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## COMMENTARY



# Developmental and family considerations in internet use disorder taxonomy. 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

Montag, Wegmann, Sariyska, Demetrovics, and Brand (2019) propose an important framework surrounding the taxonomy of problematic internet usage, with particular applications to disentangling the role of mobile and other handheld devices versus stationary platforms. This is a critical contribution, as organizational frameworks have begun to move past “whether” there is disordered internet use, and towards better understanding the complex and multifaceted ways in which internet usage can be related to psychological maladjustment. In the present commentary, we encourage authors to extend this framework by incorporating developmental complexities. Montag and colleagues’ (2019) contribution is discussed with reference to children and families, including: (1) the conceptualization of problematic internet usage and associated behaviors across the early years, (2) the types of internet use and devices that are most salient for young users, (3) the embedding of children’s internet consumption within the context of a broader pattern of family media usage, and (4) the construct of behavioral addictions in pediatric populations. Recommendations for science and practice are briefly discussed.

## KEYWORDS

internet use disorder, taxonomy, children, family, development

Montag, Wegmann, Sariyska, Demetrovics, and Brand (2019) provide an extremely important contribution to the study of problematic internet usage by highlighting the complexities of the modern media diet, and the challenges this presents for diagnostic entities such as Internet Use Disorders (IUDs). The authors propose a critical distinction between predominantly mobile versus non-mobile patterns of usage, in addition to the types of content being accessed (e.g., pornography, social media, gambling, games, shopping), and the behavioral stance within these digital spaces (e.g., being an “active producer” versus “passive consumer” of content). The proposal to disambiguate mobile and non-mobile use is an excellent advance in the taxonomy of internet addiction (de Vreese & Neijens, 2016; Vandewater & Lee, 2009). Indeed, many scholars have begun to move beyond “whether” there is problematic or disordered internet usage, and towards elucidating the manner in which clinical levels of psychological distress and maladaptive behavioral patterns develop within the “digital level of analysis” (Browne et al., 2019). In this commentary, we encourage Montag

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and colleagues (2019) to continue expanding their important work, particularly around developmental and ecological (i.e., family) factors. Specifically, we encourage the application of developmental perspectives in the consideration of (1) problematic usage and associated psychological sequelae, (2) types of devices and content that may be targeted towards or inadvertently accessed by young people, (3) family patterns of usage, and (4) the construct of behavioral addictions in children.

## AGE CONSIDERATIONS FOR DEFINING THE PROBLEMATIC USE OF TECHNOLOGY

It is important to consider that the definition of problematic usage will vary as a function of age. The American Academy of Pediatrics (AAP, 2018) has suggested that children under 18 months have no media consumption (besides video chatting to connect with loved ones), that only “co-viewing” with an adult occur for those 18–24 months, and that children 18-months to five years have no more than one-hour of high quality media time, per day (Moreno, 2016). For children aged 6–18 years, the AAP does not set any specific time restrictions, but strongly encourage having a family media plan, implementing screen-free zones, promoting healthy behaviors (physical exercise) that do not include digital media, and avoiding the use of technology as an “emotional pacifier” due to potential for the formation of dependence. Early experiences of (dysfunctional) emotion regulation with digital media can be regarded as a risk factor for later addictive use of digital media.

## DEVICE TYPE AND CHILD-SPECIFIC USAGE TRENDS

Montag and colleagues’ (2019) argue that internet usage via smartphones is more addictive than usage on stationary devices due to portability and ease of access. This truism is developmentally pertinent, as young children are much more likely to use a tablet or smartphone (i.e., a mobile device) than a stationary computer (Rideout, 2017). Privately using these portable devices (often with headphones), children may be more likely to stumble upon predatory content or individuals, “freemium” games that subsequently incur actual financial costs to parents via automated payment, or content that is targeted towards adults such as pornography. The undeniable reality of children’s navigation of virtual spaces poses challenges for parental monitoring, while also making the developmentally-rich experience of “co-viewing” and discussion of media for learning more challenging. These concerns have prompted researchers to investigate the measurement of technology use in children in order to further explicate these phenomenological domains (Browne et al., 2019), including the types, settings, and mediums that are most prone to problematic usage.

## CONSIDERATION OF FAMILY-LEVEL TRENDS IN DIGITAL MEDIA USE

Similar to most outcomes in developmental psychology (Browne, Plamondon, Prime, Puente-Duran, & Wade, 2015), there is significant within-family clustering in digital media usage, and the strongest predictor of child media usage (measured as “screen time”) is maternal media usage (Madigan, Racine, & Tough, 2020). Given the familial nature of internet addiction, where behavioral genetic designs have already articulated both genetic and environmental components, it is critical for researchers and clinicians to take a family lens (Deryakulu & Ursavaş, 2014). This perspective can be complementary nosological frameworks, as is the case in comprehensive assessment of childhood disorders, in addition to evidence-based clinical assessment and treatment planning. In other words, it is important for the reification of internet use disorder, and distinctions surrounding mobile format, to align with best practices in developmental psychopathology and child psychiatry, in general. This endeavor necessitates a focus on the family (Browne, Thompson & Madigan, 2020).

## BEHAVIORAL ADDICTIONS IN THE CONTEXT OF CHILDHOOD AND ADOLESCENCE

Lastly, it is critical to consider the extent to which Internet Use Disorders – and more broadly, the construct of behavioral addictions – apply to children and young people. In general, the framework of behavioral addictions is not applied to children under the age of 12 years. This is because the construct implies (a) the capacity for insight into the problematic nature of the behavioral compulsion (in this case, internet usage), and (b) the developmental expectation that the individual would be able to inhibit the prepotent responses that, in the case of disorders, is not normatively operating. For young children, internet usage can be disruptive even if they lack insight into their usage being problematic. Additionally, we may *not* necessarily expect them to be able to inhibit their responses (yet). Prerequisites of inhibitory responses to tempting activities are related to brain maturation such as the development of the prefrontal cortex (Best, Miller & Jones, 2009; Shing, Lindenberg, Diamond, Li, & Davidson, 2010). Hence, loss of control, which is one of the central criteria for behavioral addictions, cannot be applied in young children because inhibition of behavior is not yet fully developed. Moreover, other criteria such as “undue priority given to the specific behavior” requires autonomous decision making, which does not always apply for children because behavior is often regulated externally. Indeed, much of what we consider “self-regulation” in childhood is actually occurring in a social environment that is engaged in “other-regulation” (Sameroff, 2010), as is the case for parents who are monitoring and modulating children’s



digital media usage. Nevertheless, there may be problems surrounding mobile (or non-mobile) internet usage that is clinically concerning, yet does not fall into the category of behavioral addictions. Thus, what might begin as clinically relevant and dysfunctional patterns of parent-child transaction during childhood, with or without comorbidity, could potentially evolve into a *bona fide* internet use disorder by adolescence or young adulthood, consistent with the principle of homotypic continuity in developmental psychopathology (Snyder, Young & Hankin, 2017). Such complexity highlights the important interplay between diagnostic entities and developmental perspectives that articulate person-context interactions in human development and the emergence of disorders (Browne & Andrade, 2015).

When considering these developmental guidelines and nuances in comparison to adults, a number of important distinctions emerge, which serve as an important jumping-off point for future directions in the taxonomy of problematic internet use across the lifespan. To begin, durations of media use that would be considered very low for adults could, amongst children, be viewed as very problematic. Thus, it is critical for assessments and theoretical frameworks to consider the inter- and intrapersonal context in which problematic internet and smartphone usage is taking place, and not simply “screen time”. Simultaneously, behaviors thought of as “withdrawal” in adults may be developmentally normative for children (e.g., becoming dysregulated when required to turn off a device or, frankly, transitioning from any activity to the next). That being said, based on careful assessment surrounding the frequency and intensity of distress, withdrawal-type behaviors in children could, indeed, be a symptom of problematic internet usage, and could also represent comorbidities with other forms of psychopathology (e.g., internalizing or externalizing disorders). Further complexities arise in light of the rapid pace of developmental transformations, including implications for patterns of media use and how they may differ across pediatric age groups (e.g., infants/toddlers, young children, pre-teens, teenagers). The types of content that could be viewed as “addictive” for young children (e.g., highly reinforcing game play) may be different than older children and teenagers (e.g., highly reinforcing social media encounters and “likes”). In addition, the distinction between mobile and non-mobile use is less important in infants and toddlers compared to teenagers because the availability is predominantly regulated by the parents and not by the type of digital device. Other important distinctions could refer to attended/unattended use as well as allowed/forbidden use. Moreover, building on Montag and colleagues (2019) suggestions, it is also pertinent to disentangle productive versus consumptive internet use in children, especially given the number of educational platforms that are intertwined with gaming, mandatory internet usage for school and homework, and the increasing role of media in developmentally-enhancing play. Of course, no clinical assessment (or theoretical framework) surrounding childhood difficulties can be disentangled from the ecology, especially the family, in keeping with theoretical canon in

child psychology and the study of human development (Browne et al., 2019). Thus, while enhanced nosology is a critical step, it must also be accompanied by transactional models in which individuals and the digital landscape mutually shape one another, for better or for worse.

Utilitarian frameworks will best emerge in settings whereby scholars adequately map psychological problems across the myriad contexts and stages of life in which these difficulties manifest. Thus, in concluding our remarks in regards to the important contribution by Montag and colleagues (2019), we encourage scientists and practitioners in the field of Internet Use Disorders and smartphone addiction to comprehensively view the developmental landscape, and inform their frameworks to consider this complexity. Researchers might further clarify how problematic internet usage differentially manifests as a function of the developmental factors described in this commentary. It will be of special importance to increase insight into early signs of dysregulated media use behavior in children that might turn into addiction in later life. Such precursors could inform parents and serve as a starting point for interventions. In this way, families (as a unit of analysis) should be considered as central in the etiology, detection and treatment of internet use disorders, as has become commonplace in substance use disorders and other areas of child and adolescent psychology and psychiatry.

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