

Study: Delays in video calls may not always hurt communication

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A new study reveals how the delay computer users sometimes experience when making video calls over the internet can actually help communication in some circumstances, even though it is frustrating in many others.

Researchers found that when two strangers first talked about an emotionally charged topic over a video connection with a one-second [delay](#), they actually reported less [frustration](#) than did those who talked with no delay.

The finding may seem odd, but there is a good explanation, said Stacie Renfro Powers, lead author of the study and assistant professor of communication at Ohio State University.

"The delay forced the participants to make more effort to follow each other, and they weren't thinking as much about the difficult topic they were discussing or the uncomfortable situation they were in," Powers said.

"In some cases, the delay could have also slowed down the interactions enough that the participants were able to do a better job tracking each other's nonverbal cues, which would have helped them communicate better."

The results suggest that the effects of video delay on personal communication are not always straightforward, Powers said.

"A lot may depend on how well you know the person you're talking to, whether you're talking about emotional topics, and whether you're trying to come to some kind of agreement or figure out if you agree on a topic," Powers said.

The study appears in a recent issue of the journal *Computers in [Human Behavior](#)*.

The data for the study, conducted in 2004, came from 70 college students who discussed two politically controversial topics with a stranger – the 2004 U.S. presidential election and the U.S. involvement in the war in Iraq.

The topics were chosen so that they would provoke an emotionally charged discussion, Powers said, since talking about mundane topics is unlikely to lead to much frustration, even with a delay.

The students sat in separate rooms, each equipped with a video camera and large TV monitor. The signals from each camera ran through a unit that allowed researchers to delay the signal for one second, in some circumstances, before it was transmitted to the monitor in the other room.

The students talked about the presidential election or Iraq war for 10 minutes – either with or without the delay. After filling out some forms, they talked again for another 10 minutes. Those who spoke with a delay during the first period had no delay during the second discussion period, and vice versa.

After each 10-minute session, the participants completed a scale that asked them to rate, on a 1 to 7 scale, how much they felt several emotions during their discussion, including "frustrated," "anxious," and "irritated." They were also asked to rate how they believed their partner

felt during the conversation.

The researchers used these scores to rate "assumed similarity" – how much each person felt that their partner was similar to themselves. They also rated how accurate each participant was in rating their partner's emotions.

Results showed that people who experienced the delay during the first conversation period had lower levels of frustration than those who had no delay.

But during the second conversation period, those who experienced the video delay showed higher levels of frustration than those who had no delay.

"Those who experienced the delay second had already had a chance to get acquainted in the first period, with no delay hampering their communication," Powers said. "The delay may have been more damaging after people had established an initial acquaintance."

There were mixed results concerning how video delay affected how well people could gauge the emotions of their partner.

During the first discussion period, the video delay was associated with people more accurately judging their partner's emotions. Again, Powers said it may be that the delay forced people to pay more attention to their partners, increasing their accuracy.

However, during the second discussion period, there was no association between the video delay and accurate readings of a partner's emotions.

In both discussion periods, how a participant perceived their partner was related to assumed similarity – the tendency of people to assume that

others were similar to themselves.

In the second period, however, assumed similarity was associated with poorer accuracy at reading their partner's emotions, regardless of whether there was a delay.

Part of the reason for the complexity of the findings is that frustration is a part of any communication between humans – with or without technology, Powers said.

"Clearly the delay was not the only source of frustration, as it would not be in real life," she said.

"The political topics were selected because they tended to evoke strong negative emotions, including frustration, and would have done that even in face-to-face conversations."

However, the glitches found in modern technology – such as stuttering and delayed video – can add to the problems and frustrations of communication.

"I think it is the pauses that come with video delays that are really the dangerous part. If someone is a few milliseconds too late with nodding at a statement you make, for example, it may appear that they aren't paying attention," Powers said.

The key is to be careful when you use video technology for important conversations.

"If you're in a business setting where you don't know the person you are interacting with and you are performing a delicate negotiation, you may want to think about whether you really should use a video call," Powers said.

"There are times when we can overcome a delay in the signal, but there are also situations where you need to pay closer attention to the conversation and all the [nonverbal cues](#). In those cases, the video delay could introduce a dangerous element that could cause people to really misunderstand each other."

While this data was collected in 2004, advances in technology since then have not eliminated delays in video calls. Users are continuing to push technology to its limits by relying more on wireless signals, for example.

"In reality, there may never be a time when delay is not of concern," she said.

Provided by The Ohio State University

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