

Talk to the virtual hands

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Body language of both speaker and listener affects success in virtual reality communication game.

Modern technology allows us to communicate in more ways than ever before, but this virtual communication usually lacks the body gestures so common in face-to-face interactions.

New research, published Oct. 12 in the online journal [PLoS ONE](#), finds that the lack of gestural information from both speaker and listener limits successful communication in virtual environments.

Participants in the study played a communication game, in which one partner had to describe a word's meaning to his partner so that the partner could guess the word.

Importantly, the partners could only interact through animated avatars; in some cases the avatars were controlled by virtual reality suits worn by the participants, while in other cases the avatars remained static throughout the game or acted out pre-recorded gestures.

The researchers found that the best performance was obtained when both avatars were able to move according to the [motions](#) of their owner. Specifically, they found that, in addition to the body language of the speaker being important, the [body language](#) of the listener impacted success at the task, providing evidence of the need for nonverbal feedback from listening partners in successful communication.

The researchers note that there are limitations to [nonverbal communication](#) in virtual reality environments. First, they found that [participants](#) move much less in a virtual environment than they do in the "[real world](#)." They also found that the perspective of the camera in the [virtual environment](#) affected the results.

Lead author, Dr. Trevor Dodds maintains, "this research demonstrates that virtual reality technology can help us gain a greater understanding of the role of body gestures in communication. We show that body gestures carry extra information when communicating the meaning of words. Additionally, with virtual reality technology we have learned that body gestures from both the speaker and listener contribute to the successful communication of the meaning of words. These findings are also important for the development of virtual environments, with applications including medical training, urban planning, entertainment and telecommunication."

More information: Dodds TJ, Mohler BJ, Bu'ithoff HH (2011) Talk to the Virtual Hands: Self-Animated Avatars Improve Communication in Head-Mounted Display Virtual Environments. PLoS ONE 6(10): e25759. [doi:10.1371/journal.pone.0025759](https://doi.org/10.1371/journal.pone.0025759)

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