**A Conceptual Model of Antecedents to Para-Social Presence of Chatbots**

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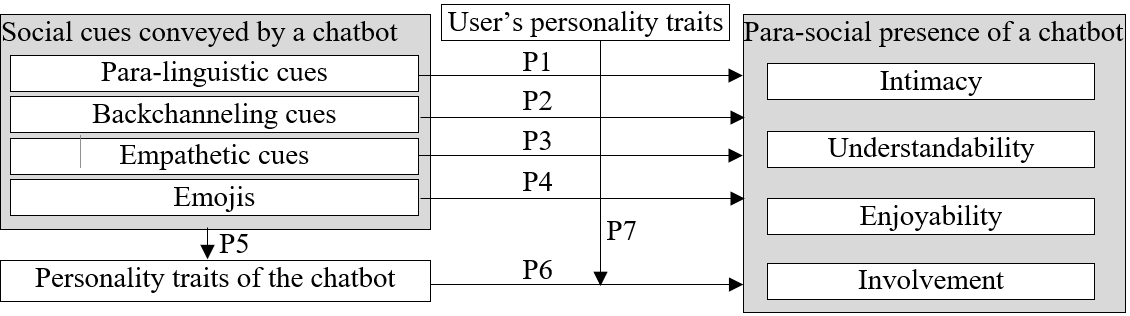
**Introduction and Purpose**

Many brands (e.g., H&M, Amazon, Tommy Hilfiger) are using conversational artificially intelligent (AI) agents, to address consumers’ needs. For example, H&M’s AI agent works as a personal styling agent selects clothing items according to consumers’ personal style, requirements, and demographics. Tommy Hilfiger’s agent identifies users’ apparel preferences through conversations and offers personalized styling suggestions while posing as an expert/celebrity. Thus, these brands are anthropomorphizing the conversational AI agents by increasing their social presence to enhance consumer experience. There is a growing focus on enhancing social presence with conversational AI agents to evoke positive user response in terms of interaction satisfaction, perceived trust, and attraction toward and enjoyment with the AI agents (Lee et al., 2006; Shin & Choo, 2011; Zalk & Denissen, 2015). Ki et al. (2020) found that the perceived feelings of para-social presence, or “the extent to which users perceive social cues from an online medium (i.e., social actor as a medium) or … the extent to which a person or an entity within an online medium develops social relationship with its users (i.e., social actor within medium)” (p. 2) of an AI agent enhanced social response among users. Researchers have primarily used humanoid physical features/gestures to enhance AI agents’ human-likeness and social presence (Hwang et al., 2013; Luo et al., 2019). However, one of the most prevalently employed forms of a conversational AI agent in the retail industry, such as the H&M and Tommy Hilfiger agents described above, is a chatbot, a text-modality-based conversational AI agent, which cannot project human-likeness through physical features/gestures. Little is known about how a chatbot can enhance its para-social presence. Therefore, the purpose of this abstract is to discuss potential characteristics of a chatbot and propose a conceptual model delineating the impact of such characteristics in influencing a chatbot’s para-social presence.

**Literature, Propositions, and Conceptual Model**

According to the Computers Are Social Actors (CASA, Nass, 1994) paradigm, humans respond to computers socially and experience similar social-psychological interactions as they do when they interact with humans. In the context of interacting with chatbots, para-social presence can be described as the extent to which users perceive social cues from and develop social relationships with a chatbot. According to Ki et al. (2000), para-social presence can be manifested in terms of intimacy (i.e., perceived feelings of closeness and attachment with a chatbot), understanding (i.e., the degree to which a chatbot is perceived to be understanding of the users’ intentions, needs, and emotions), enjoyability (i.e., the degree to which a chatbot is perceived friendly, fun, and pleasant), and involvement (i.e., the degree to which a chatbot is perceived to be engaged in or having immersive interaction with the users). The ability of a chatbot in expressing emotional depth, such as a chatbot’s use of *empathetic cues* in its natural language (e.g., customizing the nature of conversation according to the users’ personality) can enhance social presence in terms of intimacy and understanding with the users (Croes & Antheunis, 2021). *Para-linguistic cues* (e.g., use of ellipses, repetition of exclamation marks, and capitalization of words, which convey emotions) and *back-channeling cues* (e.g., repetitions of words from user inputs indicating the chatbot’s attentiveness) positively influence the perceived closeness and co-presence with a chatbot (Lee et al., 2020). Long-term relationships could be established between a chatbot and its users when the chatbot can recognize human feelings and users’ intents from long chat-based conversations (Zhou et al., 2019). In lieu of body language/facial expression to elicit human-likeness and social presence, chatbots’ use of *emojis* in the chat may help simulate emotion expressions, enhancing the social presence of the chatbot. Based on this discussion, we propose that increasing the number and frequency of the social cues in a conversation in the form of para-linguistic cues (Proposition 1 or P1), backchannelling cues (P2), empathetic cues (P3), and emojis (P4) will enhance the para-social presence of a chatbot.

More extraverted (e.g., talkative and assertive), more open (i.e., imaginative and liking to do new things), more agreeable (i.e., social and helpful), more conscientious (i.e., reliable), and less neurotic (e.g., emotionally stable) individuals maintain better social/friendly relationships (Barrio, 2004; Selfhout et al., 2010). We propose chatbots’ social cues can impact users’ judgment of the chatbot’s personality traits (P5), and that a chatbot enduing the personality traits (i.e., high extraversion, openness, conscientiousness, agreeableness, and low neuroticism) exhibiting a friendly personality may increase its para-social presence (P6). According to the construal level theory (CLT), the higher the degree to which people find themselves similar to another individual, the lower becomes the psychological social distance between them (Trope et al., 2007). In human-human interactions, perceived similarity in personality facilitates friendship formation (Lee et al., 2009; Zalk & Denissen, 2015). This similarity ensures that an individual understands the hopes, plans, and worries that the other individual is sharing, strengthening the emotional connection (Izard, 1960). Thus, the congruence in the chatbot-user personality traits may increase the para-social presence (P7). A conceptual model integrating the above seven propositions is presented in Figure 1.



*Figure 1.* Conceptual model of antecedents to para-social presence of a chatbot.

**Implications for Future Research**

Based on our propositions, we suggest that increasing the number and frequency of social cues could project a chatbot as friendly, enhancing its para-social presence. For example, a friendly chatbot may ask users’ names, reflecting high openness; use emojis, exclamation marks, and capitalized words/phrases expressing high extraversion and low neuroticism; and agree with or praise the users, reflecting high agreeableness. Future researchers could design chatbots with varying personality traits employing different social cues and empirically test their causal effects on the chatbots’ para-social presence in a retail context (e.g., finding products/coupons for users). Researchers could test if the perceived congruence in the chatbot-user personality traits (e.g., friendliness) enhances the social presence of the chatbot. However, depending upon the context where a chatbot is deployed, users may desire varying degrees of para-social presence of the chatbot. Researchers can test how different contextual factors moderate the relationships between the perceived social cues conveyed by the chatbot and its para-social presence.

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