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COMMENTARY

"Diagnostic inflation" will not resolve taxonomical problems in the study of addictive online behaviours

Commentary on: How to overcome taxonomical problems in the study of Internet use disorders and what to do with "smartphone addiction"? (Montag et al., 2020)

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ABSTRACT

This article suggests that the type of Internet-enabled device should not be prioritised when conceptualizing diagnostic categories of addictive online behaviours. The diagnostic distinction between "predominantly mobile" and "predominantly non-mobile" forms of Internet use disorders (IUD) is not empirically based, may not be clinically useful and may lead to "diagnostic inflation." Problems with the concepts of smartphone use disorder and IUD on which the proposed distinction is largely based call for their re-examination. Future proposals for the taxonomy of addictive behaviours may not need to be based on online/offline and mobile/non-mobile dichotomies.

KEYWORDS

problematic Internet use, Internet use disorder, problematic smartphone use, smartphone use disorder, addictive behaviours, taxonomy

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Montag, Wegmann, Sariyska, Demetrovics, and Brand (2020) propose a new classification scheme for Internet use disorders (IUD), conceptualised as "predominantly online addictive behaviors" (p. 3). Their model suggests two "forms" of IUD ("predominantly mobile" and "predominantly non-mobile"). It also includes five categories that correspond to the specific online activities: gaming disorder; gambling disorder; buying-shopping disorder; pornography use disorder; and Internet communication/social networks use disorder. In addition,

Montag et al. (2020) propose "other" IUD, which appears to be a residual category for problematic engagement in more than one online activity.

While we agree with Montag et al. (2020) about the importance of examining various aspects of technology-driven activities and considering the contribution of these aspects to the formation of maladaptive behaviours, our views diverge in other respects. In this article, we argue that the model proposed by Montag et al. (2020) introduces a questionable mobile/non-mobile diagnostic distinction and that it contributes to "diagnostic inflation" or "concept creep." We also briefly address the issues of "smartphone use disorder" (SmUD), the relationship between SmUD and IUD and the "generalized, unspecified IUD" and make a suggestion about the classification of addictive behaviours.

MOBILE/NON-MOBILE DIAGNOSTIC DISTINCTION

We agree with Montag et al. (2020) that a "mere opportunity to go online," i.e., an easy access to the Internet, is an important factor for both normal and problematic Internet use. This probably explains an exponential rise in the use of smartphones around the world. However, it is questionable whether the difference in accessibility is sufficient to propose a mobile/non-mobile dichotomy for diagnostic purposes and for the classification of IUD.

Montag et al. (2020) do not provide a convincing rationale for emphasising a dichotomy between predominantly mobile and predominantly non-mobile IUD. They do suggest, however, that some video games may be "much more addictive" when played on mobile devices than "the 'classic' computer games played on a desktop computer and/or a console" (p. 3). We believe that this raises two issues. First, additional evidence is required for justifying the claim that mobile games are "more addictive." The mere fact that mobile games are more accessible does not make them *ipso facto* more addictive. Indeed, it is important not to confound "structural characteristics" (in-game features that can make games more addictive) and mediums (devices on which games are played). For example, Montag et al. (2020) mention micro-transactions (a structural game characteristic) as a potential explanation for the greater addictiveness of mobile games. However, micro-transactions are now also used in many popular computer/console games, which does not support an argument about the greater addictiveness of mobile games.

A second issue is that it remains unclear whether the greater addictiveness of some mobile-based video games applies to most video games and whether it also applies to other potentially addictive online activities. Even if this were the case, it would not necessarily be sufficient, on its own, to support the mobile/non-mobile diagnostic distinction. One would not, for example, create a new classification of online disordered gambling if instead of using a desktop computer to place wagers, a person used a mobile device for the same purpose and was more addicted to gambling.

In addition, Montag et al. (2020) state that "the devices [mobile or non-mobile]...are characterized by specific behavioural usage patterns, technological features, or [are] preferred for one application or content in general" (p. 2). In other words, the mobile/non-mobile diagnostic distinction may be justified because different online activities are associated with different types of devices. Thus, mobile devices may be more frequently used for some online activities (e.g., social networking), whereas non-mobile devices may be more frequently used for others (e.g., gambling). However, the type of online activity is not linked with a type of device in a predetermined or fixed way and both mobile and non-mobile devices can be used for various activities. The conceptual and practical advantage of the mobile/non-mobile diagnostic distinction further remains elusive for several reasons:

- The very distinction between mobile and non-mobile devices may not always be clear-cut. Montag et al. (2020) acknowledge this when they state that "laptop computers fall somewhere in between the categories," although they are more likely to belong to non-mobile devices (p. 4). If the mobile/non-mobile diagnostic distinction may be somewhat tenuous at the time when it is proposed (e.g., portable devices like laptop computers are considered non-mobile devices), perhaps the devices that are yet to be developed will make this distinction even more difficult in the future.
- There is an element of personal preference in people's tendency to use mobile or non-mobile devices, and such preference should not be the grounds for proposing the mobile/non-mobile diagnostic distinction. For instance, some people mainly use a smartphone for gaming, gambling or social networking, although they spend most of the time at home and the mobile nature of their device is thus largely irrelevant. Is their Internet use substantially and meaningfully different from that of people who mainly rely on a personal computer for the same activities?
- Some people use both mobile and non-mobile devices in approximately equal proportions or in proportions that differ based on the type of online activity or contextual factors. In such situations, the mobile/non-mobile diagnostic distinction may seem unnecessary, artificial or arbitrary because of the difficulties in quantifying Internet use via mobile and non-mobile devices.
- Use of Internet-enabled devices is often related to their availability and convenience, i.e., the factors that are purely situational. Thus, in some situations, it is more convenient to use mobile than non-mobile devices and vice versa.
- People may engage in an online activity on one type of device and then switch to a predominant use of another device for the same activity. There may be different patterns of concomitant or consecutive use of mobile and non-mobile devices, which poses problems for the mobile/non-mobile diagnostic distinction. For example, what would be a diagnostic designation for a person who began gambling excessively on a smartphone, converted to gambling on a (non-mobile) computer and then returned to gambling on a smartphone?

– The choice of the device may depend entirely on the type of application, with some applications only being available on mobile or non-mobile devices. In such cases, the mobile/non-mobile dichotomy would only reflect the type of device, without implications for the taxonomy of addictive online behaviours.

In our view, introducing the mobile/non-mobile diagnostic distinction would shift the focus away from more important considerations, such as motivational factors, clinical features, the co-occurrence with other disorders, functional impairment and how well the condition responds to treatment. A risk is that an over-emphasis on specific technological aspects could be further extended to other technologies (e.g., virtual and/or augmented reality or wearable devices). We believe that the mobile/non-mobile diagnostic distinction in the taxonomy of addictive online behaviours is unjustified for these conceptual and practical reasons; it may also have unintended consequences.

"DIAGNOSTIC INFLATION" IN ADDICTION NOSOLOGY

One consequence of the proposed mobile/non-mobile diagnostic distinction would be an increase in the number of diagnostic entities in the classification system. Such an increase has been referred to as "diagnostic inflation" or "diagnostic expansion" (Bastra & Frances, 2012a, 2012b), with these terms also including a loosening of the diagnostic criteria, broadening of the definition of mental disorder and the consequently spurious elevation in the prevalence rates of mental disorders. More specifically, the proposed mobile/non-mobile diagnostic distinction would lead to a "horizontal concept creep," which denotes the creation of new diagnostic entities, whereby the original concept applies to a broader range of phenomena that are presumed to be qualitatively different (Haslam, 2016).

In the context of the model proposed by Montag et al. (2020), the original concept of problematic Internet use or IUD would apply to two putatively distinct entities: IUD, predominantly mobile and IUD, predominantly non-mobile. Moreover, all disorders encompassed by IUD (gaming disorder, gambling disorder, buying-shopping disorder, pornography use disorder, Internet communication/social networks use disorder and other IUD) would extend to their mobile and non-mobile forms. Therefore, instead of one condition (problematic Internet use or IUD) or six disorders encompassed by it, there would be 14 diagnostic entities when all their mobile and non-mobile forms are counted.

Although diagnostic inflation has often been criticised, especially in light of an ever-increasing number of mental disorders from one iteration of the Diagnostic and Statistical Manual of Mental Disorders (DSM) to another (Houts, 2002), it is not necessarily "bad." In fact, it may reflect progress if there is a solid empirical and clinical support for the newly introduced diagnostic entities. In the absence of such a support, the notion of diagnostic inflation justifiably carries negative connotations. Diagnostic inflation as a result of the mobile/non-mobile diagnostic distinction would have such connotations, as we are not aware of any strong empirical evidence supporting the notion that there is a qualitative or some other significant difference between individuals with a problematic pattern of online engagement who use mobile devices and those who do not use them.

INTERNET USE DISORDERS SHOULD RECEIVE THE SAME CRITICAL SCRUTINY AS SMARTPHONE USE DISORDER

The title and the first two sections of the paper by Montag et al. (2020) suggest difficulties in conceptualising SmUD and placing it within a broader nosological framework of addictive behaviours related to digital technologies. Montag et al. (2020) point to an overlap between SmUD and IUD and suggest that both "seem to address the generalized, unspecified overuse of the Internet, only using different applications" (p. 2). We concur that SmUD is a vague and heterogeneous concept and further note that it may not be confined to problematic engagement in online activities. For example, smartphones can also be used for phone conversations whilst driving or for taking selfies carelessly, without a need for Internet connection. It is unclear whether such a potentially harmful use of a smartphone would be encompassed by the concept of SmUD. Another similarity between SmUD and IUD is that both terms encompass a wide variety of activities and share use of smartphones and the Internet as mediums for engaging in such activities. This leads to the difficulty that the terms could refer principally to the *means* of performing various activities, rather than the resulting behaviour that characterises the putative conditions (e.g., Starcevic & Aboujaoude, 2017; Starcevic & Billieux, 2017).

Interestingly, Montag et al. (2020) seem to only find SmUD awkward and affirm the concept of IUD. They state that "SmUD can be used synonymously with generalized, unspecified IUD, predominantly mobile via a smartphone" (p. 2). There are several problems with this assertion. The first is that there appears to be a tacit, but debatable, acknowledgement that SmUD only relates to *online* activities performed on a smartphone. The second is a lack of clarity as to whether SmUD should be *replaced* by another term or whether it can be used interchangeably with it. The third problem is a reference to "generalized, unspecified IUD" which is not clearly defined. In fact, Montag et al. (2020) note that "the research field has to find a consensus on how many of these channels [online contents or applications] should be overused. . .to be able to speak of a generalized/unspecified IUD" (p. 4). This leaves us with a vague notion that "generalized, unspecified IUD" stands for more than one problematic online activity, but does such online engagement call for and justify an overarching concept of IUD? Moreover, why would SmUD only refer to engagement in more than one problematic online activity on a smartphone when many smartphone users engage mainly in one activity? Although some research supports a distinction

between the "specific" and "generalized Internet addiction" (Montag et al., 2015), other studies suggest that people tend to have a preferred online activity or usually exhibit problematic involvement in only one type of such activity (Baggio et al., 2018; Griffiths & Szabo, 2014; Pontes, Szabo, & Griffiths, 2015). In short, we do not see a justification to conjure up an argument about a "generalized, unspecified IUD," given that it has not been adequately defined and that its relevance has not been clearly demonstrated.

CONCLUSION

We admire the work of Montag et al. (2020) for its effort to synthesize recent ideas and developments in the field. We also agree with their suggestion that both research and clinical practice would benefit from detailed analysis of problematic online activities, with assessment of these activities considering the device, the application, the context, frequency of use and the consequences.

However, we are not convinced that the type of device or access to the Internet should be prioritised when conceptualizing diagnostic categories. This seems too awkward and too complex and may have limited utility for clinicians. Diagnoses should primarily refer to the dysfunction present within an individual rather than the technology that contributes to it. A better approach may be to examine the interaction between individual characteristics and vulnerabilities and digital technologies (e.g., Gervasi et al., 2017; King et al., 2019).

In addition to being based on solid evidence, the classification of addictive online behaviours needs to be manageable, clinically useful and capable of informing research. We contend that the mobile/non-mobile diagnostic distinction is not helpful in this regard and that it may lead to diagnostic inflation. Furthermore, there are problems with the concepts of both SmUD and IUD that require them to be subject to greater research scrutiny before inclusion in any taxonomy.

Notwithstanding the debatable classification of problematic online activities as "disorders," Montag et al. (2020) have provided a useful catalogue of addictive online behaviours under the umbrella or "parent condition" of IUD. It remains to be ascertained whether a general typology of addictive behaviours that makes no reference to online or offline contexts would be of greater value. Addictive activities appear to be highly adaptable and readily transferrable to online environments (regardless of whether the access is via mobile or non-mobile devices). This adaptability does not change their essential characteristics of being addictive and potentially associated with negative consequences. If this is true, there appears to be little justification for dichotomised (online versus offline and mobile versus non-mobile) diagnostic nomenclature.

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