



# Understanding computer-mediated communication attributes and life satisfaction from the perspectives of uses and gratifications and self-determination ☆



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## ABSTRACT

Based on the theories of uses and gratifications, and self-determination, we examined a model linking computer-mediated communication (CMC) attributes to psychological need satisfaction in online friendships and to life satisfaction in a sample of school-aged adolescents ( $N = 1572$ ). Our findings suggest direct links between media orientations (i.e., attitude toward online relationship formation and Internet habit strength) and psychological need satisfaction in online friendships. We also reported direct links between online communication, online self-disclosure and psychological need satisfaction in online friendships, and also a direct link between psychological need satisfaction in online friendships and life satisfaction. Despite these direct links, online communication and online self-disclosure significantly mediated the link between attitude toward online relationship formation and psychological need satisfaction in online friendships. In this pattern of links, both mediators were equally strong. Online communication and online self-disclosure also significantly mediated the link between Internet habit strength and psychological need satisfaction in online friendships. For this pattern of links, both mediators differed significantly in strength. Online communication emerged as a stronger mediator than online self-disclosure. Our findings suggest that CMC attributes may serve as a new social milieu for adolescent subjective well-being.

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## 1. Introduction: life satisfaction and CMC

Life satisfaction reflects an individual's *global* and *subjective evaluations* of his or her quality of life (Diener, 2000). Such positive evaluations are linked to physical and mental health (Gilman & Huebner, 2003; Huebner, Valois, Paxton, & Drane, 2005; Pavot & Diener, 2008; Trzcinski & Holst, 2008), and such negative evaluations are linked to depression, fretfulness, and aggressive behaviors (Buelga, Musitu, Murgui, & Pons, 2008; Huebner & Gilman, 2004; Koivumaa-Honkanen, Kaprio, Honkanen, Viinamaki, &

Koskenvuo, 2004; Swami et al., 2007). Despite numerous studies investigating adult life satisfaction, few studies have been examined adolescent life satisfaction (Gilman & Huebner, 2006; Huebner & Gilman, 2004). As children grow into adolescents, friendship is thought to be of greater importance, playing an indispensable role in enhancing adolescent life satisfaction (Allen, Evans, Hare, & Mikami, 2010; Coleman, 2010; Crosnoe, 2000; Gilman & Huebner, 2006; Oberle, Schonert-Reichl, & Zumbo, 2011; Suldo & Huebner, 2004). However, the study of adolescent life satisfaction has been limited to face-to-face friendships (Gilman & Huebner, 2003; Gilman & Huebner, 2006; Pavot & Diener, 2008). There is relatively limited evidence documenting the associations between computer mediated-friendships and life satisfaction (Subrahmanyam & Greenfield, 2008).

Computer-Mediated Communication (CMC), a form of communication transaction that occurs through the use of computer networks, has fast become a popular sphere for social interactions and its sphere of penetration continues to grow under the rubrics of ICT development and modernization (Baym, 2010; Sheldon, Abad, &

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Hinsch, 2011; Walther, 2011). Indeed, the last few years have seen an exponential growth in the use of CMC among adolescents—as compared to other age groups, adolescents are more inclined to accept computer technology and they represent an active group of Internet communication (Allen et al., 2010; Baran & Davis, 2011; Subrahmanyam & Greenfield, 2008; Urista, Dong, & Day, 2009).

The unprecedented popularity of CMC has consequently fueled a growing academic concern with respect to its consequences. While research has found that there are potential positive consequences, most of the available studies seem to adopt a negative, or even dystopian perspective, focusing on the adverse effects of CMC use (Chou & Peng, 2007; Engelberg & Sjöberg, 2004; Kraut et al., 1998; Morahan-Martin, 2008). This left the positive impact of the CMC attributes on adolescent life satisfaction open to speculation. Even if critics held the diffusion of CMC, recent years have witnessed that the young users are, nevertheless, not declining, but sharply rising worldwide (Lenhart, Purcell, Smith, & Zickuhr, 2010). As posited by McLeod (2007), it may be that CMC can potentially provide some pleasure or psychological benefits for its users. Indeed, many adolescents enjoy making online friends and they regarded such online relationships as real, deep, and meaningful (Bargh & McKenna, 2004; Leung, 2011; McKenna, Green, & Gleason, 2002; Subrahmanyam & Smahel, 2011). This has led to our interest in investigating adolescent life satisfaction from the lens of CMC attributes since CMC, similar to the physical context, could be a place that fosters friendships.

## 2. Theoretical grounding

The study of interconnection between CMC attributes and life satisfaction draws upon the theories of uses and gratification, and self-determination. According to uses and gratifications theory (UGT), media use is one's goal-directed, purposive, and motivated actions in pursuit of needs and wants (Katz, Blumler, & Gurevitch, 1974). However, Rubin (2002) argued that users may not always be mindful in their media use, but sometimes habitual. Rubin (2002) therefore classified media orientation into two types: (a) instrumental orientation, one's intention to use media for relationship formation (henceforth referred to *attitude toward online relationship formation*) and (b) ritualized orientation (henceforth referred to *Internet habit strength*), one's nonselective decision to use media for diversionary motives. Rubin (2002) also noted that these two media orientations could play a role in promoting media behaviors such as online communication and online self-disclosure. In the present study, we focus on these two online media orientations in the relation to psychological need satisfaction in friendships.

Uses and gratifications theory per se is not sufficient to provide a full understanding of one's uses and gratifications stemming from his or her media use (Ko, Cho, & Roberts, 2005; Ryan, Rigby, & Przybylski, 2006). Deci and Ryan's (1985) self-determination theory (SDT) lends further support to the premise that psychological need satisfaction could be replicated in virtual context. According to Deci and Ryan (1985), Deci and Ryan (2000, Deci and Ryan (2002, Deci and Ryan (2008), there are three types of psychological need satisfaction: (a) autonomy, the need to act freely in favor of one's own volition, will or choice, (b) competence, the need to perform successful social interactions with skills and ability, and (c) relatedness, the need to establish positive emotional attachment with others. SDT proponents noted these three types of psychological need satisfaction represent one's universal acquisition which is automatically responsive to social context (Jang, Reeve, Ryan, & Kim, 2009; Lynch, La Guardia, & Ryan, 2009; Vansteenkiste, Lens, Soenens, & Luyckx, 2006). If one's social

context is supportive of meaningful relationships, he or she will experience a heightened sense of psychological need satisfaction.

Psychological need satisfaction could be fostered through social interactions and relationships. A number of studies have indicated that adolescents are bound to make new friends online (Allen et al., 2010; Baran & Davis, 2011). Analogous to face-to-face encounters, CMC plays an equally important role in forming relationships (henceforth referred to *online friendships*) resulting from its meaningful conversations among users in cyber context (Ellison, Steinfield, & Lampe, 2007; McKenna et al., 2002; Sheldon et al., 2011; Urista et al., 2009). It appears that online friendship could hold implications for adolescent psychological need satisfaction. From the perspective of SDT, satisfaction of psychological needs is predictive of life satisfaction (Deci & Ryan, 1985; Deci & Ryan, 2002; Deci & Ryan, 2008). Thus, in the present study, we examined the role of psychological need satisfaction in online friendships in the prediction of life satisfaction with an UGT-SDT-based model.

### 2.1. Conceptual rationale and hypotheses

With attitude toward online relationship formation and Internet habit strength as media orientations and online communication and online self-disclosure as mediators, we hypothesized a model linking CMC attributes to psychological need satisfaction in online friendships and to life satisfaction (see Fig. 1).

#### 2.1.1. From psychological need satisfaction in online friendships to life satisfaction

Psychological need satisfaction has been shown to play a central role in the study of life satisfaction (Deci & Ryan, 2000; Deci & Ryan, 2008). Extant evidence has been found from individualistic (e.g., the United States; Şimşek & Koydemir, 2013, Belgium; Luyckx, Vansteenkiste, Goossens, & Duriez, 2009) to collectivistic cultures (e.g., South Korea; Jang et al., 2009, Russia; Lynch et al., 2009, and China; Vansteenkiste et al., 2006) from interpersonal (Sheldon & Gunz, 2009) to intra-individual levels (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000), and from personal (La Guardia & Patrick, 2008; Patrick, Knee, Canevello, & Lonsbary, 2007) to public domains (Deci et al., 2001; Filak & Sheldon, 2008; Leversen, Danielsen, Birkeland, & Samdal, 2012; Lonsdale, Hodge, & Rose, 2009).

The expansion of CMC provides attractive platforms for social connection (Baym, 2010; Walther & Parks, 2002) and affords opportunities for need fulfillment (Sheldon et al., 2011; Walther, 2011). With respect to social connection, CMC allows individuals to make friends outside their physical social circle (Subrahmanyam & Smahel, 2011; Urista et al., 2009) and to foster social capital (Ellison et al., 2007). Indeed, McKenna et al. (2002) reported that Internet friendship gained from newsgroup could bring into real life. In Sheldon et al.'s (2011) longitudinal study, young active Facebook users reportedly showed higher levels of relatedness, one major type of psychological need satisfaction, as compared to non-Facebook users. With respect to need fulfillment, Walther (1992) noted that CMC users can easily gain a sense of autonomy following their high levels of self-expression in an anonymous platform. In some extent, CMC offers ample opportunities for its users to channel out their personal views and opinions (McKenna et al., 2002) and to receive verification for their own feelings, thoughts, and actions without a feeling of humiliation or criticism (Livingstone, 2008). Further, CMC may also provide a platform for its young users to learn communication skills (Notley (2008) and to gain social competency (Suler, 2003; Valkenburg & Peter, 2008). Based on research reviewed thus far, we formulated the following hypothesis:

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