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Research Report

Excessive Internet Use and its association with negative experiences: Quasi-validation of a short scale in 25 European countries



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ABSTRACT

Prevalence data on Internet addiction in Europe are rather scarce due to the lack of agreement on the definition and measurement of the concept. We define Excessive Internet Use (EIU) as such use of online applications that puts the user at risk of adverse consequences. In this paper, we present a cross-country quasi-validation of the five-item Excessive Internet Use scale that is suitable for use in general population surveys. We worked with EU Kids Online II data for children aged 11–16 in 25 European countries and used a set of regression models to assess the probabilities of various negative consequences for each EIU score. A consistent pattern was identified across Europe when controlling for country differences, suggesting good psychometric properties of the scale. Moreover, our results indicate that EIU in children may be a symptom of broader behavioral difficulties rather than a condition, per se.

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1. Introduction

Problematic Internet use has been a growing concern for more than two decades and, although there is a little of agreement about the definition of the concept, the scientific community consents that the problem exists and requires further exploration (APA., 2013). Internationally comparable epidemiological information on prevalence in different populations would contribute to a better understanding of the phenomenon, and that has been identified as an important knowledge gap by the American Psychiatric Association (APA, 2013). In this sense, research on children and adolescents should be especially encouraged as they are in many ways a vulnerable group of Internet users (Kuss, van Rooij, Shorter, Griffiths, & van de Mheen, 2013). Many young people use the Internet intensively and utilize some of the most time-consuming applications, such as online games (Livingstone, Haddon, Gorzig, & Ólafsson, 2011). Moreover, their developmental stage may imply easier habit-forming and poor judgment about the risks associated with Internet overuse (Lopez-Leon & Raley, 2013).

To date, over 30 scales have been developed and used to measure some form of problematic Internet use and few have been

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validated for discriminatory needs and/or different national populations (Lortie & Guitton, 2013). The scales reflect a variety of conceptual approaches to Excessive Internet Use: some aim to measure general Internet addiction while others focus on online gaming specifically. The shortest scale consists of 6 items while the longest has 44 items. Using scales with a large number of items is, however, often impractical in large epidemiological surveys. Young's Internet Addiction Test (IAT) is one of the most commonly used and culturally validated tools to measure Internet addiction. This scale was, however, developed in the late 1990s (Young, 1998, 1999) and does not reflect recent online developments, such as the enormous popularity of Facebook and the rapid proliferation of smart, handheld devices. To our knowledge, IAT is also the only available scale to measure general Internet addiction that has been designed for discriminatory needs; i.e. it provides a cut-off point distinguishing addicted Internet users from those who have no such problem. As a long scale of 20 items - with an arbitrarily set threshold among non-problematic, problematic, and addicted users - it is not a tool that can be easily used in large-scale population surveys. A short screening test would be more appropriate for this purpose. A recent attempt to validate Short Problematic Internet Use Test provides a short measure but does not specify the threshold between problematic and non-problematic Internet users (Siciliano et al., 2015). Our aim in this study is to look at a short instrument suitable to measure adolescents' Excessive Internet Use in large representative samples and see if it is possible to use it for discriminatory purposes.



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2. Background

We work with the term Excessive Internet Use (EIU) because the question of whether the extreme forms of Internet overuse can be considered an addiction has not yet been adequately answered. The lack of agreement in terms of definition and terminology is clearly reflected in the tools used to measure the phenomenon: the scales aim to assess Internet addiction (Young, 1999); problematic Internet use (Thatcher & Goolam, 2005); or pathological (Gentile, 2009) or compulsive (Meerkerk, Van Den Eijnden, Vermulst, & Garretsen, 2009) Internet use; while others focus on the overuse of specific applications, such as online games (Lemmens, Valkenburg, & Jochen, 2009) or social networking sites (Andreassen, Torsheim, Brunborg, & Pallesen, 2012). The diagnostic criteria are derived from a varying set of conditions ranging from substance dependence to gambling to impulse control disorders. All together, seven main dimensions of Internet addiction have been suggested: compulsive use, negative outcomes, salience, withdrawal symptoms, mood regulation, escapism, and social comfort (Lortie & Guitton, 2013). The diversity in approaches to Internet overuse and its extreme forms results in varying prevalence across studies (Kuss et al., 2013) and makes comparisons between studies and over time extremely difficult.

In the present study, we define EIU as such use of online applications that puts the user at risk of adverse consequences. The respective dimensions of EIU formulated by Griffiths (2005), include salience, mood changes, tolerance, withdrawal symptoms, relapse and reinstatement, and conflict in one's life. Excessive Internet users, although constituting a minority in most populations, do not represent a homogenous group. In its extreme forms, excessive users may be at risk of developing addiction (Blinka et al., 2015).

Problematic Internet use has been associated with a number of risk factors and comorbidities. One cluster of predictors comprises of low self-control, higher novelty seeking or sensation seeking, and Attention Deficit Hyperactivity Disorder (ADHD) (Weinstein & Lejoyeux, 2010). These problems have been shown to be related to other forms of youth problematic behavior like school problems, substance abuse, early sexual experiences, aggression. The association between EIU and alcohol abuse (Ko, Ju-Yu, Cheng-Chung, & Chen, 2006), low interpersonal and school performance (Tang et al., 2014), and conduct problems (Smahel & Blinka, 2012) has also been described in the literature. Another cluster of predictors is represented by low emotional self-regulation, particularly low self-esteem (De Berardis et al., 2009), low self-efficacy (Smahel & Blinka, 2012), anxiety and depression (Weinstein & Lejoyeux, 2010), and social phobia (Yen, Ko, Yen, Wu, & Yang, 2007). In the case of Excessive Internet Use, both clusters of predictors - lower impulse and emotional regulation - were found together (Blinka et al., 2015; De Berardis et al., 2009; Ko et al., 2008). In the present study, we use these concepts as indicators of the convergent validity of the Excessive Internet Use scale.

3. Methods

3.1. Data

The data comes from the EU Kids Online II survey conducted in 2010 in 25 European countries. The survey interviewed about 1000 children aged 9–16 and one of their parents in each country (N = 25,142). A random stratified sampling ensured the representativity of the samples at the national level and a fully identical methodology in all countries guaranteed the cross-country comparability of the data (for more details on methodology, see Görzig, 2012). The questions on Excessive Internet Use were only asked of adolescents aged 11–16 (N = 18,709) who represent the final sample for our analysis.

3.2. Excessive Internet Use Scale

The Excessive Internet Use scale consisted of five Likert-type questions on a four-point scale, ranging from "never" to "very often". The items covered five components of Internet addiction (Griffiths, 2005) with the following wording: (1) "I have gone without eating or sleeping because of the Internet" for salience; (2) "I have felt bothered when I cannot be on the Internet" for withdrawal symptoms; (3) "I have caught myself surfing when I am not really interested" for tolerance; (4) "I have tried unsuccessfully to spend less time on the Internet" for relapse and reinstatement; (5) "I have spent less time than I should have with either family, friends, or doing schoolwork because of the time I spent on the Internet" for conflicts in one's life. The EIU index was created as a mean value of the five items. The quality of the tool was tested in 18 national surveys and in 15 languages using the SOP 2.0. a survev quality prediction system for questions used in survey research (Saris & Gallhofer, 2007), and overall showed very good predicted reliability, validity, and quality.

3.3. Negative outcomes and risk factors of Internet addiction

The negative outcomes and risk factors of Internet addiction were identified in the literature review. Subsequently, the EU Kids Online questionnaire was searched for simple yes-no items that could serve as good indicators for the respective negative outcomes and risk factors. When there were more variants of the positive answer (e.g. "a bit true" versus "very true"), the question was dichotomized with the most extreme option representing the consent. One item was selected for each concept, except for behavioral difficulties, where four different items are selected to represent four different dimensions of misbehavior. All questions about past behaviors refer to a recall period of the previous 12 months. The following items were selected for the analysis: Somatic problems: I get a lot of headaches, stomachaches, or sickness. Depressive symptoms: I am often unhappy, sad, or tearful. Interpersonal prob*lems*: Have you acted in a way that might have felt hurtful or nasty to someone else? School problems: Have you done any of these things: Been in trouble with my teachers for bad behavior? ADHD: I am easily distracted and find it difficult to concentrate. Anxiety: I am nervous in new situations; I easily lose confidence. Low self-control: I get very angry and often lose my temper. Social phobia/communication difficulties: I find it easier to be myself on the Internet than when I am with people face to face. Risky online behavior: Have you sent or posted a sexual message (example: words, pictures or video) of any kind on the Internet? This could be about you or someone else. Behavioral difficulties: (1) Have you done any of these things: Missed school lessons without my parents knowing (playing truant, bunking off, skiving or wagging school). (2) I take things that are not mine from home, school, or elsewhere. (3) Have you done any of these things: Had sexual intercourse? (4) Have you done any of these things: Had so much alcohol that I got really drunk? We refer to these variables as constructs throughout the article.

3.4. Statistical analysis

Basic descriptive statistics were calculated for all variables. Factor analysis (maximum likelihood method) and Cronbach's alpha were employed to explore the structure and internal consistency of the EIU scale.

The cut-off point distinguishing excessive Internet users from those with no such problem was established in four steps. First, we ran a set of logistic regression models. Each regression model was comprised of one construct as a dependent variable and of the EIU score as an independent variable – this analysis was then Download English Version:

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