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Less effortful thinking leads to more social networking? The associations between the use of social network sites and personality traits

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ABSTRACT

Social network sites (SNS) have become an important social milieu that enables interpersonal communication by allowing users to share and create information. This study explored the associations between SNS use and personality traits, i.e., need for cognition (NFC) and information and communication technology (ICT) innovativeness. The findings showed that the SNS use had a negative association with NFC and a positive association with ICT innovativeness. Specifically, people who were more likely to engage in effortful thinking used SNS less often, and those who were high in ICT innovativeness used SNS more often. Meanwhile, those who spent more time on SNS were more likely to be multitaskers. Additionally, those who spent more time on SNS also spent more Internet time in general, more online time for study/work and more time in surfing the Web with no specific purpose. This study, which could be a first look at the link between social networking and our thinking, provides evidence for the associations between social media use and personality traits.

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1. Introduction

The advent of social network sites (SNS) is rapidly changing human interaction. Millions of people worldwide are living much of their lives on SNS, such as Facebook, MySpace, Twitter and LinkedIn. In 2010, global Internet users spent more than one-fifth of online time on social network sites or blogs (Bilton, 2010). Facebook, the most popular SNS, logged its 500 millionth user in June 2010, amassing 100 million new members since February alone (Fletcher, 2010). The trend exemplifies that the Internet, "by its very nature, is powered by human interaction" (Amichai-Hamburger & Vinitzky, 2010, p. 2). Meanwhile, social networking is rewiring "our social DNA, making us more accustomed to openness" (Fletcher, 2010, p. 33). Quite possibly, SNS use is also affected by the tendency of engaging in elaborative thinking.

Various aspects of social networking have been studied, including self-disclosure (Nosko, Wood, & Molema, 2010), online friendship (Henderson & Gilding, 2004), and online dating (Rosen, Cheever, Cummings, & Felt, 2008). Other studies investigated why people use SNS, how they present themselves on these sites and how SNS use affects social relationships (Donath & Boyd, 2004; Ellison et al., 2007; Liu, 2007; Papacharissi, 2009; Valkenburg et al., 2006).

Despite a growing body of SNS scholarship, the research regarding cognitive and behavioral factors that influence SNS use is still at its early stage. Could one's tendency to engage in effortful thinking have any association with SNS use? Effortful thinking, which is usually measured by the NFC scale (Cacioppo, Petty, & Kao, 1984), refers to one's propensity to engage in and enjoy cognitively demanding tasks. Previous research also suggests that innovativeness exists among people around the world – a tendency of being open to new experiences and seeking novelty (Agarwal & Prasad, 1998; Fiske, 1971). Does one's innovativeness influence SNS use? As multitasking has become part of the media routine in the lives of Internet users (Vega, McCracken, Nass, & Labs, 2008), is there any association between SNS use and multitasking? This research explored these questions by assessing the relations between SNS use and personality traits, i.e., NFC and information and communication technology (ICT) innovativeness. For a better understanding of SNS use, the present study also investigated the associations between SNS use and media multitasking as well as some SNS-related behavioral factors, such as total Internet time and online time for work/study.

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2. Literature review

2.1. Research of SNS use

Social network sites have become an important social milieu that enables interpersonal communication by allowing users to share and create information. People use SNS as a means for self-presentation and for building and maintaining contact with others (Donath & Boyd, 2004; Ellison et al., 2007). Social network sites are defined as web-based services allowing individuals to "(1) construct a public or semipublic profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (boyd & Ellison, 2008, p. 211). So far most SNS users are teens (73%) and young adults aged 18–29 (72%), and only 40% of adult Internet users (aged 30 and older) had a profile on SNS (Lenhart, Purcell, Smith, & Zickuhr, 2010). Among US undergraduate students, 94% were Facebook users, spending 10–30 min online every day (Ellison et al., 2007). Meanwhile, social network sites are increasingly appealing to older users. A 2010 Pew report found a dramatic rise of SNS use among American Internet users who were 55–64 years old, from 9% of them who used SNS in 2008 to 43% in 2010 (Zickuhr, 2010).

Research has identified two primary uses of online social interaction. One is that users can find others with similar interest, ranging from romantic relationships to social networks (Correa et al., 2010; McKenna et al., 2002). Another major use was to maintain pre-existing social connections (Ellison et al., 2007). Most users visit the sites to keep in touch with people they already know (Lenhart et al., 2010). Researchers found that many relationships first formed online resulted in real-world contacts (Ross et al., 2009). After being connected through SNS, the relationships could go stronger, deeper and longer than those made possible through face-to-face methods (McKenna et al., 2002). Such online interactions also generated more self-disclosures and fostered deeper personal questions than did face-to-face conversations (Nosko et al., 2010; Tidwell & Walther, 2002). Without the types of restrictions governing typical face-to-face conversations, those engaging in online conversations were able to ask deeper personal questions (e.g., sexual orientation) without offending each other (Tidwell & Walther, 2002). It is worth noting that friends on SNS are not always defined in the traditional sense – some users connect to celebrities and bands they do not know personally. As social network sites support interpersonal interaction, SNS use may be a function of personality (Correa et al., 2010).

2.2. Need for cognition

Personality has been found to be a leading factor in understanding why people behave the way they do on the Internet (Amichai-Hamburger, 2002; Hamburger & Ben-Artzi, 2000). NFC, one's chronic proclivity to engage in and enjoy effortful thinking (Cacioppo & Petty, 1982), has been viewed as an important personality attribute that moderates computer-mediated communication (e.g., Amichai-Hamburger, 2005; Amichai-Hamburger et al., 2007; Kaynar & Amichai-Hamburger, 2008; Martin et al., 2005). Cohen and colleagues viewed NFC as "a need to structure relevant situations in a meaningful, integrated ways" and "a need to understand and make reasonable the experimental world" (Cohen, Stotland, & Wolf, 1955, p. 291). Cacioppo and colleagues later developed the NFC scale (Cacioppo et al., 1984). As an individual's inherent motivation to make cognitive efforts, NFC plays an important role in determining one's motivation to process information (Petty & Cacioppo, 1986; Petty et al., 1983), which can be influenced by situational factors (Cacioppo, Petty, Feinstein, & Jarvis, 1996).

Specifically, people who are low in NFC do not enjoy effortful thinking and are more likely to avoid cognitively demanding activities than high NFC individuals. When dealing with complicated issues, low NFC individuals prefer to rely on the opinion of others and acquire information by using simple clues offered by the environment (Kaynar & Amichai-Hamburger, 2008). On the contrary, high NFC individuals possess an intrinsic motivation to think, having a natural motivation to seek knowledge (Petty & Cacioppo, 1986). They usually acquire more information and engage in processing information more thoroughly (Verplanken, 1993; Verplanken et al., 1992). In other words, people high in NFC process information more carefully because of the disposition to engage in and enjoy effortful thinking (Cacioppo & Petty, 1982; Cacioppo et al., 1983). Compared to those low in NFC, high NFC individuals are more influenced by issue-relevant information but less influenced by simple inferences and heuristics (Haugtvedt, Petty, & Cacioppo, 1992).

The above findings are aligned with Petty and Cacioppo's (1981) elaboration likelihood model (ELM). According to the ELM, in situations of low personal relevancy, low NFC people will be affected by "peripheral" attributes of a message, such as the number of the arguments, the appearances of the message bearer and other heuristics. In other words, they tend to follow a peripheral route in processing information, which involves less well-thought-out responses based on 'heuristic" cues, such as moods and emotions (Petty & Cacioppo, 1986). The peripheral route occurs when an individual "is less highly invested or motivated,... does not like to deal with complex information" (Martin, 2007, p. 137). This affect will not be apparent in people with a high NFC, who seek the "central" route for persuasion based on the argument merits and veracity (Kaynar & Amichai-Hamburger, 2008). The central route involves active elaboration of information received, which motivates one to process it in an effortful and enjoyable way (Martin, 2007). To understand how users process information on SNS, it is important to assess the relations between SNS use and the tendency of engaging in effortful thinking. If users treat the information created and shared on SNS as "peripheral," low NFC individuals may spend more time on SNS than high NFC people. If the information on SNS is taken as "central," the trend may be reversed. Comparing to the online information regarding study or work, we proposed that most information young people, especially college students, share over SNS is comparatively "peripheral." To college students, the information on SNS seems to be more effective in influencing emotional variables, such as liking and mood, than cognitive ones, such as effortful comprehension of the messages. Processing "peripheral," rather than "central," information is a less demanding cognitive activity that requires less effortful thinking, especially, among high NFC individuals. Thus the first hypothesis was proposed:

H1. High NFC individuals use social network sites less often than those low in NFC.

2.3. ICT innovativeness

It is important to study the use of SNS, an ICT innovation, in the context of how individuals respond to innovations, though little research was found on the innovativeness effect on SNS use. Hirschman (1980) defined innovativeness as "the desire to seek out the new and different" that is conceptually indistinguishable from the willingness to adopt innovations (p. 285). Innovativeness has been treated as a personality trait because it is possessed to some degree by all individuals (Manning et al., 1995; Midgley & Dowling, 1978, 1993). Innovativeness can be socially influenced and variant across a person's life cycle (Hirschman, 1980). As a