Interaction Speed as Nonverbal Cues in Text Messaging via Smartphone

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INTRODUCTION

Computer-mediated communication (CMC) has the ability to bridge people across time zones and geographic regions (Kiesler & Sproull, 1992), thereby removing temporal and spatial barriers to interpersonal communication (Hesse, Werner, & Altman, 1988; Noman, 1983). Indeed, by using the Internet, people can communicate anytime, anywhere. Especially in text-based asynchronous forms of communication, such as email and electronic message boards, users can communicate at their convenience (Christie & de Alberdi, 1985; Katz & Aakhus, 2002; Tyler & Tang, 2003). However, this freedom from temporal restrictions—one of the two barriers relieved by CMC—has been weakened by the recent advent of mobile text-messaging (Kato, Kato, & Usuki, 2019; Murtagh, 2002). Expansion of communication devices from PCs to mobile phones and smartphones has greatly contributed to this (Kato & Kato, 2015). For example, people looking at their phones while walking is now a common sight on the street and in train stations (Lamberg & Muratori, 2012; Pešić, Antić, Glavić, & Milenković, 2016). Although they do so for a variety of reasons, it seems likely that many are texting while walking in order to quickly reply to received messages (Lim, Amado, Sheehan, & Van Emmerik, 2015; Schwebel, McClure, & Porter, 2017). In text messaging with mobile phones and smartphones, many users face pressure to rapidly reply (Kato et al., 2019; Kato & Kato, 2015, 2016). Despite the increasing importance of mobile text-messaging, few studies have examined reply speed. This article explores the roles played by reply speed in smartphone messaging, specifically focusing on messaging apps that include a read receipt function (i.e., a function that notifies the sender of whether a recipient has read a message) (Kato, Kato, & Ozawa, 2017). Additionally, this article discusses interaction speed as a form of nonverbal cue in text messaging.

BACKGROUND

Early studies of Internet-related psychology cited a lack of nonverbal cues and visual anonymity as characteristics of text-based communication on PCs (Joinson, 2003). A number of studies on CMC have discussed these characteristics of text-based CMC exchanges in terms of the absence of facial expressions, gestures, and nonverbal cues such as tone of voice that are involved in face-to-face conversation

(Kiesler, Siegel, & McGuire, 1984). These characteristics form the basis of various models and theories in CMC research conducted prior to the 1990s. For example, the social presence model (Short, Williams, & Christie, 1976) posited that when media conveys little nonverbal information, the sense of the other party as an actual person becomes less distinct—resulting in cold, impersonal communication. In media selection, media richness theory (Daft & Lengel, 1984; Daft & Lengel, 1986) recommended using rich media that can transmit information sufficient for unequivocal communication. The cuelessness model states that because CMC lacks the nonverbal cues that are present in face-to-face communication, communication tends to become task-oriented rather than socioemotional (Rutter, 1984; Rutter, 1987; Rutter, Stephenson, & Dewey, 1981). The reduced social cues approach says that in CMC lacking nonverbal information, users experience depersonalization, which results in uninhibited communications and consequently a higher probability of behaviors that are outside of social norms (McGuire, Kiesler, & Siegel, 1987; Siegel, Dubrovsky, Kiesler, & McGuire, 1986; Sproull & Kiesler, 1986).

An active area of CMC research in the 1980s was the exploration of the consequences of this deficiency. However, subsequent CMC studies have shown many examples of socioemotional communication that can deepen personal relationships, even in text message exchanges that contain few nonverbal cues (Walther, 2011). For instance, more self-disclosure is thought to occur in CMC (Joinson, 2001; Matheson, 1991; Matheson & Zanna, 1988). With few nonverbal cues, visual anonymity is preserved and de-individuation occurs, which attenuates the restraint typically exercised during face-to-face communication. Also, according to the hyper-personal model (Walther, 1996), the dearth of nonverbal cues in CMC permits interactions that are closer to the idealized self. For example, users can make controlled, selective presentations of themselves to the other party in a way that facilitates creating a favorable impression. These studies provided examples of the skillful employment of minimal nonverbal cues in CMC (Walther & Tidwell, 1995).

Research conducted over the last two decades reveals the importance of chronemic nonverbal cues in CMC, and how chronemics influence online interaction (Kalman, Scissors, Gill, & Gergle, 2013). These studies explored the influence of chronemic variables such as the time of day or length of the pause preceding a response on impression formation during online interactions (Döring & Pöschl, 2008; Kalman et al., 2013; Kalman & Rafaeli, 2011; Sheldon, Thomas-Hunt, & Proell, 2006). For example, Ballard and Seibold (2004) described how chronemics are a core component of human communication. Sheldon et al. (2006) focused on perceptions of delays in online replies and found that a delayed response by a high-status respondent was interpreted more positively than the same delay by a low-status respondent. Responsiveness is an important aspect of communication, and we are attuned to identify even slight delays in responsiveness. Such delays often lead to negative consequences, such as being perceived as less socially competent (McLaughlin & Cody, 1982). An experimental study revealed that the same task-related e-mail message was perceived as more assertive when sent at night than when sent during the day (Walther & Tidwell 1995). Short response times can be interpreted as nonverbal cues of interpersonal closeness, immediacy, care, presence, and even submissiveness (Döring & Pöschl, 2008). In summary, previous research on chronemics has been mainly confined to the context of users' impression formation during PC-based communication.

NONVERBAL CUES IN TEXT MESSAGING VIA MOBILE PHONE

Most early CMC research focused on Internet-mediated communication via PCs. However, many people now use mobile phones or smartphones to communicate over the Internet. Communication using such

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