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COMMENTARY



Compulsive Sexual Behavior Disorder should not be classified by solely relying on component/symptomatic features
Commentary to the debate: "Behavioral addictions in the ICD-11"

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ABSTRACT

The paper by Sassover and Weinstein (2022) contributes to a timely and complex debate related to the classification of Compulsive Sexual Behavior Disorder (CSBD). The recent inclusion of CSBD as an impulse-control disorder in the ICD-11 has generated debate since a competitive view is that CSBD should rather be classified as an addictive disorder. Sassover and Weinstein (2022) reviewed existing evidence and concluded it does not support the conceptualization of CSBD as an addictive disorder. Although we agree regarding the relevance and timely nature of considering the classification of CSBD, we respectfully disagree with the position that relying on the components model of addiction (Griffiths, 2005) is the optimal approach for determining whether or not CSBD is an addictive disorder. In this commentary, we discuss potential pitfalls of relying on the components model to conceptualize CSBD as an addictive disorder and argue that considering a process-based approach is important for advancing this timely debate.

KEYWORDS

compulsive sexual behavior, classification, nosology, addictive behavior, components model of addiction, compulsive behavior, impulsive behavior, psychological processes

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INTRODUCTION

The publication by Sassover & Weinstein (2022) contributes to a timely discussion regarding the classification of Compulsive Sexual Behavior Disorder (CSBD). Its recent inclusion as an



impulse-control disorder in the ICD-11 has been debated (Gola & Potenza, 2018a; Potenza, Gola, Voon, Kor, & Kraus, 2017), since a competitive view is that CSBD should rather be classified as an addictive disorder. The conceptualization of CSBD within an addiction framework has been discussed for decades (Orford, 1978), and this debate intensified with the release of the DSM-5, when CSBD – operationalized as “Hypersexual Disorder” – was not included (Reid & Kafka, 2014). Since then, and given emerging data, there has been increasing consideration of conceptualizing CSBD as an addictive disorder (Kor, Fogel, Reid, & Potenza, 2013; Kowalewska et al., 2018; Kraus, Voon, & Potenza, 2016; Stark, Klucken, Potenza, Brand, & Strahler, 2018). The inclusion of CSBD in the ICD-11 (Kraus, Krueger, et al., 2018) advanced nosological debates regarding CSBD (e.g., Brand et al., 2022). The multiple potentially conflicting conceptualizations of CSBD may complicate its clinical diagnosis, as well as research efforts (e.g., estimating the prevalence of CSBD in population-based epidemiological studies or national databases [Kraus et al., 2016]).

In this context, Sassover & Weinstein (2022) reviewed existing evidence, and concluded it does not support the conceptualization of CSBD as an addictive disorder. In reaching this conclusion, the authors relied on the components model of addiction (Griffiths, 2005) to determine whether symptomatic features of CSBD match traditional diagnostic criteria for addictive disorders. Here, we contend that considering a process-based approach is important when classifying CSBD.

### Potential pitfalls of relying on the components model of addiction

The components model of addiction (Griffiths, 2005) posits that excessive/interfering behavioral engagement (such as in CSBD) needs to display six co-occurring symptomatic features (i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse) to be conceptualized as addictive. A main pitfall of such a perspective is that certain components, characteristic of substance-use disorders (SUDs), may not be valid when considering non-substance-related addictive behaviors (Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015; Flayelle, Schimmenti, Starcevic, & Billieux, 2022; Starcevic, Billieux, & Schimmenti, 2018). This appears particularly relevant for tolerance and withdrawal, which may have limited clinical relevance for non-substance-related addictive behaviors (Castro-Calvo, King, et al., 2021; Starcevic, 2016). For example, tolerance in the context of gambling, gaming, or sexual behaviors has frequently been operationalized as escalations in various behavioral aspects (e.g., time spent, frequency, intensity, type of contents) to achieve desired effects (King, Herd, & Delfabbro, 2017). Similarly, withdrawal symptoms are often described as aversive emotional states (e.g., irritability, anxiety, moodiness) arising from not engaging in the behavior (i.e., following abstinence [Kaptis, King, Delfabbro, & Gradisar, 2016]). As an illustration, Sassover & Weinstein (2022) based their review on specific articles

including debatable and not necessarily valid proxies of tolerance, such as “time spent on sexual activity” or “pursuit of new sexual partners” (e.g., Coleman-Kennedy & Pendley, 2002). However, these aspects also vary according to multiple factors (e.g., oscillations of sexual desire [Hällström & Samuelsson, 1990], mood [Bancroft et al., 2003], relationship development [Birnbaum, 2018], transient changes of hormonal levels [Bancroft, 2005], normal habituation of sexual arousal [Over & Koukounas, 1995]), thus not necessarily reflecting tolerance *per se*. Furthermore, the frequency of pornography use may neither be an appropriate indicator to distinguish problematic from non-problematic engagement (Bóthe, Tóth-Király, Potenza, Orosz, & Demetrovics, 2020) nor a significant predictor of treatment-seeking for problematic pornography use (Gola, Lewczuk, & Skorko, 2016). Therefore, equating an increase in the frequency or characteristics of the sexual activity with tolerance does not appropriately consider the multiple biopsychosocial factors potentially promoting escalations of sexual behavior, which may be relatively distinct from or peripheral to addictions. A similar reasoning is applicable regarding withdrawal. Instead of an addiction feature, negative emotional states (e.g., anxiety, irritation, low mood) following the cessation of sexual behaviors that are often considered a consequence of withdrawal (Fernandez, Kuss, & Griffiths, 2021) may be better understood as normal psychological reactions to sexual deprivation.

Sassover & Weinstein (2022) concluded that current evidence does not support the existence of CSBD-related tolerance and withdrawal. Yet, a major issue is that, based on the rationale adopted by the authors (i.e., using the components model of addiction as decisional criteria), such a lack of evidence is sufficient to dismiss this condition as an addictive behavior, as “all these components need to be present for a behaviour to be operationally defined as addictive” (Griffiths, 2005, p. 195), while tolerance and withdrawal criteria may not be particularly relevant to CSBD and, more generally, to non-substance-related addictive behaviors. The same consideration relates to mood modification, which is involved in substance and non-substance-related addictions but also in many other mental health conditions (e.g., obsessive-compulsive-related disorders) and may be considered a process involved in the development and maintenance of addictive (and other) disorders and not a core symptom (Brand, Rumpf, King, Potenza, & Wegmann, 2020).

Another potentially problematic aspect of the components model of addiction is the assumption that, besides their co-occurrence, all components are considered of equal weight in terms of their diagnostic value. In the context of gaming disorder, data have challenged this notion by showing that, while some components constitute “core criteria” (i.e., key symptoms for diagnosis), others constitute “peripheral criteria” (i.e., symptoms also typically presented by highly yet healthily engaged gamers) (Charlton & Danforth, 2007, 2009). This distinction (i.e., non-problematic vs. problematic gaming), crucial for ensuring the validity and



utility of the diagnosed condition (Billieux, Flayelle, Rumpf, & Stein, 2019), resonates with the terms “diagnostic validity” and “clinical utility” (Jablensky, 2016). Diagnostic validity refers to the extent to which a criterion is a feature of a condition (matching the above definition of a peripheral criterion), whereas clinical utility refers to the extent to which a criterion can distinguish normal/healthy from problematic behaviors (thus constituting a core criterion). A recent Delphi study involving an international panel of experts on gaming disorder concluded that symptoms derived from the components model of addiction, such as withdrawal, tolerance, or mood modification, lack clinical utility (i.e., are not able to distinguish highly engaged but non-problematic from problematic gamers) (Castro-Calvo, King et al., 2021), thus implying that they should not be used to diagnose the condition. Although past research supports the view that frequent involvement in activities such as consuming pornography is not necessarily problematic (e.g., Kraus, Sturgeon, & Potenza, 2018), and that certain symptoms (e.g., diminished/lost control, continued engagement despite interference) may constitute core criteria of CSBD (Castro-Calvo, Gil-Llario, Giménez-García, Gil-Juliá, & Ballester-Arnal, 2020; Knight & Du, 2021; Werner, Štulhofer, Waldorp, & Jurin, 2018), evidence supporting potential distinctions between “core” and “peripheral” criteria is still scarce for CSBD. Therefore, elucidating the diagnostic validity and clinical utility of specific symptoms used to define CSBD (especially those mimicking SUDs) warrants further research (Bóthe, Lonza, Štulhofer, & Demetrovics, 2020).

Finally, the components model assumes that symptomatic similarities between SUDs and addictive behaviors such as those in gambling or gaming disorders may derive from common etiological mechanisms. Although appealing due to its simplicity and apparent validity, this approach has a considerable limitation in that the same symptom may arise from different mechanisms (Brand et al., 2022). Accordingly, placing exclusive focus on symptoms may neglect underlying cognitive, psychological, and learning processes that may account for the initiation and/or maintenance of addictive behaviors, which may warrant targeting in treatment (Billieux, Philippot, et al., 2015). As opposed to a symptom-focused approach, alternative theoretical models and hypotheses have been proposed for characterizing CSBD (Walton, Cantor, Bhullar, & Lykins, 2017), although most still require empirical validation (Gola & Potenza, 2018b). Consistent with contemporary approaches to the conceptualization of addictive behaviors (e.g., Brand et al., 2019; Perales et al., 2020), we argue that considering a process-based perspective will help elucidate whether or not CSBD may be best conceptualized within an addiction framework.

### On the relevance of considering a process-based approach

Recently, studies have been investigating similarities between CSBD, SUDs, and recognized behavioral addictions

(e.g., gambling disorder) beyond symptom-level analyses, such as exploring common neural and psychological processes (e.g., Castro-Calvo, Ballester-Arnal, Gil-Llario, & Giménez-García, 2016; Stark et al., 2018; Yip et al., 2018). Such data may identify similarities, although these would not unequivocally mean that such processes contribute mechanistically identically to SUDs and gambling or gaming disorders (Perales et al., 2020). The conceptualization of CSBD as a potential addictive disorder would benefit from identification of specific processes leading to the initiation and maintenance of CSBD to evaluate their compatibility with an addiction framework.

From a process-based perspective, Perales et al. (2020, p. 772) proposed that “the addictive process can be defined as a transition between behavioral control modes”, which consist in goal-directed and stimulus-driven modes (akin to “liking” and “wanting” systems of the incentive sensitization theory [Robinson & Berridge, 2001], or “model-based” and “model-free” control from the reinforcement learning model [O’Doherty, Cockburn, & Pauli, 2017]). Should the pathogenesis of addictive behaviors imply a dynamic transition between control modes, exploring potentially “static” etiological factors associated with CSBD (such as neurobiological and/or dispositional underpinnings) may provide limited insight regarding involved etiological processes. Rather, research efforts focusing on identifying learning-induced and psychobiological changes underlying such transitions, while also considering the stage of the addiction process, may provide important insights. According to Perales et al. (2020), two processes are of crucial importance to define addictive behaviors: (1) domain-specific compulsivity and (2) relative outcome utility.

Domain-specific compulsivity refers to diminished or “lost” control contributing to the experience of being “forced” or “compelled” to act despite related negative consequences (Yücel et al., 2019). The incremental contribution of domain-specific compulsivity might progressively overcome the one of other central constructs in addictive disorders, such as impulsivity. Therefore, exploring the longitudinal evolution of compulsivity throughout the addiction pathogenesis, and delineating the differential contribution of compulsivity versus impulsivity, could help to elucidate whether CSBD should be conceptualized as an impulse-control or addictive disorder.

In contrast, relative outcome utility refers to the efficiency of a certain behavior for obtaining positive and/or negative reinforcement, compared to alternative behaviors. By means of this mechanism, a specific behavior grows more likely to become problematic when it is the only (or most efficient) strategy to achieve a particular outcome (e.g., obtaining sexual pleasure, reducing discomfort). While the relevance of this mechanism has been recognized in models of problematic internet use (Kardefelt-Winther, 2014), evidence regarding CSBD remains scarce. Addressing the relevance of such a framework for characterizing CSBD requires an in-depth understanding of specific motives underlying dysfunctional engagement in sexual behaviors. Preliminary studies in this area seem to offer promising results (e.g.,



Castro-Calvo, Giménez-García, Gil-Llario, & Ballester-Arnal, 2018; Koós, Fuss, Klein, Demetrovics, & Bóthe, 2021), but further research is required before considering relative outcome utility central to CSBD and its classification as an addictive disorder.

Beyond this framework, other types of evidence, largely ignored by Sassover & Weinstein (2022), should be considered to determine whether or not CSBD should be viewed as an addictive disorder, including (but not limited to) experimental and clinical findings emphasizing roles of specific affective (e.g., cue-reactivity and craving) and cognitive processes (e.g., attentional bias, inhibitory control, cognitive flexibility, decision making-related mechanisms) in CSBD's development and maintenance (Brand et al., 2019). A recent systematic review addressing this topic notably concluded that problematic use of pornography is characterized by marked attentional biases toward sexual stimuli, deficient inhibitory control, worse performance in tasks assessing working memory, and decision-making impairments (Castro-Calvo, Cervigón-Carrasco, Ballester-Arnal, & Giménez-García, 2021), a pattern of cognitive biases commonly observed in patients presenting with SUDs (Kluwe-Schiavon et al., 2020), gaming disorder (Billieux et al., 2020), and other behavioral addictions (Wegmann & Brand, 2020).

In sum, solely relying on the components model of addiction to determine whether or not CSBD should be conceptualized as an addictive disorder, as per the approach adopted by Sassover & Weinstein (2022), is problematic because (1) some components of this model (e.g., tolerance) may not distinguish disordered from intensive yet non-problematic sexual behaviors, and (2) it largely ignores potential etiological mechanisms from a process-based perspective. For the moment, the clinical applicability of this process-based perspective is limited, but we believe that research efforts advancing knowledge on these mechanisms may contribute to the classification of CSBD and the development of more accurate diagnostic and treatment approaches.

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