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Getting acquainted through social network sites: Testing a model of online uncertainty reduction and social attraction

Marjolijn L. Antheunis *, Patti M. Valkenburg, Jochen Peter

Amsterdam School of Communications Research ASCoR, University of Amsterdam, Kloveniersburgwal 48, 1012 CX Amsterdam, The Netherlands

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ABSTRACT

The first aim of this study was to examine which uncertainty reduction strategies members of social network sites used to gain information about a person who they had recently met online. The second aim was to investigate whether and how these uncertainty reduction strategies resulted in social attraction. Drawing on a survey of 704 members of a social network site, we found that respondents had used active, passive, and interactive strategies to reduce uncertainty about their new acquaintance. Interactive strategies were most effective in reducing uncertainty about the target person. Respondents' level of uncertainty about the acquaintance mediated the relationships between the use of interactive uncertainty strategies and perceived similarity on the one hand and social attraction on the other. Finally, respondents' perceived valence of the obtained information about the acquaintance moderated the relationship between the level of uncertainty and social attraction.

1. Introduction

The popularity of social network sites has increased tremendously in the past few years. For example, from 2006 to 2008, MySpace grew from about 66 million to 117 million unique visitors worldwide, and Facebook grew from 14 million to 132 million visitors during the same period (Comscore, 2007, 2009). Social network sites, like MySpace and Facebook, specifically aim at building and maintaining social networks. These sites are usually open or semi-open systems. Everyone is welcome to join but new members have to register. The sites typically allow members to create an online profile containing self-descriptions, react to the profiles of other members, and become "friends" with other members (Ellison, Steinfield, & Lampe, 2006; Lampe, Ellison, & Steinfield, 2007). Participants may use the sites to keep in touch with existing friends or to meet new people (Boyd, 2004; Dwyer, Hiltz, & Passerini, 2007; Ellison et al., 2006; Tong, Van Der Heide, Langwell, & Walther, 2008).

Social network sites belong to the latest generation of computer-mediated communication (CMC) environments. Contemporary CMC environments seem to vary along two dimensions. First, they differ in the extent to which they provide visual and auditory cues. Whereas some CMC applications, such as MUDs (Multi-User-Dungeons) are predominantly text-based, other environments, such as MMOG's (Massively Multiplayer Online Games) and social network sites, are cue-richer applications in that they also provide audiovisual cues. Second, contemporary CMC environments vary in their openness. Whereas some CMC environments, such as Instant Messaging, are predominantly used for dyadic, one-to-one communication, other environments, such as social network sites, encourage more open, one-to-many communication.

Cue-rich and open CMC environments may have two profound consequences for CMC theories and research. First and more generally, they may help us to refine theory building in CMC research. Most CMC theories, such as the reduced cues perspective (Kiesler, Siegel, & McGuire, 1984), media richness theory (Daft & Lengel, 1984), the social information processing perspective (Walther, 1992), the social identity model of deindividuation effects (Lea & Spears, 1995), and hyperpersonal theory (Walther, 1996) are based on the assumption that people interact in CMC environments that are characterized by dyadic communication and reduced cues. However, with the advent of technologies and applications that allow for more open communication structures and the inclusion of auditory and visual cues, several propositions of existing theories may need some adjustment. This study, with its focus on social network sites and, thus, on cue-richer, more open CMC environments, may initially help us to widen the scope of existing CMC theories such that these theories can also be applied to cue-rich open CMC environments.

Second and more specifically, cue-richer, open CMC environments may have important consequences for the uncertainty reduction strategies that members can use to gain information about a target person in initial interactions. By initial interactions we mean the entry phase during which interactants experience

* Corresponding author. Tel.: +31 (0) 20 525 6174; fax: +31 (0) 20 525 3681.
E-mail addresses: m.l.antheunis@uva.nl, marjolijnantheunis@hotmail.com (M.L. Antheunis).

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uncertainty and/or a lack of predictability about their new relational partner (Neuliep & Grohskopf, 2000). In offline settings, people generally use three types of uncertainty reduction strategies (URS's) to get to know a target person: passive, active, and interactive strategies (Berger & Calabrese, 1975; Berger, Gardner, Parks, Schulman, & Miller, 1976). Passive strategies are those in which an informant unobtrusively observes the target person, for example in situations in which the target person reacts to or interacts with others. Active strategies involve proactive efforts to get to know the target person, without confronting the person. A common active strategy consists of asking others about the target person. Finally, interactive strategies require a direct interaction between the communication partners. One interactive strategy is direct questioning and another is self-disclosure. Self-disclosure usually elicits self-disclosure from the target partner. In this way, self-disclosure can be seen as an information-seeking strategy (Berger et al., 1976).

The range of URS's that can be employed to reduce uncertainty in CMC may depend on the two dimensions of CMC (cue-poor vs. cue-rich and dyadic vs. open communication). In principle, one can use passive, active and interactive URS's in every CMC application. It has been shown, for example, that in cue-poorer CMC settings users develop skills to decode textual cues, such as language errors and emoticons, to reduce uncertainty and form impressions about a target person (Curtis, 1996; Hu, Wood, Smith, & Westbrook, 2004; Tidwell & Walther, 2002; Utz, 2000; Walther & D'Addario, 2001; Walther & Tidwell, 1995). However, in cue-poorer and dyadic CMC, passive and active uncertainty reduction strategies are more difficult to employ because they require a lot of effort (Carey, 1980; Curtis, 1996) to find the functional equivalents of the information sources (e.g., visual cues or friends of the partner) that are typically unavailable in this type of CMC (Tidwell & Walther, 2002). As a result, interactive strategies (i.e., direct questioning and self-disclosure) are the most used strategies in dyadic reduced-cues CMC settings (Parks & Floyd, 1996; Ramirez, Walther, Burgoon, & Sunnafrank, 2002; Tidwell & Walther, 2002).

However, in cue-richer and open CMC environments, such as social network sites, information gathering through passive and active URS's is less effortful and consequently faster. On social network sites, it is not only possible to observe the target person unobtrusively, for example via his or her personal profile (Tong et al., 2008; Walther, Van Der Heide, Kim, Westerman, & Tong, 2008), but also to ask third parties for information about the target person. In addition, social network sites provide their users with many opportunities for self-presentation (Boyd, 2004; Donath & Boyd, 2004; Walther et al., 2008). Users on these sites can upload a great deal of information about their selves, including pictures, videos, and self-descriptions. Therefore, it is no surprise that users of social network sites relatively often use passive strategies (e.g., observation) to form impressions about a target person (Tong et al., 2008; Walther et al., 2008).

However, while all three URS's can theoretically be utilized on social network sites, the prevalence of these strategies on these sites has never been investigated in one study. Therefore, the first aim of this study is to investigate which uncertainty strategies are most commonly used on social network sites. Hence, the first research question reads:

RQ1: To what extent do members of social network sites use passive, active, and interactive uncertainty reduction strategies?

1.1. Social network sites, level of uncertainty, and social attraction

The differences between social network sites and cue-poorer CMC applications may not only have profound consequences for the URS's that members use, but also for relationship formation and social attraction on these sites (Tong et al., 2008; Walther et al., 2008). One of the aims of members of social network sites is to get to know people and to form friendships. This friendship formation goes hand in hand with the development of social attraction, because friendship formation usually does not occur without a minimum level of social attraction (Reis & Shaver, 1988).

CMC theories and research have paid ample attention to social attraction processes in CMC environments. A series of studies have investigated the effects of CMC on social attraction in initial interactions. Most studies have reported positive effects of CMC on social attraction (Antheunis, Valkenburg, & Peter, 2007; Bargh, McKenna, & Fitzsimons, 2002; McKenna, Green, & Gleason, 2002). This positive effect of CMC on social attraction has often been attributed to a particular use of online URS's (e.g., Antheunis et al., 2007; Tidwell & Walther, 2002). For example, it has been suggested that the reduced cues in CMC increase the use of interactive URS's, such as self-disclosure and direct questioning (Antheunis et al., 2007; Tidwell & Walther, 2002). After all, CMC partners need to compensate for the lack of information that they usually get through nonverbal cues in face-to-face environments. Both direct questioning (Antheunis et al., 2007; Tidwell & Walther, 2002) and online self-disclosure (Antheunis et al., 2007; Bargh et al., 2002; Coleman, Paternite, & Sherman, 1999; Joinson, 2001; Tidwell & Walther, 2002) are common phenomena in reduced-cues CMC environments. There is also evidence that interactive URS's encourage interpersonal attraction in reduced-cues CMC environments (Antheunis et al., 2007).

Although online interactive URS's may explain the effects of reduced-cues CMC on social attraction, it is still an open question whether and how these processes will apply to cue-richer and open social network sites. For example, it is still unknown how the three URS's relate to the level of uncertainty on cue-rich and open social network sites. Moreover, it is unclear whether an information seeker's level of uncertainty mediates the influence of URS's on social attraction. Therefore, the second aim of this study is to investigate how online uncertainty reduction processes on social network sites are related to social attraction. To do so, we will develop and test an initial model that explains the relationships between online URS's, the level of uncertainty, and social attraction (see Fig. 1). In the next sections, we will discuss the assumptions of our model in more detail.

1.2. Three uncertainty reduction strategies on social network sites

The core of uncertainty reduction theory (URT; Berger & Calabrese, 1975) is that the three types of URS's (passive, active, and interactive) reduce uncertainty in the information seeker. According to URT, uncertainty reduction is the gathering of information that allows the information seeker to predict someone's attitudes and behavior. During the uncertainty reduction processes, the information seeker creates mental models that help him/her to make sense of other people and their intentions, emotions, and behaviors (Berger & Calabrese, 1975; Srull & Wyer, 1989). Earlier CMC studies have demonstrated that CMC partners predominantly use interactive strategies to reduce the level of uncertainty and form impressions about one another (Parks & Floyd, 1996; Ramirez et al., 2002; Tidwell & Walther, 2002). However, these earlier studies did not examine all three URS's simultaneously and the studies typically involved cue-poorer CMC settings. After all, cue-richer CMC environments, such as social network sites, allow for a broader range of URS's than dyadic, cue-poorer CMC environments. Offline uncertainty reduction research predicts that interactive URS's are most efficient in reducing the level of uncertainty (Emmers & Canary, 1996). Therefore, our first hypothesis, which is modeled through paths H1a, H1b, and H1c in Fig. 1, reads: