

THE PITFALLS OF RECYCLING SUBSTANCE-USE DISORDER CRITERIA TO DIAGNOSE BEHAVIORAL ADDICTIONS

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In recent years, discussions within the addiction scientific community have increasingly focused on the conceptualization and diagnosis of behavioral addictions (i.e., non-substance-related addictive behaviors). At the heart of this academic debate lies the question of whether some potentially impairing habits such as problematic gambling, video gaming, social media use or cybersex, can be considered genuine mental disorders (e.g., Dullur & Starcevic, 2018; King et al., 2018; Stein et al., 2018), and in particular, whether they can be conceptualized as addictive disorders (Billieux et al., 2015a; Kardefelt-Winther et al., 2017; Mihordin, 2012; Saunders et al., 2017).

Legitimizing this dynamic, the latest edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013) has incorporated a new nosological group (“Substance-related and Addictive Disorders”) encompassing non-substance-related addictive disorders. When DSM-5 was released, only gambling disorder was included here, based on evidence of its shared features with substance-related addictive disorders in terms of psychosocial risk factors, neurobiological and cognitive impairments, and treatment options (e.g., Clark, 2010; Fauth-Bühler et al., 2017). In contrast, Internet gaming disorder was at that time included as a provisional diagnosis and classified in Section III (“Emerging measures and models”) as a condition needing further research.

More recently, gaming disorder was included in the Eleventh Edition of the International Classification of Diseases (ICD-11, World Health Organization, 2019; Billieux et al., 2021). This decision was guided by epidemiological, clinical and neurobiological studies, as well as by data obtained from treatment providers showing an increase in the number of treatment-seeking gamers (Han et al., 2018; Müller et al., 2017; Rumpf et al., 2018; Stein et al., 2018). Gaming disorder is defined in the ICD-11 as a persistent involvement (minimum 12 months) in gaming characterized by “impaired control . . . , increasing priority given to gaming over other activities . . . , and continuation or escalation of gaming despite the occurrence of negative consequences”. The whole set of criteria must be met and associated with functional impairment in daily life (Billieux et al., 2017a).

The increasing academic attention being paid to behavioral addictions over the past 15 years, together with the blooming of scientific articles specifically dedicated to this topic, also led a growing number of leisure and excessively performed activities being regarded as new behavioral addictions *strictu sensu*, often despite their questionable clinical relevance (Billieux et al., 2015a; Mihordin, 2012; Starcevic, 2016a; Starcevic et al., 2018). New diagnoses have indeed flooded the literature by affixing the addiction label to various behaviors that are an integral part of our everyday life, including exercising (Terry

et al., 2004), studying (Atroszko et al., 2015), working (Andreassen, Griffiths et al., 2012), dancing (Maraz et al., 2015; Targhetta et al., 2013), using Facebook (Andreassen, Torsheim et al., 2012), watching YouTube (Balakrishnan & Griffiths, 2017), taking selfies (Balakrishnan & Griffiths, 2018), shopping (Andreassen et al., 2015), using mobile phones (Chóliz, 2010), being in love (Costa et al., 2021), tanning (Andreassen et al., 2018), using the Tinder app (Orosz et al., 2016a) and binge-watching TV series (Forte et al., 2021). Their proliferation came as a result of the widespread adoption of an approach to the subject which is rooted in addiction theory and has been conceptualized as the confirmatory approach (Billieux et al., 2015a; Kardefelt-Winther et al., 2017).

The confirmatory approach – or when mere resemblances prove validity

Underlying the confirmatory approach is the claim that behavioral and substance-related addictions “should be defined by their similarities” (Griffiths, 2017, p. 1718). In line with conceptualizations of addictive disorders as a brain disease (i.e., brain disease model of addiction; Leshner, 1997; Volkow et al., 2016; Chapter 2 and Chapter 3, this volume), this approach suggests an overlap in disruptions in brain structures (i.e., involving the dorsolateral, orbital and ventromedial areas of the prefrontal cortex, in addition to the mesolimbic and mesocortical pathways; Brand et al., 2014; Long et al., 2018) and socio-psychological factors involved in both types of addictive disorders. Strongly anchored in a biomedical framework, this position leads endeavors to identify candidate behavioral addictions. However, it is generally confined to developing psychometric instruments designed to assess and diagnose potentially new conditions on the sole premise of symptomatic similarities with well-established substance-related addictions.

This confirmatory approach follows a stereotyped pattern with the same three steps: 1) first, based on the observation of apparent overinvolvement in a particular activity, accompanied by some symptoms suggesting an addiction (e.g., loss of

control, withdrawal-like or tolerance-like features), the behavior is *a priori* conceptualized as a behavioral addiction analogous to substance-related addictions; 2) then, “new” psychometric tools are generated by “recycling” substance-use disorder (SUD) traditional criteria (most often reclaimed from the components model of addiction; see Griffiths, 2005) through mere syntactical transposition to the framework of the newly proposed addictive disorder; and 3) finally, capitalizing on these novel instruments, cross-sectional studies are carried out to examine whether well-recognized biological or psychosocial risk factors for substance-related addictions also prove to be the correlates of the “new” putative behavioral addiction. If so, the behavior in question is usually considered as requiring clinical attention. Figure 30.1 outlines this typical three-step procedure.

With an over-reliance on the similarities with SUD symptoms as its guiding principle, the confirmatory approach has been extensively criticized in recent years. The main focus of criticism has been the atheoretical nature of this approach, along with an almost limitless number of behavioral addictions that it may produce (e.g., Billieux et al., 2015a; James & Tunney, 2017; Kardefelt-Winther et al., 2017; Mihordin, 2012; Starcevic, 2016a). Criticism of this approach also constituted one of the core arguments advanced by scholars who opposed the recognition and inclusion of gaming disorder in ICD-11 (Aarseth et al., 2017; van Rooij et al., 2018). The following provides an overview of the main pitfalls of “recycling” SUD criteria to conceptualize and diagnose behavioral addictions.

Seeking whole correspondence as a futile effort: some SUD symptoms are not valid in behavioral addictions

The first issue is that SUD criteria and features of behavioral addictions are not entirely comparable. This is especially the case with physiological symptoms (i.e., tolerance and withdrawal) that are considered most specific for SUD. Attempts to transpose these symptoms into the realm of behavioral

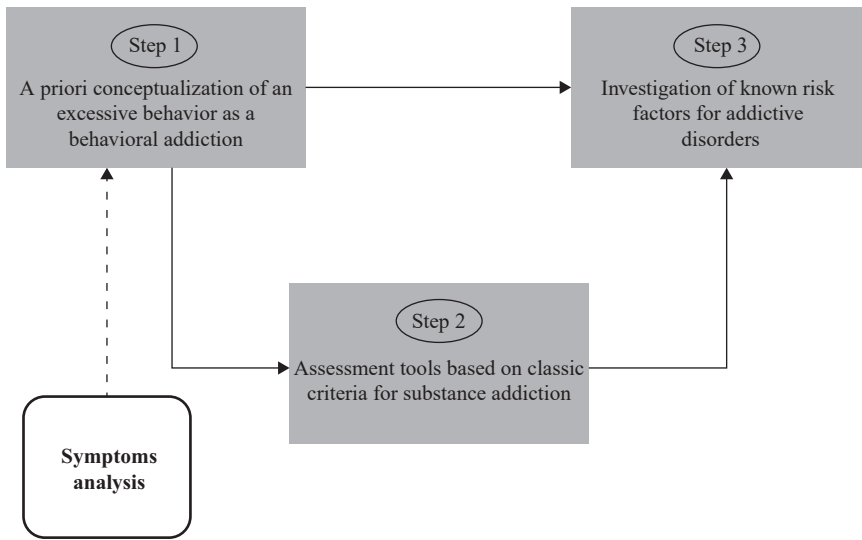


Figure 30.1 The three steps of the confirmatory approach (Billieux et al., 2015a).

addictions have been problematic, and some authors have questioned the validity of this practice (e.g., Billieux et al., 2015a; Kaptsis et al., 2015; Perales et al., 2020; Starcevic, 2016b; van Rooij & Prause, 2014). For example, tolerance (i.e., the need to consume more of the substance to experience the same initial effect) was reformulated as “the need for better computer equipment, more software or more hours of use” (Block, 2008, p. 306) as one of the features of Internet overuse, and “a marked increase in the frequency and duration of mobile phone use to obtain the same level of satisfaction, and the need to substitute operative devices with the new models that appear on the market” (Chóliz, 2010, p. 374) as a characteristic of addictive use of mobile phones.

In accordance with the dominant biomedical perspective on addictions, and as clearly stated in the preamble of its section on “Substance-related and Addictive Disorders”, the DSM-5 considers changes in brain circuits at the heart of the addictive process in SUD. Therefore, the DSM-5 diagnostic criteria for SUD that emphasize impaired control, social impairment, risky use, and physiological symptoms reflect such brain changes. The same criteria were then, by extension, reused for diagnosing gambling disorder, “reflecting evidence that gambling behaviors

activate reward systems similar to those activated by drugs of abuse and produce some behavioral symptoms that appear comparable to those produced by the substance use disorders” (American Psychiatric Association, 2013, p. 481). In keeping with the same premise, the proposed DSM-5 criteria for Internet gaming disorder were based on those for gambling disorder. There is, however, no consensus among experts in the field that the biomedical model of addiction is best suited to account for gaming disorder, which to date remains debated as a mental health issue (Aarseth et al., 2017; Bean et al., 2017; van Rooij et al., 2018). A recent study by Castro-Calvo and colleagues (2021) took up the question by assessing the diagnostic validity, clinical utility and prognostic value of the existing diagnostic criteria for gaming disorder. To this end, the authors used the structured and iterative Delphi technique in a large international panel of recognized experts to reach agreement about gaming disorder diagnostic criteria that may be valid and clinically useful. Consistent with previous findings and theoretical considerations (Besser et al., 2019; Billieux et al., 2017b, 2019; Griffiths et al., 2016; Ko et al., 2014; Müller et al., 2019), there was an expert agreement on high diagnostic accuracy for a subset of the proposed

criteria: loss of control, continued gaming despite negative consequences and conflict/interference due to gaming. In contrast, several other criteria (e.g., tolerance, deception of others and escape/mood regulation) were considered to have a low clinical relevance for the diagnosis of gaming disorder. This study provides convincing evidence that exclusive reliance on the SUD criteria to conceptualize and diagnose gaming disorder, and in turn other behavioral addictions, is untenable (Billieux et al., 2017b, 2019; Kardefelt-Winther et al., 2017; Starcevic, 2016b).

The risk of pathologizing common behaviors

A second implication stems from a public health and societal perspective on the grounds that using not-all-relevant SUD criteria to diagnose behavioral addictions is also liable to promote over-diagnosis, thereby erroneously pathologizing normal habits or leisure. For example, in the video gaming research field, various studies have demonstrated that addictive disorder criteria such as tolerance or salience may not necessarily denote problematic involvement (Billieux et al., 2019; Brunborg et al., 2013; Charlton & Danforth, 2007; Deleuze et al., 2017, 2018; King et al., 2020; Przybylski et al., 2017). The reasons behind one's inclination to spend increasing amounts of time playing games (i.e., as reflected in the DSM-5 tolerance criterion for Internet gaming disorder) are indeed most probably wide-ranging (e.g., contextual factors, idiosyncratic motivations or socio-cultural changes such as the rapid expansion of e-sport), and might simply reflect a passionate engagement in gaming instead of a pathological behavior (Charlton & Danforth, 2007; Kardefelt-Winther, 2015). In turn, such indiscriminating reliance on the whole set of SUD symptoms may conflate increased (but harmless) participation and problematic (or addictive) involvement in leisure activities (Billieux et al., 2015a, 2019; Kardefelt-Winther et al., 2017; Starcevic et al., 2016b). Associated with this approach is, therefore, a risk of generating numerous false positives, which would result in inflated

prevalence rates while stigmatizing highly engaged individuals. This is not only true of video gaming (Aarseth et al., 2017; Bean et al., 2017; Billieux et al., 2019), but also of other widespread digital entertainment activities in which high engagement does not necessarily mean problematic involvement (e.g., cybersex, binge-watching or mobile gambling; Böthe et al., 2020; Flayelle et al., 2019a; Whelan et al., 2021).

Overlooking alternative valid conceptualizations

A third major concern in approaching excessive-like appetitive behaviors from the sole perspective of SUD criteria is overlooking other sound etiological hypotheses (e.g., obsessive-compulsive disorders, impulse-control disorders, maladaptive coping strategies) (Billieux et al., 2017b; Kardefelt-Winther et al., 2017). It is noteworthy that alternative etiological models of problematic gaming and Internet use have been formulated; instead of using addiction as an explanatory framework, these models propose compensatory mechanisms (Kardefelt-Winther, 2014, 2017; Schimmenti & Caretti, 2010; Starcevic & Aboujaoude, 2017). In a similar vein, an addiction framework often prevails in the study of binge-watching (e.g., Forte et al., 2021; Orosz et al., 2016b; Starosta et al., 2019), but empirical findings suggest that problematic binge-watching better reflects a maladaptive coping or emotion regulation strategy (Flayelle et al., 2019a; Tukachinsky & Eyal, 2018). Ignoring such plausible alternatives to the conceptualizations based on the traditional understanding of SUD is thus likely to deprive the field of additional and appropriate prevention strategies and treatment interventions.

Proposing suboptimal treatment options

A final risk of an uncritical application of the SUD framework to the realm of behavioral addictions is the use of standardized treatment protocols that were initially designed for SUD instead of tailored treatment strategies based on case formulation that

take into account the unique nature of behavioral addictions and their “dissimilarities” with SUD (Billieux et al., 2015a; Stein et al., 2010). A very telling example here is provided by Billieux and colleagues (2015b) in their case study of a young woman initially appearing to be addicted to her mobile phone (i.e., displaying an uncontrolled use associated with negative impacts at the personal, occupational and social levels). To question the concrete clinical relevance of the addiction framework in the described situation, the authors approached this case using two different perspectives: a symptom-centered categorical approach stemming from the biomedical model of addiction and a process-based clinical case conceptualization. The latter approach allowed the authors to demonstrate that the young woman, characterized by dysfunctional emotion regulation strategies, distorted cognitions about herself and insecure attachment, was actually overusing her mobile phone in repeated attempts to reach her boyfriend as a reassurance-seeking behavior to regulate her acute episodes of emotional distress. The authors argued, therefore, that rigid adherence to the addiction framework in such a clinical context might have resulted in especially ill-suited interventions (e.g., motivational interviewing focused on mobile phone use, relapse prevention), while a proper and process-oriented clinical case formulation was more likely to guide appropriate treatment (e.g., metacognitive therapy, psychological interventions focusing on altering her dependent relationship style).

In a similar vein, Wéry and colleagues (2019) described a clinical case of a man who displayed a severe compulsive cybersex use, so that he met almost all SUD-recycled criteria for sex addiction. Yet, this patient also exhibited anxiety and depressive symptoms that were largely antecedent to the excessive use of cyberpornography, along with a traumatic childhood history. The authors discussed how they developed an integrative approach to treat this man, in which a combination of cognitive-behavioral techniques and psychodynamic work on traumatic memories was successful in treating what originally resembled a severe behavioral addiction. This clinical case was indeed better conceptualized

as resulting from a dysfunctional psychological process, perpetuated by maladaptive sexual fantasies and avoidance of painful memories, whose function was to cope with the consequences of childhood abuse.

In other words, the exclusive and uncritical application of the biomedical model in behavioral addictions is tantamount to reducing the complexity of human psychology, with the unfortunate consequence of missing what may be most helpful to aid those suffering from dysregulated patterns of such behaviors.

The key pillars of how best to avoid falling into the trap of the confirmatory approach

In view of the unreliability and significant shortcomings inherent in the confirmatory approach detailed in this chapter, there have been growing calls for a dramatic shift away from exclusively relying on recycling substance-related models to assess and investigate other domains of addictive behaviors. Alternatives that have been proposed for understanding and treating non-substance-related addictive behaviors rest on three pillars: 1) elucidation of the specific phenomenological characteristics of the emerging and possible behavioral addictions through priority recourse to qualitative research conducted in highly engaged individuals; 2) better delineation of high but healthy engagement (i.e., passion) and pathological involvement (i.e., disorder); and 3) endorsement of an approach that is not merely symptom or syndrome based, but is rather process based, thus reflecting the complexity of psychological functioning.

First and foremost, “any new recipe of behavioural addiction must include an analysis of the behaviour itself” (James & Tunney, 2017, p. 1720). Indeed, advancing the scientific investigation of behavioral addictions in a sound direction calls for research not to be confined to apparent similarities with other addictive disorders. Instead, the emphasis should be on the unique features of the specific behavioral expressions (Billieux et al., 2015a; Kardefelt-Winther et al., 2017). This is the only way

for behavioral addictions research to pave the way for a good understanding of the roots and essence of these emerging conditions. Therefore, the best approach is to explore the idiosyncrasies of non-substance-related addictive behaviors through qualitative and phenomenological research conducted in both highly engaged individuals and in individuals who are functionally impaired by such behaviors (Billieux et al., 2015a; Brand et al., 2020; Kardefelt-Winther et al., 2017; van Rooij & Kardefelt-Winther, 2017). Furthermore, research efforts must not be limited to conducting cross-sectional online surveys in convenience samples, which typically include people with very low levels of behavioral engagement. For example, a study by Kircaburun and colleagues (2021) aimed to validate a new scale for assessment of “Mukhbang” addiction (defined as the addiction to watching broadcasts where a person eats large portions of food in front of the camera while interacting with viewers) in a sample of self-selected participants. However, 43.2% of these participants reported “no daily use” of Mukhbang (without providing additional information about their usage patterns) and another 41.9% reported less than one hour of daily use. The authors thus claimed to validate a scale measuring a “potentially new” addictive behavior by relying on a self-selected sample that roughly comprised 10% of daily Mukhbang users, which clearly raises questions about the validity of the instrument that they developed.

Another task of great importance is minimizing the risk of conceptualizing as behavioral addictions time-consuming activities harmoniously embedded into people’s daily lives (like any passion; Vallerand, 2015). The most effective way of ensuring this is to ascertain the clinical status of these putative disorders by determining whether or not one’s heightened involvement in a given behavior is associated with an obvious functional impairment and negative consequences (Billieux et al., 2017b; Kardefelt-Winther et al., 2017). Eligibility for such a diagnosis, therefore, should be again less about symptomatic closeness with SUD than about a real interference with daily functioning in personal, familial, social, educational or professional domains. In accordance

with this view, recent conceptual developments, carried out in a collaborative and transparent setting through the Open Science Framework (<https://osf.io/>), led to the proposal of an operational definition of behavioral addiction having as its core the notion of persistent harmfulness (Billieux et al., 2017b).

Finally, a process-based approach to behavioral addictions should replace a confirmatory approach, because it is better tailored to the needs of each individual. This approach addresses various etiopathogenetic factors that lead to behavioral addictions and focuses on the specific psychological mechanisms (i.e., motivational, affective, cognitive, interpersonal, contextual) implicated in their development and maintenance (Flayelle et al., 2019b; James & Tunney, 2017; Kardefelt-Winther et al., 2017). Taking into account transdiagnostic psychological mechanisms (i.e., processes involved in the onset, continuation and recurrence of mental disorders; Dudley et al., 2011; Kinderman, 2005; Kinderman & Tai, 2007; Mansell et al., 2009; Philippot et al., 2019) and individualized clinical case formulation, this processual perspective is more likely to generate adequate diagnoses and improve understanding of the needs of treatment-seeking individuals. Although research culture in the realm of behavioral addictions has been heavily influenced by a confirmatory approach, it is noteworthy that a process-based conceptualization of addictive behaviors has recently made a breakthrough (e.g., Brand et al., 2020; James & Tunney, 2017; Rochat et al., 2019; Perales et al., 2020). Indeed, the focus has been increasing on the complex processes underlying symptom development and maintenance in most recent theoretical formulations of the nature and dynamics of non-substance-related addictive behaviors. One notable example is the Interaction of Person-Affect-Cognition-Execution (I-PACE) model (Brand et al., 2016, 2019). Central to this model is a notion that addictive behaviors develop as a consequence of the interactions between individual susceptibility variables (i.e., person’s core characteristics such as biopsychological factors, personality traits, psychopathological features, social cognitions or predisposing motives),

affective and cognitive responding styles (e.g., coping and mood regulation strategies, cognitive and attentional biases), and reduced executive functioning and inhibitory control. Increasingly used as a theoretical foundation in studies of problematic and addictive behaviors (e.g., Carbonell et al., 2018; Dempsey et al., 2019; Elhai et al., 2020; Ioannidis et al., 2019), such conceptualization of the addictive process as a dynamic interplay of various factors in each individual also accounts for intrinsic heterogeneity characterizing these conditions, which is in sharp contrast to the more static and reductionistic “chronic disease” perspective on addiction.

More broadly, this critique of the confirmatory approach to behavioral addictions resonates well with the negative appraisals of the brain disease model of addiction (BDMA). This is because the latter maintains a narrow focus on neurobiology and neglects the complex interactions of biological and other factors (e.g., psychological, societal, social, cultural, environmental, situational) in the development of addictive behaviors (Kalant, 2010; Lewis, 2018; Perales et al., 2020; Satel & Lilienfeld, 2014; see Chapter 13, this volume). Good understanding of addiction calls for multiple levels of analysis (Lewis, 2018; Satel & Lilienfeld, 2014), analogous to other mental disorders that arise from the complex interplay of neurobiological and psychological factors, environmental contingencies and socio-cultural structures (Kendler et al., 2011). While this critique does not necessarily dispute the validity of the BDMA for substance-related addictions for which it was originally developed, it demonstrates that the biomedical framework of addiction, in which the confirmatory approach is firmly anchored, cannot be a satisfactory account of non-substance-related addictions. The confirmatory approach is reductionistic in its recycling of the SUD criteria as it ignores the complex and multi-faceted aspects of behavioral addictions, tends to pathologize normal behaviors, and constrains prevention strategies and treatment interventions. Instead, a processual and integrative approach to addictive behaviors embraces the complexity of human beings and puts the uniqueness of each individual at the center of attention, as we

make an effort to understand these behaviors and help the sufferers.

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