered by the proposal for hypersexual disorder, notably by describing it as a disorder of impulse control that is expressed in sexual behaviour rather than as a sexual disorder. The evidence being generated will be helpful to decisions about these categories in a future edition of the DSM.**

Looking at the other entries in Table 1, eleven of the 21 disorders listed were either already in the DSM-IV or were also added to the DSM-5. These changes in the ICD-11, therefore, had the effect of enhancing compatibility between the two classifications. The ICD-11 has included a few additional syndromes caused by substances or medications or by diseases classified elsewhere that are not found in the DSM-5<sup>17</sup>. This leaves only three discrepant new ICD-11 categories other than those reviewed in this paper. Olfactory reference syndrome is mentioned in the DSM-5 as an example of other specified obsessive-compulsive and related disorders. Body integrity dysphoria (an intense and persistent desire to become physically disabled in a significant way, e.g., major limb amputee, paraplegic, blind) is a very rare though quite distinctive and serious condition for which a large body of evidence with specific methodologies may never be generated if that continues to be a requirement for its inclusion in the DSM. Partial dissociative identity disorder is very similar to what is described in the DSM-5 as "chronic and recurrent syndromes of mixed dissociative symptoms," included as an example of other specified dissociative disorders. These categories seem unlikely to generate the same level of interest and controversy as those reviewed in this paper.

## CONCLUSIONS

The four disorders introduced in the ICD-11 that are discussed in this paper – complex PTSD, prolonged grief disorder, gaming disorder, and compulsive sexual behaviour disorder – describe populations with clinically important and distinctive features that have previously gone unrecognized in the ICD classification of mental disorders. These populations also have specific treatment needs that would otherwise be likely to go unmet if these disorders did not have a place in the classification. Overall, the impact of adding these disorders appears to have been positive in terms of health information and reporting, identifying patients in need of service, and the development and testing of interventions. Clearly, there are remaining research needs and specific targeted studies should be undertaken related to each of the four