

Commentary on: Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research

Can the emerging domain of behavioral addictions bring a new reflection for the field of addictions, by stressing the issue of the context of addiction development?

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Background: This paper is a commentary to the article entitled: “Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research”, by Billieux, Schimmenti, Khazaal, Maurage and Heeren (2015). *Methods and Aims:* In this manuscript, we commented on two aspects developed by the authors. Billieux et al. (2015) propose that the recent development of propositions of behavioral addiction is driven by an unwise application of an addiction model to excessive behaviors and rests on a confirmatory research strategy that does not question the psychological processes underlying the development of the conduct. They also show that applying a process driven strategy leads to a more appropriate description of the reality of the behavior and conduct, in particular by describing a variety of motivations for the excessive behavior, which is central to understanding the nature of the conduct. We believe that this new approach, which is fruitful to the emerging domain of behavioral addictions, could also apply to the domain of addictions in general. The latter is characterized by the application of a generic biological model, largely influenced by animal models, focusing on neurophysiological determinants of addiction. This approach may have decreased the attention paid to dimensions of addictions that are more specifically human. We will firstly briefly argue on the limitation of this neurophysiological addiction model for the field of excessive behavioral conducts. Secondly, we will argue for an approach centered on the differentiation of motivations and on the adaptive dimension of the behavior when it first developed and on the evocation of a transition where the conduct became independent of its original function. *Conclusions:* The emerging domain of behavioral addictions, where no animal model has been developed so far, may bring a new reflection that may apply to the domain of addictions in general, with a specific attention to human questions.

The perspective developed by Billieux, Schimmenti, Khazaal, Maurage and Heeren (2015) raises important questions that concern the domain of behavioral addictions but also the domain of addictions in general. The authors point out the current tendency to overpathologize everyday life by applying to excessive behaviors a generic reflection and clinical criteria that normally serve for the definition of substance addictions. At the end of their article, they suggest a different research strategy to understand the development of excessive behaviors, where attention is given to the psychological processes involved and that focuses on the diversity of the behaviors and motivations.

This new field of observation, in a domain where excessive behaviors (gaming, Internet) are emerging as an effect of the development of new behaviors within society, and the questions raised by the authors, is an opportunity to develop a renewed and refreshing reflection on the nature of addiction.

In the case of substance addiction, mainstream conceptualizations are mostly derived from animal models that have deeply influenced the field. The absence of an animal model so far in the domain of behavioral addiction is forcing the actors in the field to develop studies that focus on observations made in humans. It is important indeed to take distance from conceptions developed with animal studies that tend to describe the addiction as depending on a unique irreversible neurophysiological mechanism that drives the

individual conducts, although we do recognize the validity of these conceptions, in particular in cases of severe dependence.

A first issue is whether behavioral addictions are totally independent of the biological processes involved in substance addictions. In the case of substance addictions, the irreversibility of the habit is related to profound modifications induced by the drug at the biological level and that are related to psychological consequences and lead to the development of a vicious circle: The interaction of the drug with brain receptors for neurotransmitters leads to an adaptation of the receptors and transduction pathways. These biological adaptations are accompanied by opponent process development, i.e. a decrease in the pleasure initially elicited by drug exposure and the development of a state of dysphoria, that in turn accentuates the drug intake to escape dysphoria, leading to this vicious circle (Ahmed & Koob, 1998; Koob & Le Moal, 2005). In the case of behavioral addictions where no drug is taken by the individuals, the biological mechanism involving receptors for neurotransmitters described above is not expected to take

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place. Nonetheless, from a phenomenological standpoint, the addicted behavior, by generating negative consequences for the individual, may lead to a vicious circle where the behavior would be a mean to escape, at least temporarily, these negative consequences. For instance, for excessive gamers, escaping in a gaming behavior may help to avoid the consequences of spending too much time on gaming. We expect, however, that the strength of the vicious circle is of less importance, as it is not supported by a biological dimension. The only dimension of the biological processes that could play a role in the development of behavioral addictions would be that of an imbalance at the level of the stress system or in inflammation that could arise from being exposed to the stresses elicited by the addiction. The stress and inflammatory systems have indeed been shown to play a role in the development of the opponent process phenomenon in substance addictions (Koob, 2015; Robinson et al., 2014), but may also occur in response to stresses unrelated to substance abuse.

A second point pertains to the function of the addiction. In their conclusion, the authors point to the importance of identifying the specific processes leading to excessive behavior in a given individual, stressing the heterogeneity and multi-faceted nature of behavioral addiction. We fully agree with that suggestion. However, in our opinion, an important aspect is still missing for the understanding of the phenomena that might be labeled by some as behavioral addiction. This aspect concerns the function of the apparently excessive behavior in a given context. Indeed, a seemingly overinvested behavior always serves (or attempts to serve) a function, and that function only operates in a given context. Hence the interaction between function and context is central in order to understand why a given behavior is overinvested by a given individual. One can speculate that the high investment in a behavior might be constructive and beneficial in context A, while the same high investment might be harmful in context B. For instance, while compulsive checking is often maladaptive in everyday life, it might be highly desirable when working on quality control in aerospace industry. It follows that organizing the diagnosis of behavioral addiction solely on the consideration of the characteristics of the behavior and of some of its consequences, while ignoring its context dependent function, misses the core tenet of psychopathology, which is dysfunctional behavior, i.e. the maintenance of a behavior that does not serve any constructive function. The question of the context is important for distinguishing functional and dysfunctional behaviors, and may contribute to the definition of behavioral addiction by helping making the difference between excessive habits and behavioral addiction.

Two examples in the domain of behavioral excessive conducts/addiction may illustrate this point. A teenager who has moved to a town far from his home town due to a change in his parents' job and who is involved in excessive gaming and Internet activities with mates from his hometown, somehow uses these activities to maintain his integration in a social network. His habit can be considered as excessive and should be questioned by the parents but it is largely context dependent and functional. This may be different for another teenager involved in totally solitary gaming activities, where gaming is the expression of a profound difficulty

in bonding with others. The behavior of the two teenagers is apparently similar but the function of the behavior may help distinguish the excessive behavior from the pathological situation. This illustrates the importance for clinicians to question the context of the emergence of excessive behaviors. The question of the context is also very important for the emergence of substance addictions. Clinicians working in the substance addiction field often meet patients that justify their addiction based on a motivation that served a function at the beginning of the addiction and that is no longer present at the time they meet a psychologist or psychiatrist, several years after the beginning of the addiction. A patient may have started excessive alcohol drinking following the loss of a close person or to help gaining comfort in social situations when he was a teenager. The context of the emergence of the addiction was in these two cases a bereavement or a social anxiety, respectively. Alcohol consumption, in both cases, served a function up to a certain level. However, years later, when patients start consulting for addiction, the context is different: The person may have resolved his bereavement or may not suffer of social anxiety anymore. They, however, keep in mind the initial context and keep the conviction that this is the reason for their drinking, while after a period of abstinence, they become aware of the fact that the addiction essentially entertained a state of dysphoria and a vicious circle, due to the opponent process evoked above. Questioning patients about the circumstances and context of the emergence of the problematic behavior is generally fruitful for patients presenting with excessive behaviors or addictions, and may help them to find whether the behavior is adapted to the context, or whether the context that justified the excessive behavior is still present. This clinical attitude have proven to be efficient in the domain of substance addictions and may likely apply to the domain of behavioral addictions.

Hence, the perspective raised by Billieux et al. (2015), on the tendency to consider addictions according to a fixed, irreversible model, largely inspired from animal studies, and their interest for diverse and specifically human motivations for excessive behaviors is a unique opportunity to take distance from the idea that an addiction is essentially or even only a process driven by fixed biological mechanisms, from which the individual would have little possibilities to escape. This biological perspective, which is probably pertinent for cases of severe addictions, may not apply to all cases. Important differences may exist in the severity of the addiction, both in the substance and behavior field.

Defining a behavior too early as a severe addiction, using the definition developed by animal models, may fix the situation and lead to pessimism in the possibility of a solution to the disorder. For the addiction field, where the success of treatment is still currently limited, we believe that we need to remain creative, and in direct contact with the phenomenology of the conducts. This may help find new solutions to this large public health problem and avoid becoming too pessimistic about the outcome of addictions or excessive behaviors.

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