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**Article (Published version)  
(Refereed)**

**Original citation:**

Kardefelt-Winther, Daniel (2014) *A conceptual and methodological critique of internet addiction research: towards a model of compensatory internet use*. [Computers in Human Behavior](#), 31 . pp. 351-354. ISSN 0747-5632

DOI: [10.1016/j.chb.2013.10.059](https://doi.org/10.1016/j.chb.2013.10.059)

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Available in LSE Research Online: July 2014

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# A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use



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## ARTICLE INFO

### Article history:

Available online 23 November 2013

### Keywords:

Internet addiction  
Compulsive internet use  
Problematic internet use  
Compensatory internet use  
Motivations for internet use

## ABSTRACT

Internet addiction is a rapidly growing field of research, receiving attention from researchers, journalists and policy makers. Despite much empirical data being collected and analyzed clear results and conclusions are surprisingly absent. This paper argues that conceptual issues and methodological shortcomings surrounding internet addiction research have made theoretical development difficult. An alternative model termed *compensatory internet use* is presented in an attempt to properly theorize the frequent assumption that people go online to escape real life issues or alleviate dysphoric moods and that this sometimes leads to negative outcomes. An empirical approach to studying compensatory internet use is suggested by combining the psychological literature on internet addiction with research on motivations for internet use. The theoretical argument is that by understanding how motivations mediate the relationship between psychosocial well-being and internet addiction, we can draw conclusions about how online activities may compensate for psychosocial problems. This could help explain why some people keep spending so much time online despite experiencing negative outcomes. There is also a methodological argument suggesting that in order to accomplish this, research needs to move away from a focus on direct effects models and consider mediation and interaction effects between psychosocial well-being and motivations in the context of internet addiction. This is key to further exploring the notion of internet use as a coping strategy; a proposition often mentioned but rarely investigated.

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## 1. Introduction

Internet addiction<sup>1</sup> is typically described as a state where an individual has lost control of the internet use and keeps using internet excessively to the point where he/she experiences problematic outcomes that negatively affects his/her life (Young & Abreu, 2011). Examples of such outcomes are cases where individuals lost sleep or skipped meals because they were spending time on the internet, or where internet use has resulted in conflicts with family members or led to the detriment of a job or educational career. Most research on internet addiction is based on initial research by Young (1998), who conceptualized internet addiction as an impulse-control disorder, deriving diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) diagnosis for pathological gambling. Since addictions were not acknowledged in DSM-IV, Young contended that the diagnosis of pathological gambling was most akin to the pathological nature of internet use and adopting

the criteria would be helpful in clinical settings and stimulate further research (Young, 1998).

The subsequent empirical work has not been successful in terms of agreeing on a definition or the diagnostic criteria, nor in the explanations of what leads to or follows from internet addiction. Researchers have also been unable to agree on who is at greater risk, unable to agree on whether the problems are persistent and unable to determine whether the proposed methods for treatment are successful. Despite finding many associations between psychosocial well-being and internet addiction researchers have been unable to agree on a general theory about the etiology.

Traditionally, research on internet addiction has focused on direct effects models exploring the associations between psychological vulnerabilities and internet addiction. Studies have explored vulnerabilities such as depression (Kim et al., 2006), low self-esteem (e.g., Fioravanti, Dèttore, & Casale, 2012) and high sensation-seeking (Armstrong, Phillips, & Saling, 2000; Velezmore, Lacefield, & Roberti, 2010; Widyanto & McMurrin, 2004), loneliness and shyness (e.g., Caplan, 2002, 2003, 2005; Kim, LaRose, & Peng, 2009), locus of control and online experience (Chak & Leung, 2004), attention-deficit/hyperactivity/impulsivity symptoms (Yoo, Cho, & Ha, 2004) and suicidal ideation (Kim et al., 2006). Studies have also explored the association with psychosocial well-being (e.g., Young & Abreu, 2011; Caplan, Williams, &

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<sup>1</sup> Or excessive internet use, compulsive internet use, problematic internet use – labels that have been used interchangeably to describe more or less the same concept (Widyanto & Griffiths, 2006).

Yee, 2009; Lemmens et al., 2011; Van Rooij, 2011) as well as the association with various personality traits (e.g., Leung, 2007; Lo et al., 2005; Whang, Lee, & Chang, 2003), interpersonal skills and intelligence (Byun et al., 2009).

This psychologically oriented approach to studying internet addiction has yielded plenty of statistically significant results. However, because most factors were found to be significant predictors it has not been possible to make any claims about unique risk factors which has made it difficult to isolate the causes behind internet addiction. Furthermore, as I discussed in a recent article (Kardefelt-Winther, 2014) the associations for both loneliness and social anxiety with excessive online gaming lost significance when stress was controlled for. This result cautions that vulnerabilities posited as significant predictors of internet addiction may only be significant by virtue of being examined in isolation from other factors. A direct effects approach has not allowed researchers to explore the significant predictors of internet addiction while controlling for interactions with other influencing psychosocial conditions or mediating variables. Therefore, in terms of theory building the psychological approach has not contributed much to a better understanding of why some people keep using the internet despite experiencing problematic outcomes.

The lack of theoretical development is evident in Young's edited book (2011) where each chapter suggests different causes for internet addiction. Although it constitutes an important effort to summarize the existing research it leaves the reader with many possible explanations but no consensus. Considering the amounts of data that have been collected and the efforts made, the lack of progress indicates that there are issues somewhere along the way that makes theoretical development difficult. Ingleby's (1981) review of epistemological issues in psychiatry suggests that researchers sometimes delude themselves that all that is needed for theoretical development is just "more findings". He further suggests that "the literature on mental disorders is quite out of proportion to the adequacy of our knowledge about them" (p. 23). What matters, Ingleby argues, are the fundamental principles which govern the acquisition and interpretation of "findings"; and these principles, although they are governed by matters of fact, are not themselves discovered empirically – they are as much philosophical as scientific ones (p. 24). What is needed, then, is not more findings but a reappraisal of the kind of explanations we should be looking for. Following Ingleby's ideas, there may be much to gain by considering alternative theories for internet addiction that do not only take the literature on mental disorders as its starting point.

Early speculation by Young suggested that internet addiction may occur when the internet is used to cope with difficult real life situations (1998). This has been repeatedly mentioned in the literature on internet addiction (e.g., Armstrong et al., 2000; Bessi ere, Kiesler, Kraut, & Boneva, 2008; Chak & Leung, 2004; Kim et al., 2009; Kuss, Louws, & Wiers, 2012; Shen & Williams, 2011; Whang et al., 2003; Widyanto & Griffiths, 2006; Young, 2009; Young & Abreu, 2011) but rarely empirically investigated. The tenet of Young's speculation is that internet use has a propensity to alleviate dysphoric moods and may therefore be used to cope with or compensate for real life problems. Similar ideas about the compensatory potential of media use was suggested in an early study by Kubey and Csikszentmihalyi (1990), who claimed that people were more likely to engage in bouts of heavy TV watching when they were in dysphoric states. Bessi ere, Kiesler, Kraut, and Boneva (2004) stated that if this logic applies to the internet as well, it would suggest that people who are feeling bad are using online entertainment as a form of self-medication (p. 31). Indeed, in later works Caplan and High (2011) also suggested that through the exchange of online messages, users compensate for what they may lack in real life. In the context of internet addiction, Young and

Abreu (2011) discussed whether an individual becomes addicted to Facebook because they are using Facebook to fulfill missing social needs (p. 12). These recent discussions take the idea of compensatory internet use to a more detailed level where applications are assumed to have different compensatory potential depending on their affordances.

However, while plenty of speculation has surrounded the idea of compensatory internet use few studies have empirically investigated the compensatory potential of internet applications in the context of excessive internet use. Crucially, researchers have not investigated whether a theory of internet addiction based on the idea of compensation may better explain why people spend so much time online that they experience problematic outcomes, compared to the dominant theory of internet addiction as compulsive behavior and a mental disorder. While there is a theoretical basis for investigating internet addiction as mental disorder, no theoretical model exists to support research on compensatory internet use in this area. The lack of theoretical support may be one reason for why the idea of compensation is repeatedly mentioned but rarely followed up empirically. It would also explain why the conceptualization of internet addiction as a mental disorder is still dominating research despite the apparent shortcomings in terms of furthering the development of internet addiction theory (e.g., Widyanto & Griffiths, 2006).

In this paper I will develop the claim that internet addiction can be usefully approached from a perspective of compensation rather than compulsion. Instead of the compulsive, pathological, nature that internet addiction is ascribed in the literature, I argue that it can be better understood as a coping strategy grounded in understandable (but not always healthy) motivations. This follows on Wood's (2008) observation that theories of addiction are increasingly moving away from a focus on the activity or substance as a causal factor and instead suggesting that "addiction concerns the interaction between the individual, their culture and their environment" (p. 177). In his paper, Wood (2008) recommends a dose of healthy skepticism towards the idea of video game addiction, but maintains that a minority of people do play excessively. A model of compensatory internet use recognizes and seeks to understand this minority outside a framework of pathology and mental disorders. I will discuss how researchers can develop this theory by combining existing research on the psychological antecedents of internet addiction with knowledge from research concerned with the attractions and compensatory potential of the internet.

## 2. Towards a model of compensatory internet use

This paper proposes a theory of compensatory internet use where negative life situations can give rise to a motivation to go online to alleviate negative feelings. The basic tenet of the theory of compensatory internet use is that the locus of the problem is a reaction by the individual to his negative life situation, facilitated by an internet application. As an example, if real life is characterized by a lack of social stimulation the individual reacts with a motivation to go online to socialize which is facilitated by an application where socializing is afforded, such as an online game or a social networking site. This can then have positive and negative outcomes: positive in the sense that the individual feels better because he gets the desired social stimulation and negative because he may not go out and make new offline friends, which in the long run means he could become dependent solely on the internet for social stimulation. This scenario would be labeled as an internet addiction when approached through a pathological perspective, but has little to do with the compulsive nature of addictions. It is an understandable and practical way to acquire social stimulation when there is a lack of it (e.g., Chappell, Eatough, Davies & Griffiths,

2006), but this habit may sometimes lead to negative consequences and addiction-like symptoms due to the amount of compensation required to alleviate negative feelings. For individuals with permanent real life issues, such as physical handicaps or disabilities, the need for compensation may be constant as case study evidence provided by Griffiths (2000) would suggest. For less severe cases, such as temporary school or work related stress, a few hours of compensatory internet use may be beneficial and lead to fewer problematic outcomes (e.g., Leung, 2007).

With internet becoming ubiquitous in society, it is clear that some of the alleged “symptoms” of internet addiction can be interpreted as a normative shift in how younger generations entertain or communicate and as a testament to the embeddedness of internet use in everyday life rather than pathological behaviour. Smahel and Blinka (as cited in Young & Abreu, 2011) have suggested that what is treated by researchers as pathological behaviour may be a new way of life for which researchers currently have only pathological interpretations. Against this background, it seems all the more important to understand the contexts, purposes and motivations for internet use, as these are likely to have a strong impact on the outcomes (Shen & Williams, 2011).

Motivations for going online have been explored in some studies on internet addiction, primarily in the context of online gaming addiction. Utilizing Yee's (2006, 2007) framework for gaming motivations as a starting point, researchers have investigated whether motivations for playing online games are associated with internet addiction (e.g., Caplan et al., 2009; Kuss et al., 2012). Importantly, in the study by Caplan et al. (2009) psychosocial well-being was controlled for as they suspected that associations between psychosocial well-being or motivations for play and internet addiction may be spurious. Indeed, following on Caplan et al.'s (2009) study, Kardefelt-Winther (2014) demonstrated empirically that the motivations escapism and achievement mediated the relationship between stress and excessive online gaming. This suggests that motivations for play and psychosocial well-being may be usefully explored in conjunction rather than separately. There seems to be an opportunity here to combine the psychological approach with the motivations approach through the model of compensatory internet use. Theoretically, in the compensatory model the motivations for use are grounded in psychosocial problems or un-met real life needs. In terms of research operationalization, this can be tested by exploring whether the association between motivations and internet addiction vary depending on the level of psychosocial well-being. Methodologically, this is explored by interaction effects between psychosocial problems and potentially alleviating motivations for use. For example, people high on social anxiety may compensate for feelings of loneliness by socializing in a game or on a social networking site because online environments feel safer due to the sense of anonymity (McKenna, Green, & Gleason, 2002). In such a case, where the motivation to go online is grounded in an un-met real life need and where the internet use alleviates the real life problem, an individual may feel a strong desire to spend more time online which could lead to problematic outcomes. Whether this is what we wish to call internet addiction or not can be debated, as can the compulsive nature of such internet use, but to suggest that this is a mental disorder seems to be a stretch.

### 3. Conclusions

This paper will conclude by summarizing the elements of the compensatory internet use theory and suggest some implications for interpretation of results, empirical work and further theory building.

The psychological approach to internet addiction used in most studies consists of psychosocial vulnerabilities (1) and problematic outcomes of internet use (2). A typical conclusion from empirical research using this model is: *“Internet users high on social anxiety (1) and loneliness (1) are at risk of neglecting schoolwork (2) and having conflicts with parents due to their engagement with the internet (2)”*. This paper suggests an inclusion of two additional elements that have been mentioned in this paper: the online activity and its affordances (a) and motivations for going online (b). Using this model researchers could describe the observed situation in greater detail: *“a player of World of Warcraft (a) who wants to socialize (b) and chat (b) with other players, and is high on social anxiety (1), may be at increased risk of neglecting schoolwork (2) and of having conflicts with parents due to their engagement with the internet (2)”*. This provides an explanation for excessive use and negative outcomes without framing the behaviour as pathological. It allows researchers to understand what the user is using the internet for and interpret the problematic outcomes against the background of the motivations for going online and the real life context of the user. Essentially, it enables researchers to say something about why a person spends so much time online without resorting to speculation. This has been a missing component in most research to date because direct effects models are restrictive by nature and do not allow the researcher to consider the impact of other variables and therefore masks underlying processes that may be vital in explaining excessive use. Exploring motivations in conjunction with psychosocial well-being allows us to elaborate on why someone goes online by contextualizing the motivation for excessive use in the presence of psychosocial problems. This affords a discussion of whether the internet use may be beneficial and understandable as an effective coping strategy, despite the occurrence of problematic outcomes.

As with any model, it is important to consider its empirical functionality in addition to the theoretical contribution. The model of compensatory internet use suggests that researchers need to empirically investigate the relationship between motivations and psychosocial well-being in the context of excessive internet use. Is the use socially motivated – indicating loneliness? Achievement oriented – indicating frustration over lacking real life success? Is it about domination and competition – indicative of anger or a desire for accomplishment? Is it primarily escapist – indicative of a stressful real life situation? Because the model does not assume a direct relationship between psychosocial well-being and internet addiction, interaction effects between the elements in the model constitute the analytical focus. Williams, Yee, & Caplan (2008) have argued that game research needs to undergo the same transition as early communication research did, where the direct effects model was made more nuanced by the addition of mediating variables. I propose that a similar transition is needed for internet addiction research and that motivations for play could be a useful starting point. By considering why the user is motivated to go online in relation to their psychological and contextual reality it may be possible to determine if individuals use the internet to cope with distressing real life situations and provide the first step towards identifying these situations at the same time. As was mentioned earlier, Kardefelt-Winther (2014) found that the relationship between stress and excessive online gaming was mediated by escapism, a motivation for play that is often linked to problematic outcomes (Caplan et al., 2009; Kuss et al., 2012). This suggests that some people may play online games to escape from stress, which is associated with more negative outcomes. While this is not a surprising finding in itself, the broader implication is that when motivations are preceded by psychosocial problems, the risk for negative outcomes may be higher. This is the core idea of a model of compensatory internet use.

The next step for future research would be to explore interaction effects between, for example, stress and escapism in the context of excessive online gaming. According to a model of compensatory internet use, the relationship between escapism and problematic outcomes should be stronger for people with higher levels of stress, compared to those with lower levels of stress. Eventually patterns may be found where certain motivations often precede problematic outcomes when the individual suffers from particular life difficulties. This would be a useful starting point for discussing preventive actions.

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