A peer-influence perspective on compulsive social networking site use: Trait mindfulness as a double-edged sword

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A B S T R A C T

There is an increasing concern regarding the emergence of harmful compulsive use patterns among some social networking sites (SNSs) users. Although SNSs are efficient social interaction tools, there is a dearth of research that seeks to understand peer-influence determinants of compulsive SNS use. This study attempts to bridge this gap and tests a model that accounts for the effects of peer-influence mechanisms on compulsive SNS use. Because mindfulness is important for the observation of and cognitive deliberation regarding peer influences, the model also accounts for possible moderating effects of mindfulness. To test this model we conducted a two-wave survey of 155 SNS users from the US. Findings based on hierarchical regression models show that while observed increase in peer SNS use augments compulsive SNS use, social pressure self-efficacy reduces it. Trait mindfulness was found to accentuate these influences and serve as a double-edged sword: it strengthened the inhibiting effect of social pressure self-efficacy on compulsive SNS use, but increased the positive effect of observed peer use increase on compulsive SNS use. Moreover, about 11% of our sample met presumed rudimentary clinical compulsiveness screening criteria. Logistic regression showed that the likelihood of meeting these criteria is reduced with increases in SNS experience and social pressure self-efficacy. These findings can serve as a basis for the development of interventions that target such factors.

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1. Introduction

Compulsive use of Internet applications is a growing concern in modern society (Rumpf et al., 2017). It refers to inability to control or cease Internet application use, even though the use of a specific Internet application results in harmful consequences (Dalley, Everitt, & Robbins, 2011). It can manifest in symptoms such as salience, relapse, intrusive thoughts, withdrawal, mood modification, need to increase the activity, conflict with important other activities and the consequent infringement of normal functioning (Turel, Serenko, & Giles, 2011). People with high degrees of such compulsiveness feel an obligatory desire to seek to perform and engage in the rewarding behavior, while significantly discounting the harm caused by their behavior (Weiss et al., 2001). Examples include persistently and compulsively using social media while in class (Turel & Qahri-Saremi, 2016) or while driving (Turel & Bechara, 2016a). One study reported that the global prevalence rate of compulsive Internet use in 2014 has been around 6% and can range from 2.6% in Northern and Western Europe to 10.9% in the Middle East (Cheng & Li, 2014). Social media sites (SNSs) such as Facebook have particularly shown high compulsive use potential (Turel & Bechara, 2017), as their use can sensitize brain reward circuits and produce brain alterations (He, Turel, & Bechara, 2017) that drive compulsive behaviors (Turel, He, Xue, Xiao, & Bechara, 2014a).

Given the importance of compulsive use of such technologies, and especially its adverse effects on younger individuals (Gentile, 2009), many studies have examined its possible predictors and outcomes (Turel & Serenko, 2012). Predictors can include an imbalance in the dual-system that governs behavior (Brand, Young, Laier, Wolfling, & Potenza, 2016), social anxiety and genetic factors (Weinstein, 2013), demographics and socio economic factors (Hur, 2006), psychological traits (Hong, Huang, Lin, & Chiu, 2014), and peer pressure (Balogh, Mayes, & Potenza, 2013). Such findings...
highlight the intricacy of compulsive technology use; and suggest that it can be rooted, at least in part, in deficient decision making as manifested in lack of awareness, low inhibition abilities, and heightened susceptibility to peer pressure (Chou, Condon, & Belland, 2005; Weinstein & Lejoeuvre, 2010).

Although SNS are efficient vehicles for conveying information about peers and peer influences, and in which users can constantly observe influential others’ behaviors (Leonardi, 2015), little direct attention has been given to such aspects in the possible etiology of compulsive SNS use (exceptions include concepts such as social connectedness, see for example McIntyre, Wiener, & Saliba, 2015). Nevertheless, social/peer-related factors such as observations regarding peer behaviors and one’s ability to fend-off peer influences have been shown to be important predictors of various compulsive behaviors (Haug, Nunez, Becker, Gmel, & Schaub, 2014; Russell, Trudeau, & Leland, 2015; Vink, 2016). Conceptual models of compulsive and possibly addictive Internet use also point to the importance of this family of factors in the etiology of this problem (Brand et al., 2016; Davis, 2001). Hence, this study attempts to bridge the abovementioned gap and test a model that accounts for the effects of peer-influence related factors on compulsive SNS use. To do so, it also accounts for the influences of mindfulness (i.e., the receptivity and attention to and awareness of present events and experiences occurring both internally and externally, see Brown & Ryan, 2003), because it is a key manifestation of one’s ability to comprehend and take into account the cues he or she observes from the social environment. Focusing on this combination of psycho-social factors is important and potentially fruitful; such factors can be manipulated through system design (e.g., observations regarding peer behavior can be altered via system features) and/or therapy (e.g., mindfulness training), as a means to reduce compulsive use SNS (Turel, 2015b; Turel, 2016).

We first argue that changes in peer behavior on the SNS are easily observable (Leonardi, 2015); therefore it can provide important social signals to SNS users. Based on social identity theory (Jetten, Spears, & Manstead, 1996; Tajfel & Turner, 1986; Tajfel, 1978), such cues convey important normative information regarding in-group behaviors and indicate to users what are acceptable SNS behaviors, what level of use is implicitly expected from them, and eventually compel users to engage in obligatory behavior on the SNS. Such normative information can drive obligatory behavior through at least two mechanisms. First, SNS users are part of a network and conforming to group norms in this network is desired by them. Such conformation is natural and advantageous to group members as it engenders stronger in-group identity (Hogg, 1996). Hence, when one’s peers increase their SNS activity, social identity theory dictates that the person will likely feel obliged to increase his or her activity too. Second, there is social reciprocation obligation on social media sites. Specifically, people are expected to respond to others’ posts and this can drive them to engage in automatic and obligatory SNS use (Turel, 2015a), even at the expense of other life goals and when the behavior is harmful (e.g., when in class, driving, instead of working, or instead of sleeping) (Turel & Bechara, 2016a; Turel & Qahri-Saremi, 2016; Turel, Romashkin, & Morrison, 2016). The proposed effects of peer behaviors on one’s compulsive behavior are also consistent with observations across many compulsive and addictive behaviors contexts, in which it has been shown that peer behavior plays an important role in shaping one’s behavioral patterns (Haug et al., 2014; Russell et al., 2015; Vink, 2016). Hence, our first hypothesis is that (H1) observed peer increase in SNS use is positively associated with compulsive SNS use.

We next borrow from the compulsive drinking literature (Oei & Burrow, 2000; Young, Hasking, Oei, & Loveday, 2007). We suggest that the ability to fend-off implied peer pressures and cues to engage in SNS use is a counterforce that reduces obligatory SNS use. This ability is conceptualized in the context of SNS use as “social pressure self-efficacy” and is defined as the ability to refuse or resist SNS use in high-risk social situations, including situations where the person is exposed to peers using it. Conceptual models (Brand et al., 2016), neuroscience (Bechara, 2005) and empirical behavioral studies (Turel & Bechara, 2016b) implicate one’s deficient inhibition abilities in driving compulsive behaviors. These three streams of research are consistent in suggesting that when people have low ability to exert control over their behavior and resist temptations, the subjective impulsions they sense gradually become obligatory, and they consequently engage in compulsive and often disadvantageous behaviors. In contrast, when one’s executive function is highly functional, as manifested in high social pressure self-efficacy in this study, he or she can inhibit desires to use Internet applications and prevent compulsive use (Turel, 2017). Accordingly, we hypothesize that (H2) social pressure self-efficacy is negatively associated with compulsive SNS use.

The last component in our model is trait mindfulness, which can arguably accentuate the influence of social factors on compulsive SNS use. Mindfulness can have five facets including observing, describing, acting with awareness, non-judging, and non-reacting. The focus of this paper is in SNS “act-on compulsive SNS use, since it is better aligned with the action (compulsive use)-prevention in response to the environment cues. When people are high in mindfulness, and especially rely on awareness before acting, they are better at reflecting on likely adverse outcomes of their target behavior and consequently at controlling behaviors. Therefore, they can better respond to social pressures and cues after reflection and they respond to such social influences in a less-automatic or obligatory fashion (Brewer, Elwafi, & Davis, 2013; McConnell & Froeliger, 2015). People high in mindfulness specifically learn that cues and pressures from the environment are transient and do not require rush, obligatory action (Heppner, Spears, Vidrine, & Wetter, 2015). Indeed, low mindfulness contributes to compulsive behavior etiology (Hu, Grow, & Marlatt, 2008). Consequently, teaching people to develop stronger mindfulness is key to many treatment programs of compulsive behaviors (Black, 2014; Brewer et al., 2013; McConnell & Froeliger, 2015; Vidrine et al., 2016).

Considering the social factors we focus on, it appears that mindfulness can be a double-edged sword in the case of compulsive use of SNS. First, given that mindfulness increases the ability to fend-off peer influences and bargain with compulsive pressures, people with low mindfulness are unable to protect themselves from the environment cues and integrate them into their action schemata and the environment (Turel, He, Xue, Xiao, & Bechara, 2014b). In addition, trait mindfulness can promote attention to stimuli (Carlin & Ahrens, 2014; Lutz et al., 2016; McHugh, Simpson, & Reed, 2010), including presumably social cues, and this awareness can too drive action in the direction of the observed cues. Mindfulness therefore has the ability to accentuate responses to stimuli (Brown, Goodman, & Inzlicht, 2013). It is therefore reasonable to expect that (H3a) mindfulness moderates (enhances) the negative effect of social pressure self-efficacy on compulsive SNS use. This effect should be stronger (more negative) when people are high in mindfulness. When people are low in mindfulness they may not be able to properly motivate the mobilization of inhibition efforts. Because people who are low in mindfulness may not be able to properly perceive their situation, even when they have high self-control abilities, they may fail to create sufficient drive to engage them (Turel, He, Xue, Xiao, & Bechara, 2014b).

In addition, trait mindfulness can promote attention to stimuli and aspects of novelty and relevance (Bechara, 2014b). People high in mindfulness specifically learn that cues and pressures from the environment are transient and do not require rush, obligatory action (Heppner, Spears, Vidrine, & Wetter, 2015). Indeed, low mindfulness contributes to compulsive behavior etiology (Hu, Grow, & Marlatt, 2008). Consequently, teaching people to develop stronger mindfulness is key to many treatment programs of compulsive behaviors (Black, 2014; Brewer et al., 2013; McConnell & Froeliger, 2015; Vidrine et al., 2016).

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