

# Breaking the Ice 🧊 :

## An Interdisciplinary Investigation on Physical Warmth as A Facilitator for Remote Interpersonal Communication

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### Overview

Nonverbal cues, especially touch, are essential in interpersonal communication but are missing in remote communication. This project explores how physical warmth and touch feedback can enhance remote communication. The ultimate goal is to use digital touch technology to create a psychologically connected space in a physically distanced world.

**Keywords:** *Digital touch, haptic feedback, affective haptics, remote communication, interaction analysis*



### Effect of feeling physical warmth on text chat communication



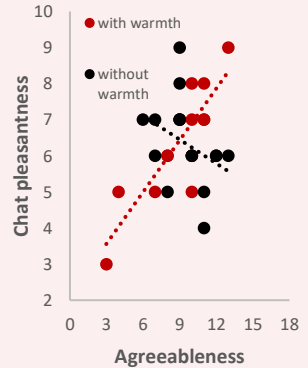
Text chat, a remote communication form with limited nonverbal cues, often leads to frustration.

We found the effect of physical warmth depends on **personality**.

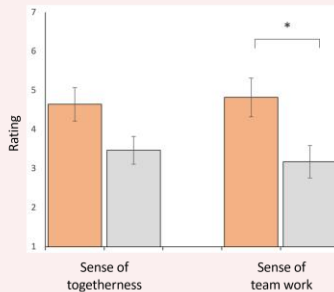
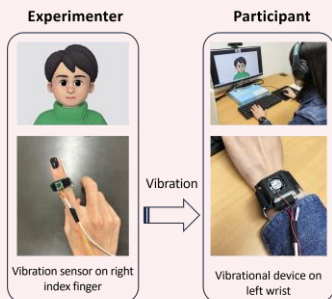
Participants valuing social harmony find physical warmth enhances chat pleasantness, whereas those low in agreeableness find it less enjoyable.



We examined the effect of physical warmth in text chats, allowing users to feel warmth from their partner as they type.



### Effect of feeling haptic feedback on video chat communication



- Participants engaged in a collaborative task over a video call with an experimenter.
- Vibrational feedback was transmitted to participants whenever the experimenter engaged in actions such as clicking or typing. This feedback aimed to enhance the experimenter's presence in these remote settings.
- We found that such **vibrational feedback can enhance the sense of togetherness and sense of team work**.

+ Research presented in HCI conference "Interaction 2024" as a premium presentation.

### Future Prospects

Our research has confirmed that physical warmth and haptic feedback enhance remote communication. We will expand our work by enhancing haptic interfaces and studying their effects across various contexts. Our ultimate goal is to enrich audiovisual communication, fostering deeper connections across distances. Continued exploration will transform telecommunications, helping to combat loneliness and improve well-being.

Digital touch technology



Affective communication



Ultimate goal



### Our Team

**Communication analysis**

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