

# Problematic technology use needs to be tackled so that children and adolescents can reap positive benefits during the COVID-19 pandemic

The scientific discussions about the dysregulated or problematic use of the Internet began shortly after it was launched.<sup>1</sup> The Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition, has identified Internet gaming disorder as a condition that requires further study and defined it as functional impairment and distress that is caused by the excessive use of online computer games.<sup>2</sup> The disorder will also be included in the forthcoming International Classification of Diseases, 11th Revision<sup>3</sup> and placed in the section of the guide that describes addictive conditions. This has been welcomed by researchers who see excessive gaming as a form of behavioural addiction.<sup>4</sup>

Internet gaming disorder is conceptually similar to its counterpart, gaming disorder, which refers to digital or video gaming and can be diagnosed as predominantly online or offline. The main diagnostic features are impaired control over gaming behaviour and losing interest in other areas of life because of the increased priority given to gaming. Individuals ultimately suffer from significant impairments in important areas of functioning, because they continue or escalate their gaming use, despite experiencing negative consequences.

Formally recognising a condition as an official mental health diagnosis may pave the way for increasing and improving support measures in healthcare systems. Despite this, both gaming disorder and Internet gaming disorder have been criticised for focusing too narrowly on gaming and neglecting other potentially harmful phenomena associated with the Internet and digital media.<sup>5</sup> As a consequence, some studies use broader terms, such as problematic smartphone use or problematic Internet use. These categories include addictive gaming as well as behavioural patterns, such as the dysfunctional use of social media or the addictive use of video platforms like YouTube. Substantial progress has been made in the scientific community on how we understand these often-overlapping phenomena. Numerous studies have sought to develop theoretical frameworks and scales to describe, and measure, problematic smartphone use and Internet use. Unfortunately, this has caused greater confusion, rather than provided more clarity. For example, one review paper, published in 2020, found that nearly 80 different scales claimed to measure problematic smartphone use.<sup>6</sup>

Efforts have also been made to demonstrate and disentangle the links between problematic smartphone use and Internet use and the potentially harmful consequences of dysregulated media

consumption. A growing body of evidence indicates that problematic smartphone use and Internet use may be associated with a wide range of problems in children and adolescents. These include somatic issues, such as sleep problems, being overweight, poor nutrition and back and musculoskeletal issues. They also include psychosocial problems, such as learning difficulties, tobacco use, isolation, physical inactivity, sedentary lifestyles, self-destructive behaviour and peer victimisation.<sup>7</sup> Several studies on this topic were published by *Acta Paediatrica* in a virtual issue on children and screen time in September 2019. This can be accessed by selecting virtual issues from the journal's home page.

The more subtle, but potentially equally toxic, influence of digital advertising on the emotional well-being of children and adolescents has received increased attention. A 2020 policy statement by the American Academy of Pediatrics<sup>8</sup> pointed out that children and adolescents were vulnerable to targeted digital advertising. The examples they cite include the role of celebrity influencers, company-sponsored content, such as highly popular videos showing people unboxing items, and hidden data collection for commercial purposes. So-called free-to-play games, which are often aggressively marketed to children and adolescents, are a dubious, and some say subtle but harmful, business model that is not easily understood by users. Personal user data, rather than the games themselves, are the core product. Moreover, popular heavyweights such as Fortnite, a free online game, generate billions of dollars with in-app purchases.

Taken together, excessive media consumption can create potential stressors for children and adolescents, which can lead to reduced satisfaction with their lives. In this issue of *Acta Paediatrica*, a systematic review by Fischer-Grote et al focused on the impact of problematic smartphone use on the quality of life of children and adolescents.<sup>9</sup> The authors examined nine original studies covering nearly 6,000 subjects. The authors concluded that problematic smartphone use seemed to be related to decreased health-related and overall quality of life, life satisfaction and subjective well-being among adolescents. As well as being the first systematic scientific review on this topic, another merit of the paper is that the authors addressed the complexity and many uncertainties that still exist in this research field. Fischer-Grote et al emphasise the need for more research and have suggested a number of goals for future research,

including finding a consensus between researchers with regard to the conceptualisation of both problematic smartphone and Internet use. The authors also suggest: including younger children in future studies as they are especially vulnerable to these two issues and carrying out cultural comparisons between studies from Asian regions and Western countries. Finally, they suggest a more nuanced focus on different types of smartphone applications.

Usually, an editorial such as this would now come to an end by drawing conclusions. However, as these words are being written in the midst of a pandemic, another important point should be addressed. Since spring 2020, children and adolescents worldwide have faced the dramatic consequences of the necessary measures to prevent the spread of the virus that causes COVID-19. According to the latest World Economic Forum data, published in early January 2021, more than 1.2 billion children around the globe were affected by school closures in 2020. Teaching and education practices have undergone drastic changes. Distance learning or e-learning, which relies on Internet-based technology, has been implemented quickly in many countries. In areas with stricter restrictions, technology may be the only way that children and adolescents have been able to keep in contact with peers outside their immediate family. A UNICEF statement published in 2020 pointed out that more than 65% of young people across the world still lacked Internet access at home and that this further exacerbates inequalities in access to education during a crisis such as the pandemic.<sup>10</sup> That is why UNICEF is calling for a significant expansion of Internet access in affected regions.

What final conclusions may be drawn?

First, a growing number of studies have showed the potentially harmful consequences of problematic smartphone and, or, Internet use by children and adolescents. However, as most of these studies lack scientific common ground and measure too many different outcome variables, they do not lend themselves easily to synthesis. Systematic reviews, such as the study by Fischer-Grote et al in this issue, help to achieve more clarity and pave the way for future research. A consensus in the scientific community concerning the core topics of problematic media use is clearly needed.

Second, despite all the potentially detrimental effects of dysregulated media use, children and adolescents worldwide depend on the Internet and smartphones, especially at times like these. That is why research findings should not be used to argue that technology should be restricted. Instead, they should be used to help children and adolescents acquire balanced and competent media skills. Key elements of media competence include being aware of the benefits and disadvantages of various applications and the potentially harmful aspects of the Internet. They also include critical scrutiny of a person's own consumption patterns and competent handling of personal data. As parents, paediatricians, medical professionals, teachers and therapists, we need to be able to teach our children these basic skills. Initiatives such as the European Commission's Better Internet for Kids strategy provide extensive information and instructional material on this.

Last, but not least, 65% of children and adolescents worldwide still lack Internet access at home. The expansion of the World Wide Web in affected regions is vital for the future of those young people, especially when we are still in the grip of a global pandemic.

## CONFLICTS OF INTEREST

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Martin Fuchs 

*Child and Adolescent Psychiatry and Medical University  
Innsbruck, Tirol Kliniken GmbH, Hall i. T., Austria  
Email: martin.fuchs@tirol-kliniken.at*

## ORCID

Martin Fuchs  <https://orcid.org/0000-0003-4824-2511>

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