

People match confidence levels to make decisions in groups

May 26 2017



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When trying to make a decision with another person, people tend to match their confidence levels, which can backfire if one person has more expertise than the other, finds a new study led by UCL and

University of Oxford researchers.

The study, published in *Nature Human Behaviour*, shows that the degree of stated confidence in one's [opinion](#) is infectious when working in a team, which can blur the boundary between well-informed and poorly-informed opinion, sometimes to the detriment of group decision making.

"Making a decision collectively is most effective if the person with the most expertise expresses their opinion with the most confidence. If my opinion is more reliable than yours, then I should also be more confident. But it's difficult to express that effectively if you don't know whether the person you're working with is habitually overconfident or too modest," said Dr Dan Bang (UCL Wellcome Centre for Neuroimaging), who led the study while based at both UCL and the University of Oxford.

"We found that even when an expert is paired with someone who lacks expertise, both participants will align their confidence levels so that their opinions will carry more equal weight," he said.

In six experiments involving 202 participants in Iran and the UK, the researchers asked people to perform a visual perceptual task. On each trial, participants viewed two consecutive displays, with a faint target appearing in either the first or the second display. Working in pairs, each participant privately indicated which display they thought contained the visual target, and how confident they felt about this decision on a scale of one to six. Once both private responses had been registered, they were made public, and the private decision made with higher confidence was selected as the group [decision](#). Participants received feedback so that they could learn about their own expertise on the task.

The researchers found that people matched each other's degree of confidence, rather than calibrate it to the reliability of their own

opinions, even when offered a financial incentive. Some groups converged onto low confidence, while others converged onto high confidence.

This behaviour, named 'confidence matching', meant that people with different levels of expertise performed poorly: the less reliable person was too confident, while the more reliable person was not confident enough. But when pairs were closely matched in their level of expertise, confidence matching helped boost their performance by reducing miscommunication.

"One possible explanation is that confidence matching serves to ensure equal influence on group decisions, perhaps as a way to avoid conflict, or as a way to diffuse responsibility. Alternatively, people may struggle to learn from their past failures or successes, and find it easier to mirror each other's confidence levels," Dr Bang said.

"The study invites us to reconsider confidence as a social tool, while helping to explain why we can identify local 'cultures' of confidence. For example, previous research has shown that finance professionals, who work in competitive environments, are more confident than the general population. It also helps explain why politicians seem so confident in their opinions; they may be tapping into how [people](#) use [confidence](#) as a marker of credibility," said co-author Dr Bahador Bahrami (UCL Institute of Cognitive Neuroscience).

More information: Dan Bang et al, Confidence matching in group decision-making, *Nature Human Behaviour* (2017). [DOI: 10.1038/s41562-017-0117](https://doi.org/10.1038/s41562-017-0117)

Provided by University College London

Citation: People match confidence levels to make decisions in groups (2017, May 26) retrieved 10 April 2024 from

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