

Vocal signals reveal intent to dominate or submit, study finds

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Illinois psychology professor Joey Cheng and her colleagues found that changes in vocal pitch coincided with dominance, but not prestige, in small groups working together on a task. Credit: Photo by L. Brian Stauffer

You may not win friends, but a new study finds that you can influence

people simply by lowering the pitch of your voice in the first moments of a conversation.

The study, reported in the *Journal of Experimental Psychology: General*, found that people whose voices went down in [pitch](#) early on in an interaction were more likely to be seen as dominant and influential than those whose vocal pitch went up early in conversation. Those viewed as dominant also were more likely to convince others to go along with their ideas than those seen as less dominant.

In another report based on the same data, the researchers found that dominant participants were not considered more prestigious, esteemed or admirable by their peers, however. Those judged to be admirable - but not dominant - also tended to excel at influencing others, the researchers found.

"What excites me about this research is that we now know a little bit more about how humans use their voices to signal status," said University of Illinois psychology professor Joey Cheng, who led the research with colleagues at the University of British Columbia and Harvard University. "In the past, we focused a lot on posture and tended to neglect things like the [voice](#). But this study clearly shows that there's something about the voice that's very interesting and very effective as a channel of dynamically communicating status."

In the first of two experiments, 191 participants (ages 17 to 52) individually ranked the importance of 15 items they were told they might need to survive a disaster on the moon. They then worked in small groups on the same task. The researchers videotaped these interactions and used phonetic analysis software to measure the fundamental frequency of each utterance. They also looked at "how one person's answers converged with the group's final answer" as another way to measure influence, Cheng said.

The [study participants](#) and outsiders viewing their interactions tended to rate those whose voices deepened between their first and third utterances as more dominant and influential than participants whose voices went up in pitch. None of the subjects or the outside observers was aware that the study focused on the relationship between vocal cues and status.

Those viewed as dominant and those viewed as prestigious were most influential in the group interactions, Cheng said.

"In fact, what we've found previously is that both of these strategies - prestige and [dominance](#) - positively correlate with behavioral influence," she said. "Both are effective pathways to getting there. But only dominance is about fear and intimidation, and only dominance is related in this study to changes in the pitch of one's voice. How you change your voice does not appear to be related to how much respect you win."

In a second experiment, researchers asked 274 participants (ages 15 to 61) to listen to a pair of audio recordings of a person making three statements. The recording was manipulated to either increase or decrease the pitch of the voice between the first and third statements. Each participant listened to both recordings, which varied only in the trajectory of their vocal pitch.

"They don't get to see anything or anyone, and they just make judgments about the person in the recordings," Cheng said. "And we found that when the voice in the recording goes down in pitch, people judge the person as wanting to be more influential, more powerful, more intimidating or more domineering. But they don't think the person is interested in gaining more respect."

"What's really fascinating about status is that regardless of which groups you look at and what culture and in what context, what inevitably happens is that people divide themselves into leaders and followers, and

there's a hierarchy that's involved," Cheng said. "Our study adds to the evidence that humans, like many other animals, use their voices to signal and assert dominance over others."

More information: Joey T. Cheng et al. Listen, follow me: Dynamic vocal signals of dominance predict emergent social rank in humans., *Journal of Experimental Psychology: General* (2016). [DOI: 10.1037/xge0000166](https://doi.org/10.1037/xge0000166)

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