

Videoconferencing is associated with reduced feelings of productivity

Summary. A new study reveals that turn-taking is more challenging in remote meetings than in person. Less turn-taking is associated with lower productivity and fewer cooperative interactions.

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Original Research (closed access): Virtual (Zoom) Interactions Alter Conversational Behavior and Interbrain Coherence by Stephanie Balters, et al. Journal of Neuroscience 5 April 2023, 43(14):2568-2578.

If you've ever been in a virtual meeting, you are probably familiar with the challenges in communicating and collaborating. New research from Stanford University validates this experience. Videoconferencing results in less turn-taking and is associated with less prosocial behavior compared to in-person interactions.

Videoconferencing or remote communication is becoming a part of most people's everyday lives. The convenience of being able to work from anywhere is appealing, but the quality of interactions in remote settings has been questioned. Delays in transmission and unstable Internet connections can contribute to the lower quality interactions but the impacts of these challenges are not well understood.

Previous studies showed that people who engage in virtual work settings experience more frustration and fatigue. Researchers from Stanford University were interested in understanding how collaboration and social behavior are affected by remote communication.

The researchers used functional near-infrared spectroscopy (fNIRS) to measure brain activity in pairs of participants who were collaborating on an assignment either remotely or in-person. fNIRS measures the amount of oxygen in different areas of the brain; when the areas are active, the amount of oxygen changes.

When people perform a task together, their shared attention typically results in brain waves that are synchronized. Measuring how well their brains were synchronized allowed the researchers to form conclusions about the quality of those interactions.

Participants were asked to perform three tasks. Each task required different types of communication. The researchers referred to these tasks as collaborative problem-solving, creative innovation, and socio-emotional.

The quality of the interactions was measured using blood flow in the brain, researcher observations, and participant surveys. The data were analyzed to look for correlations between these quality measurements and the format of the communication (virtual or in person).

People who collaboratively performed the tasks via videoconferencing took turns speaking less frequently than people who performed the tasks in person. This reduction in turn-taking was not associated with a reduction in productivity. However, people in the remote group felt less productive than they were.

The researchers concluded that more work is needed to understand the social and mental health impacts of videoconferencing. In the meantime, our feelings of productivity and cooperation could improve with more awareness of turn-taking in remote settings.