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How can we conceptualize behavioural addiction without pathologizing common behaviours?

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ABSTRACT

Following the recent changes to the diagnostic category for addictive disorders in DSM-5, it is urgent to clarify what constitutes behavioural addiction to have a clear direction for future research and classification. However, in the years following the release of DSM-5, an expanding body of research has increasingly classified engagement in a wide range of common behaviours and leisure activities as possible behavioural addiction. If this expansion does not end, both the relevance and the credibility of the field of addictive disorders might be questioned, which may prompt a dismissive appraisal of the new DSM-5 subcategory for behavioural addiction. We propose an operational definition of behavioural addiction together with a number of exclusion criteria, to avoid pathologizing common behaviours and provide a common ground for further research. The definition and its exclusion criteria are clarified and justified by illustrating how these address a number of theoretical and methodological shortcomings that result from existing conceptualizations. We invite other researchers to extend our definition under an Open Science Foundation framework.

Keywords Addiction theory, behavioral addiction, diagnosis, DSM-5, gambling disorder, internet gaming disorder, non-substance related addictions, pathologization, theory development.

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INTRODUCTION

The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders [1] includes a major change to the diagnostic category for addictions. The Substance-related Abuse and Dependency category has been relabeled Substance-Related and Addictive Disorders and modified to include two subdivisions, substance-related disorders and non-substance-related disorders, where the latter is defined as addictive disorders that do not involve ingestion of a psychoactive substance. This category is referred to commonly as behavioural addiction, although we note that there is as yet no consensus as to how such a disorder should be defined.[1]

The present debate paper has been written by a group of researchers from a number of different countries and academic fields who have a shared interest in how research on behavioural addiction is currently developing. In this paper, we wish to focus on the ongoing expansion of the behavioural addiction research area and its consequences for future research and clinical practice. We argue that considerable resources are being diverted to

[1]For the remainder of this paper we will use the term 'behavioural addiction' to signify the DSM-5 category for non-substance-related disorders. Substance addiction will be used to signify the DSM-5 category for substance-related disorders.

conduct research on excessive behaviours that lack indications of functional impairment, psychological distress or a clear separation from normative behaviour in context, and therefore do not seem to constitute behavioural addiction. We are concerned that if this expansion does not end, both the relevance and credibility of this field might be questioned, which may prompt a dismissive appraisal of the new DSM-5 subcategory.

The sole condition that is currently included in the category for behavioural addiction is gambling disorder, with internet gaming disorder included in Supporting information, Appendix III as a potential addition to the category that first requires further study. That this category contains only one disorder is due partly to a lack of consensus on what precisely constitutes behavioural addiction, which is a consequence of insufficient peer-reviewed evidence for its aetiology, onset and course [1]. In addition to scarce evidence, we contend that research on behavioural addiction currently lacks a sound theoretical framework that can guide research in this area, help produce quality evidence and ensure a common ground for theoretical development. Although theoretical models exist that could guide research on addictions, whether or not substance-related, these are used rarely in behavioural addiction research, which tends to be largely atheoretical [2,3].

For example, the syndrome model of addiction [4] distinguishes usefully the distal antecedents of an addiction (aetiological processes) from its multiple expressions and manifestations (the behaviours and their symptoms). However, in the behavioural addiction research field, only the presence or absence of symptoms tend to be studied, guided most often by the symptom-based components model of addiction [5]. Core elements of theory such as aetiological processes and unique features of behavioural addiction are rarely investigated to the extent they are for substance addiction [6]. Furthermore, the components model relies on symptoms of substance addiction in its definition of behavioural addiction. Several of these symptoms, such as tolerance and withdrawal, are difficult to apply convincingly and measure in relation to behaviours, which questions whether these symptoms form a useful and valid part of a behavioural addiction definition [2,7–9].

Although West [6,10] has provided an overview of many different theoretical approaches that can be used to understand substance addiction, ranging from neurological to sociological, none of these theories see much use in recent behavioural addiction research, and evaluations of the applicability of different approaches are rare. This has led to a situation where atheoretical and confirmatory approaches are far more common than research that is exploratory and theory-driven, which is unsuitable and ineffective for an emerging research area. The consequence has been a considerable expansion of the conceptualization of behavioural addiction to the point where we risk pathologizing common behaviours due to the lack of a clear theoretical framework.

To rectify this issue and in an attempt to provide a common ground for continued research, we propose an operational definition of behavioural addiction based on our collective understanding of harmful and persistent problem behaviours:

> 'A repeated behaviour leading to significant harm or distress. The behaviour is not reduced by the person and persists over a significant period of time. The harm or distress is of a functionally impairing nature'.

Additionally, diagnostic approaches often qualify the listing of inclusion signs with additional exclusion criteria. This is considered rarely when new expressions of behavioural addiction are proposed, but if we allow other potential explanations for a problem behaviour to become part of the definition of behavioural addiction we may cloud the treatment target, prolong potential suffering and fail to identify problems that are actually due to another cause. Therefore, we include crucial exclusion criteria together with the definition and contend that a behaviour should not be conceptualized as behavioural addiction if:

1. The behaviour is better explained by an underlying disorder (e.g. a depressive disorder or impulse-control disorder).
2. The functional impairment results from an activity that, although potentially harmful, is the consequence of a willful choice (e.g. high-level sports).
3. The behaviour can be characterized as a period of prolonged intensive involvement that detracts time and focus from other aspects of life, but does not lead to significant functional impairment or distress for the individual.
4. The behaviour is the result of a coping strategy.

We recognize that this definition is not exhaustive, and likely to require further input by experts in this field of research. It is meant to provide a starting-point and guide researchers when conducting research on behavioural addiction, to avoid confirmatory research practices and an over-reliance on substance addiction symptoms. In the interests of further conceptual development, we have established an Open Science Foundation webpage to facilitate extension of the proposed operational definition in a transparent manner and invite interested researchers to comment and provide input (see [11] for a link).

Moving forward with this paper, we will highlight what we consider to be the most problematic theoretical and methodological practices and assumptions in the behavioural addiction research area and show how our proposed definition addresses each of these issues.

WHICH SYMPTOMS ARE USEFUL AND VALID IN BEHAVIOURAL ADDICTION RESEARCH?

Studies of behavioural addiction have often contended that individuals who engage excessively in certain behaviours experience a common set of symptoms associated frequently with substance addiction, such as salience, mood modification, tolerance, withdrawal, conflict and relapse, and that these symptoms can be used to identify behavioural addiction in people [5]. The implication is that there is no limit as to what might be conceptualized as behavioural addiction as long as some of the common addiction symptoms are observed in relation to the behaviour.

Problematically, these symptoms are likely to manifest in relation to most activities that people find interesting or engaging, without reflecting clinically significant functional impairment or distress for the individual or a burden to public health in populations. Some examples found in recent literature include (but are not limited to) 'study addiction' [12], 'work addiction' [13], 'dancing addiction' [14], 'mobile phone addiction' [15], 'social network site addiction' [16], 'fortune-telling addiction' [17] and 'body image addiction' [18]. A positive addiction diagnosis or classification for these behaviours is particularly likely to be made when responses are captured through survey research using DSM-style polythetic cut-off scoring (e.g. meet five of nine criteria for positive diagnosis), even though the symptoms in and of themselves are not indicative of functional impairment in community samples [9,19]. This diagnostic system also assumes implicitly that symptoms have equal weight and therefore contribute equally to a total score, which might not be the case [20]. Additionally, an issue with the use of substance addiction symptoms when studying behavioural addiction is the failure to recognize that what constitutes a problematic symptom in relation to one activity (e.g. substance use) is not necessarily problematic in a different context (e.g. video gaming). For example, preoccupations with video games are still considered harmful in a similar way to preoccupations related to drugs, even though the former is a common everyday activity related to far fewer problematic consequences than the latter [19,21,22]. This shows why using substance addiction symptoms in the conceptualization and assessment of behavioural addiction is inadequate, and can lead to pathologizing of common behaviours or leisure activities. We propose instead a definition of behavioural addiction that focuses upon only two components: (a) significant functional impairment or distress as a direct consequence of the behaviour and (b) persistence over time. While some studies consider functional impairment to be indicated by the presence of symptoms such as withdrawal, tolerance and conflict, the absence of in-depth studies with clinical cases means that it remains unclear whether these symptoms truly manifest in relation to behavioural addiction and, if they do, whether the symptoms are actually functionally impairing [8,22]. We therefore suggest not using these symptoms when operationalizing the definition unless more evidence is provided with regard to their relevance. Furthermore, while we include persistence as a key component, we have not yet proposed a period of time after which the behaviour is classified as persistent, because the lack of evidence makes any such recommendation arbitrary. Persistence over time is an area where future research could usefully be conducted to improve the definition (e.g. [23]).

For the purpose of research into new expressions of behavioural addiction we recommend directly assessing functional impairment in clinical settings, supported by a health professional, rather than via surveys implemented in a healthy population. A serious inquiry into excessive dancing as an expression of behavioural addiction would need to account for multiple explanations for any psychological distress or functional impairment that result. Acute stress reactions in pursuit of an unattainable ideal performance might be seen as a consequence of dysfunctional beliefs or elevated and rigid standards, such as those characterizing clinical perfectionism [24]. The skeletal or muscle injuries that can result from excessive dancing (e.g. professional ballet) can be seen as a natural but unhealthy consequence of a career that puts a lot of pressure on the body. The exclusion criteria, proposed together with our definition, reflect both points raised. The first exclusion criterion is that 'the behaviour is better explained by an underlying disorder', and the second exclusion criterion is that 'the functional impairment results from an activity that, although potentially harmful, is the consequence of a willful choice (e.g. high-level sports)'. These exclusion criteria are crucial to consider when conceptualizing behavioural addiction.

AVOID CREATING NEW DISORDERS WITH OLD RECIPES

Billieux and colleagues [2] have argued that most studies identifying new expressions of behavioural addiction are confirmatory in nature. While this is a known issue for academic research that originates in epistemological discussions of hypothesis testing and falsification, it constitutes a considerable issue for research on behavioural addiction. Generally, research that identifies new expressions of behavioural addiction tends to follow the same three-step methodological pattern:

1 The research process seeks to confirm what the researchers believe to be true, rather than aiming to generate new findings, test hypotheses and contribute to

theory-building [2,25,26]. For example, based on initial observations of seemingly excessive involvement in a specific activity (e.g. some dancers can spend a whole day or night pursuing their hobby and will be tired at work the next day), the behaviour is conceptualized a priori as behavioural addiction, despite no indications of functional impairment and investigated as such because of its assumed similarity to substance addiction.

2 In the second step, diagnostic criteria and related screening tools are constructed by paraphrasing items developed initially to study substance addiction, in an attempt to match the substance addiction symptoms to the presumed behavioural addiction.

3 In the third step, these tools are used to collect cross-sectional survey data in order to investigate whether individuals who score highly on the items intended to capture core symptoms of this proposed behavioural addiction also report known risk factors for substance addiction (e.g. impulsivity traits, abnormal reward processing, cue–reactivity). Any subsequent correlations are used to establish that the disorder is similar to substance addiction in terms of correlates with known risk factors, and therefore deserves clinical attention.

This process is inadequate in distinct ways for each step. At the first step, no alternative conceptualization is considered even though many seemingly excessive behaviours could also be considered an impulse control disorder, an obsessive–compulsive disorder, a maladaptive coping strategy, an engaging leisure activity or career. In other words, the proposed behavioural addiction is not clearly delineated from other disorders or from normative behaviour. This is crucial, because it is incorrect to assume that initial observation of excessive involvement is sufficient to warrant the label of behavioural addiction, or even that excessive involvement leads to functional impairment or distress. Most professional athletes and musicians could be considered as addicted if this approach was applied. This illustrates why substance addiction symptoms cannot be applied uncritically to behaviours, as they cannot distinguish addiction adequately from high engagement or passion [3,27]. For many behaviours and activities, without evidence of serious functional impairment, a substance addiction dimension such as craving when assessed by a self-reported questionnaire is, at the phenomenological level, similar to common desire [28]. Furthermore, some behaviours are likely to be part of everyday life in many societies today even when engaged in very frequently, such as studying, playing video games and using mobile phones [29]. These arguments justify the third exclusion criterion, which is that: 'the behaviour is characterized as a period of prolonged intensive involvement that detracts time and focus from other aspects of life, but does not lead to significant functional impairment or distress for the individual'. While this criterion is accounted for implicitly by including functional impairment as part of the definition, the tendency in behavioural addiction research to conflate high engagement with addiction compels us to make this point explicit as an exclusion criterion. The risk of making a disorder out of a normative behaviour or passion demands extra caution because it is likely to also affect and stigmatize individuals outside the disordered population, for whom the behaviour might bring many benefits.

For the second step we reinforce our message that developing assessment instruments, and implicitly a definition, for behavioural addiction by substituting one behaviour for another is inadequate [2,19,21]. As highlighted with our example of athletes and musicians, assessment instruments aiming to measure a new disorder cannot have validity without an in-depth understanding of the problem domain, its unique features and natural boundaries [25,30], even if some common features are shared with existing disorders at the phenomenological level. A revealing example of why this is problematic is the largely unsuccessful effort to apply the criteria for tolerance and withdrawal in behavioural addiction research, which has been criticized for involving either metaphorical use of these terms or the use of fairly coarse behavioural criteria such as patient's complaints of feeling irritable [8,31,32]. Additionally, the physiological component involved in withdrawal and tolerance symptoms do not manifest through behaviour alone, which makes direct translation of the criteria unreliable [7,8]. The practice of using substance addiction symptoms in the study of behavioural addiction has resulted in a lack of theoretical specificity for its different expressions, as new and more accurate criteria are rarely—if ever—developed [3,25]. From an epistemological perspective, our understanding of excessive and repetitive behaviours is currently restricted to the theoretical boundaries of substance addiction [25]. This is a concern when approaching new problem domains with unknown problem manifestations.

As a consequence, we note that in the third step, to investigate patterns of correlation with known risk factors of substance addiction is, at this point, almost meaningless, as the validity of a measurement constructed in a confirmatory fashion is highly questionable. Establishing similarities between substance addiction and behavioural addiction is useful only in so far as we can trust our understanding of the two disorders; the above paragraphs have illustrated why current understandings of behavioural addiction are likely to be flawed in many respects. Putting too much faith in comparisons with substance addiction at this point could lead to a number of negative consequences for research and clinical practice, such as an inflation of prevalence figures, misdiagnosis or ineffective prevention and treatment. Instead of relying upon substance addiction symptoms, researchers should work

to identify the aetiological and psychological processes that underlie a specific excessive behaviour, which demands focus upon the unique manifestations of the behaviour as well as the resulting impairment, rather than on symptoms of excessive involvement *per se*. Long-term impairment seems particularly relevant to assess for behavioural addiction, as longitudinal studies have shown that a number of excessive behaviours seem to be fairly transient for most people and are episodic, rather than steady, in nature [23]. This justifies our focus on the persistence of the behaviour in the proposed definition and explains why we deliberately chose not to include other substance addiction symptoms.

Finally, an excessive behaviour (whether it leads to treatment or not) may also constitute a helpful or maladaptive coping strategy, which on the surface may be similar to behavioural addiction as it can be repetitive and frequently recurring [33,34]. If the possibility of a coping strategy is not considered when the behaviour is evaluated, the patient may be treated for behavioural addiction instead. The behaviour may or may not change as a result, but the underlying problem is unlikely to be affected [35]. Thus, we include coping strategies as the fourth exclusion criterion in the proposed definition, which needs to also be considered in relation to a targeted behaviour.

CONSIDERATIONS FOR IMPROVING RESEARCH ON BEHAVIOURAL ADDICTION

To avoid the theoretical and methodological issues presented in this paper, studies should seek to generate evidence that identifies and promotes a further description of the factors that distinguish healthy repeated behaviour from harmful disorder. A clear deviation from normative behaviour should be observed, and reported functional impairment and psychological distress should be required for a behaviour to warrant further study as an expression of behavioural addiction. To observe excessive involvement alone, which might only reflect engagement, passion or coping, is inadequate. We believe that this is captured in our proposed definition.

We suggest that one way to yield useful evidence that has not yet been given enough attention is by taking a person-centred approach to research, focusing on qualitative studies with individuals reporting significant functional impairment and distress as a consequence of a targeted behaviour. A key aim should be to explore the phenomenology of a proposed condition and identify its aetiology and course. Only in a second step should items be developed and assessment instruments evaluated in terms of psychometric properties [25]. This approach has been used with much success in the study of gambling disorder [36–39], but is rather rare in the wider study of behavioural addiction. The phenomenology and symptomatology of an excessive behaviour needs to be theorized and evaluated empirically through hypothesis-driven theory testing to ensure that we are not restricting the scientific venture to inquire only about symptoms of known relevance for substance addiction, and to ensure that the behaviour is not misinterpreted as behavioural addiction, where other explanations are more appropriate. Such detailed theoretical knowledge would provide the greater confidence in classification required to conduct more advanced research, such as treatment, neuroimaging or genetics studies. Following this line of thought—where appropriately developed theory precedes survey research for a specific excessive behaviour—we maintain that excessive problem behaviours should not be theorized a priori as behavioural addiction without sound empirical evidence to support this conceptualization. We suggest that future research conceptualizes new expressions of behavioural addiction according to our proposed definition, after serious consideration of the exclusion criteria. As argued by Clark & Watson [40], a good theory articulates not only what a construct is, but also what it is not (p. 5).

We realize that the exclusion criteria proposed in this paper raises the bar significantly in terms of what may or may not be conceptualized as an expression of behavioural addiction. This is also our intention, as we believe that no one stands to gain if behaviours are conceptualized as expressions of behavioural addiction when, in fact, they are not. By introducing a more stringent definition we ask researchers implicitly to explore each problem behaviour in depth before conceptualizing it as behavioural addiction, which means that our overall understanding of behavioural addiction and its boundaries to other problem behaviours should improve.

To conclude, we hope that our proposed definition will be helpful for researchers working on behavioural addiction and we look forward to further developing this definition together with others. We also hope that the methodological issues and problematic research practices highlighted in this paper can be avoided as we move forward, partly through the use of a more appropriate definition of behavioural addiction and the proposed exclusion criteria. We believe future research on new expressions of behavioural addiction should consider the public and/or mental health implications of a behaviour (i.e. impact on subjective distress, nature and severity of harms, functional impairment), as well as clearly establish the boundary between healthy engagement and disorder, taking into account normative aspects of a given behaviour. The proposed definition should initially be used to guide qualitative research with patients who report significant functional impairment as a consequence of a repeated behaviour with the aim of improving the definition, rather than for population-based studies.

Declaration of interests

None.

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