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Situational determinants of cognitive, affective, and compassionate empathy in naturalistic digital interactions

Philip A. Powell*, Jennifer Roberts

InstEAD, Department of Economics, University of Sheffield, UK

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ABSTRACT

Empathy is apparent in computer-mediated communication (CMC), yet little is known about the situational predictors of empathic responses when interacting digitally. We used a diary methodology to explore: (1) the degree three types of empathy (cognitive, affective, and compassionate) are experienced in students' everyday (text- and image-based) dyadic digital interactions; (2) which situational factors are important for (different types of) empathy in CMC; and (3) how empathy reported in everyday CMC affects participants' perceptions of their empathy in CMC and face-to-face (FtF) contexts. One hundred student volunteers (50 women, M_{age} = 22.57 years) completed a "digital interaction diary" for three consecutive days, yielding 1939 observations. Participants reported significantly more cognitive than affective empathy, and significantly greater affective than compassionate empathy. Several situational variables (e.g., number of communications, recipient) were related to empathy overall, while others (e.g., subject, mood) contributed to discrete contextual profiles for the empathy subtypes. Empathy reported in the diaries predicted a more favourable ratio of perceived CMC to FtF empathy, particularly for those lower in baseline trait empathy. These findings help elucidate the multidimensional experience of empathy in CMC interactions.

1. Introduction

Computer-mediated communication (CMC) is increasingly ubiquitous, yet we still have much to learn about its relationship with humans' psychological processes, which evolved over millennia in the absence of technology. Here we focus on empathy, defined as a multidimensional capacity to recognise, feel, and/or react compassionately to others' emotional states (Ekman, 2003). While some have historically demonised CMC as emotionally barren, lacking the nonverbal channels necessary for intimate interpersonal communications (e.g., Short, Williams, & Christie, 1976; Siegel, Dubrovsky, Kiesler, & McGuire, 1986), others have argued for the affiliative potential of CMC, noting a lack of evidence to concede that it is less emotionally-involved than face-to-face (FtF) communication (e.g., Derks, Fischer, & Bos, 2008; Walther, 1992, 1996). Indeed, recent analyses of social networking sites like Twitter and Facebook indicate that digital posts are often emotive (Bollen, Pepe, & Mao, 2011; Coviello et al., 2014), and people develop meaningful, empathic relationships online (Preece & Ghozati, 2001). While "digital empathy" is apparent, the situational determinants of empathy in CMC are not well understood, nor are the different empathic experiences people may have digitally. In this paper we use a naturalistic diary method to explore the state determinants of empathy in text- and image-based CMC.

1.1. Empathy

Empathy is a complex psychological phenomenon (Batson, 2009), which best describes a set of related, but fundamentally separable, emotion systems (Davis, 1983). It has been associated with a number of other psychological concepts, including sympathy or concern (Goetz, Keltner, & Simon-Thomas, 2010); perspective-taking (Lamm, Batson, & Decety, 2007); theory of mind or "mentalizing" (Hooker, Verosky, Germine, Knight, & D'Esposito, 2008); emotion recognition (Soto & Levenson, 2009), and emotion contagion (Hatfield, Rapson, & Le, 2009).

Following the emotions theorist Paul Ekman, we adopt a tripartite classification in our working definition of empathy:

* Corresponding author. InstEAD, Department of Economics, University of Sheffield, 9 Mappin Street, Sheffield, S1 4DT, UK.
E-mail address: p.a.powell@sheffield.ac.uk (P.A. Powell).

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Neither empathy nor compassion is an emotion; they refer to our reactions to another person's emotions. In *cognitive* empathy we recognise what another person is feeling. In *emotional* empathy we actually feel what that person is feeling, and in *compassionate* empathy we want to help the other person deal with his situation and his emotions. We must have cognitive empathy, in order to achieve either of the other forms of empathy, but we need not have emotional empathy in order to have compassionate empathy. (Ekman, 2003, p. 180).

Thus, like Ekman, we find it useful to operationalise empathy in terms of its cognitive, affective, and compassionate correlates, for which the latter are thought to be hierarchically dependent on the former.

"Cognitive empathy", or emotion recognition (Soto & Levenson, 2009), describes the perception and (accurate) identification of others' feeling states. It is functionally separable from affective empathy (or shared feeling; Shamay-Tsoory, Aharon-Peretz, & Perry, 2009), though it may be a precursor (Ekman, 2003). Cognitive empathy has been shown to predict positive social outcomes, such as helping behaviour (Marjanovic, Struthers, & Greenglass, 2012), injustice sensitivity (Decety & Yoder, 2016), and compassion for others (Batson, Early, & Salvarani, 1997). Further, some have proposed that cognitive empathy may be more adaptive (than affective empathy) in these scenarios, for example by minimising potential distress associated with the sharing of negative emotion (Einolf, 2012). Nevertheless, cognitive empathy has a possible "dark side", facilitating manipulation and exploitation (Wai & Tiliopoulos, 2012); psychopathy, for example, may be characterised by high levels of cognitive empathy, in the absence of affective empathy and compassion (Baron-Cohen, 2011).

"Affective empathy", or emotion contagion (Hatfield et al., 2009), describes the subjective mirroring of others' feeling states. It may occur via both explicit and implicit routes (Hatfield, Cacioppo, & Rapson, 1993), with the two pathways potentially differing in their antecedents. As with cognitive empathy, affective empathy has been associated with both positive and negative outcomes. On the one hand, affective empathy has been shown to explain the link between mimicry and prosocial behaviour (Stel, van Baaren, & Vonk, 2008), facilitate social bonding (Stel & Vonk, 2010), and may be necessary to keep cognitive empathy "in-check", by allowing people to *feel* the consequences of their actions (e.g., Jolliffe & Farrington, 2006). On the other hand, distress that can result from sharing potent, negative emotions can be detrimental, leading to maladaptive outcomes, such as withdrawal and avoidance (Singer & Klimecki, 2014). While often associated with negative emotions, both cognitive and affective empathy are valence non-specific.

"Compassionate empathy", or feelings of sympathy, concern, and compassion for another (Goetz et al., 2010), is theorised to be a common, but not definite, consequence of the two other forms of empathy. Compassion is often conceptualised as a discrete prosocial affective state in its own right (Goetz et al., 2010), linked to positive outcomes such as charitable behaviour (Weng et al., 2013). Of the three types of empathic response outlined above, compassionate empathy is seen as the most socially desirable.

Empathy can be measured at both a trait (i.e., dispositional propensity; Reniers, Corcoran, Drake, Shryane, & Völlm, 2011) and state (i.e., "in-the-moment"; Shen, 2010a) level. The ability to emphasise is an individual difference factor that is thought to be relatively stable over time (Leiberg & Anders, 2006), momentary assessments of state empathy, while less commonplace, have been shown to be related to transitory phenomena, such as message persuasion (Shen, 2010b). Thus, empathy can affect (and be affected by) many aspects of our social lives, not least our day-to-day interactions, whether FtF or via CMC (Carrier, Spradlin, Bunce, & Rosen, 2015).

1.2. Empathy in CMC

Two opposing positions emerge on empathy in CMC. The first is that digital communication technology is an obstruction to affiliative interactions, and hence the occurrence of empathy. Such a perspective is reflective of what are known as "cues-filtered-out" theories (Walther & Parks, 2002). These theories propose – to varying degrees – that reduced interpersonal cues in traditional CMC (i.e., nonverbal behaviour, prosodic speech qualities etc.) reduce the information transmitted, thus resulting in more impersonal and less empathic exchanges (Walther, Loh, & Granka, 2005). Social presence theory (Short et al., 1976), for example, hypothesised that the fewer cues a system supported the less warmth and involvement users' experienced. Lack of social context cues theory (Siegel et al., 1986; Sproull & Kiesler, 1986) proposed that reduced cues in CMC produced self-focused, disinhibited, negative exchanges. Media richness theory (Daft & Lengel, 1986) argued that the interpersonal quality of exchanges depended on the cues supported, immediacy of feedback, potential for natural language, and message personalization. While these theories were formed during early CMC, some remain popular (D'Urso & Rains, 2008).

The contrary position is that CMC has the *potential* to be as personal and, in some instances, even more intimate than FtF interactions. Social information processing theory (Walther, 1992) proposed that individuals' *adapt* to communication mediums in order to develop interpersonal affinity, but that such bonds may take longer to develop in CMC than FtF (Walther & Parks, 2002). This is supported by data that suggests users compensate for the absence of nonverbal cues in textual CMC (e.g., Derks, Bos, & von Grumbkow, 2008; Walther et al., 2005). Hyperpersonal theory (Walther, 1996) was developed to account for instances of *increased* intimacy and desirability in CMC (e.g., Walther, 1995). Features unique to textual CMC, such as selective impressions, reduced inhibitions, timely construction of messages, feedback, and editing, can contribute to a more favourable interaction (Bargh, McKenna, & Fitzsimons, 2002). Thus, increased anonymity and distance in CMC can paradoxically facilitate greater empathic connections than otherwise possible (Preece, 1998), for example due to increased or more personal disclosures (Jiang, Bazarova, & Hancock, 2011; Tidwell & Walther, 2002). This is especially the case for CMC on shared experiences, themes, or interests, such as within online support communities (Caplan & Turner, 2007), which provide access to empathic relationships that may otherwise not have been physically possible.

The utility of cues-filtered-out theories has been moderated by empirical and anecdotal evidence of highly interpersonal and empathic exchanges digitally, and the development of meaningful relationships online (Preece & Ghozati, 2001). In her work on online community spaces, Jenny Preece and colleagues (Feng, Lazar, & Preece, 2004; Preece & Ghozati, 2001; Preece, 1999) catalogued an array of empathic digital exchanges and coined the term "empathic [online] communities" to describe compassionate online support forums. Indeed, there is evidence that cognitive (e.g., Hancock, Landrigan, & Silver, 2007), affective (e.g., Hancock, Gee, Ciaciaco, & Mae, 2008), and compassionate empathy (e.g., Pfeil & Zaphiris, 2007), can all occur via CMC. A study on massive emotion contagion, for example, explored the effects of rainfall on the emotional content of millions of Facebook users' status updates, and the effects of these on their friends' updates (when controlling for local precipitation) across 100 US cities, over three years (Coviello et al.,