# Internet use and addiction among Finnish Adolescents (15–19 years)

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## ABSTRACT

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This study investigates Internet use among Finnish adolescents ($n = 475$) combining qualitative and quantitative research. Internet use was evaluated using the Internet Addiction Test (Young, 1998a, 1998b). The data was divided into three parts according to the test scores: normal users (14.3%), mild over-users (61.5%), and moderate or serious over-users (24.2%). The most common reason for use was having fun. While half the students reported disadvantages associated with their use, further qualitative analysis revealed that students with serious overuse did not report any harm caused by using the Internet. As disadvantages of using the Internet, students reported that it is time-consuming and causes mental, social, and physical harm and poor school attendance. Four factors of Internet addiction were found, and for two of them, a statistical difference between females and males was found.

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The Internet is a global phenomenon, and its influence has increased steadily in recent decades. It has become a significant component of contemporary life for all age groups. At present, the rapid emergence of online interactions provides new possibilities to exchange information, to provide support or to have conversations between people who otherwise could not be interconnected. However, the Internet has its own advantages and disadvantages.

Young people especially have increasingly adopted the Internet, using it as means of entertainment, socialization and information retrieval. Though the Internet is a useful and easy-to-access tool, it may create problems for those who cannot control their use of time, so a risk of overuse is possible. In particular, excessive Internet use may lead to adverse effects on psychosocial development for adolescents (Tahiroglu, Celic, Uzel, Oczcan, & Avci, 2008). An overarching factor among these negative-orientated conceptions is the consensus of problematic use of the Internet as a time-consuming, distressing and uncontrollable activity (Tahiroglu, Celik, Uzel, Ozcan, & Avci, 2008). This kind of use often results in occupational, financial and social difficulties. The content of interest can also have malign influences on a user's well-being. Besides harmful excessive use, Weinstein and Lejoyeux (2010) proposed three sub-types of problematic Internet use: excessive gaming, sexual pre-occupations and messaging or using e-mail. They argue that all these sub-types may lead to withdrawal and feelings of anger and tension when a computer is inaccessible. These sub-types have an effect on tolerance, too. The user may create a growing need to have better computer equipment and engage in still more hours of use. In addition, these uses may lead to several kinds of adverse consequences, including arguments, lying, poor achievement and social isolation.

In this regard, excessive use of the Internet can be defined as an addiction and hence can be defined as a disease that involves dysfunction in the brain reward system, memory and motivation. Addictions were previously connected mainly

with the overuse of alcohol or drugs, but in recent decades, the definition has been widened. At present, behavioural addictions to food, shopping, gambling, sex, and other related behaviours are also included. In these kinds of behaviours, a shot of dopamine in the brain causes addictive behaviour because it has been experienced as rewarding. Addicted persons have difficulty in recognizing problems caused by their addiction and in controlling their behaviour (Saphira et al., 2003; Smith, 2012). In the beginning, disadvantages are hidden and problematic behaviour gives the user merely pleasure. However, when behavioural addiction becomes the rule, the disadvantages accumulate and cause annoyance and dissatisfaction.

## Definition of Internet Addiction

Spending ever-increasing periods on the Internet increases the risk of developing misuse, which has been referred to variously in research literature as Internet *overuse, problematic* Internet use and *maladaptive* Internet use (Carli et al., 2013; Demetrovics, Szeredi, & Rózsa, 2008; Kormas, Critselis, Janikian, Kafetzis, & Tsisika, 2011). In addition, *pathological, maladaptive* and *adaptive* Internet use have been investigated and are considered separate from normal use (Durkee et al., 2012). Additionally, Israelashvili, Kim, and Bukobza (2012) proposed three definitions of excessive users: *over-users, heavy users* and *addicted users.* According to them, because over-users and heavy users utilize the Internet for age-related and modern-life-related purposes, labelling them as addicted is not appropriate.

Johansson and Götestam (2004) also presented many terms in the literature regarding problematic use of the Internet. In their opinion, the terms "Internet dependence" and "Internet addiction" have been used synonymously. Furthermore, "excessive use" has been connected with fewer problems and regarded as a minor issue even though it can cause problems as serious as those related to gambling.

Thus, several different terms are associated with the concept of Internet addiction (e.g., Douglas et al., 2008; Johansson & Götestam, 2004), and these various definitions used in the literature blur the distinction between moderate and problematic use. Although the first definition of Internet addiction disorder (IAD) was presented in the 1990's (Goldberg, 1995) there is still no agreement about the diagnostic criteria for IAD. Regardless of the fact that almost two decades have passed, there is no consensus on the risks of excessive Internet use; understanding of this disorder and how it works as a health risk are still quite scarce (Jiang & Leung, 2011). Nevertheless, there is currently an agreement that pathological Internet use is an addiction that has features of an impulse control disorder (Dowling & Quirk, 2009; Korkeila, Kaarlas, Jääskeläinen, Vahlberg, & Taiminen, 2010).

The first empirical study on Internet addiction was conducted by Young (1996, 1998a, 1998b), who differentiated between normal and pathological uses of the Internet using eight criteria: being preoccupied by the Internet, feeling the need to use it, making repeated efforts to stop using it, feeling restless without it, spending more than intended when using it, exhibiting readiness to suspend social relationships, lying to close friends or family, and using the Internet as a way of escaping problems.

In their meta-synthesis of studies on Internet addiction, Douglas et al. (2008) proposed a conceptual model of the IAD phenomenon. They identified several constructs defining IAD. Their synthesis indicated that addicts use the Internet up to eight times as much as non-addicts. Other factors found that can push or facilitate heavy Internet use are an individual's social status, loneliness and isolation and a possibility to choose a virtual identity to compensate for an individual's own short-comings. A potential addict may be socially isolated and feel more comfortable on the Internet, avoiding face-to-face environments. The likely candidate does not admit that the lack of a social life is a problem; one of the Internet's attractive factors is its ability to facilitate socialization. Furthermore, using the Internet is relatively easy, it is quite inexpensive, it provides anonymity and it offers effective ways to communicate (Ng & Wiemer-Hastings, 2005). The possibility of acting anonymously without being detected also facilitates deviant and illegal behaviour (Quale & Taylor, 2003). Therefore, it is possible that using the Internet may be a trigger to begin acting illegally as well.

The negative effects of excessive Internet use include avoidance of interpersonal contacts and a lifestyle that is likely to endanger individuals' health. An IAD interview is a clinical screening instrument with eight items concentrating on the presence or absence of eight behaviours or feelings typical of an Internet over-user (Tonini et al., 2012). These include lack of sleep, fatigue, excessive time spent online, difficulty in decreasing time spent online, declining or poor academic/work performance, apathy, irritability and decreased interest in social relationships.

## Prevalence of Internet addiction and its negative outcomes

Pathological Internet use has significant correlations with depression (75%), anxiety (57%), ADHD symptoms (100%), obsessive-compulsive symptoms (66%) and aggression (66%). Pathological Internet use is more common in males than in females (Carli et al., 2013).

Although scientific knowledge about causal relations between mental health and Internet addiction is still imperfect (Korkeila, 2012), Israelashvili et al. (2012) argued that, in this regard, evaluating both the amount of Internet use and purposes of overuse is important.

Adolescents' Internet use has been investigated in eleven European countries. The prevalence of pathological use was found to be 4.4% (with sample size of 11,956), and the prevalence of maladaptive use was 14.3%. According to these results, pathological Internet users use the Internet nearly two times more than adaptive users. Most pathological users are male,