

Collaborating with a team of rivals can resolve conflict—and advance science

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Five social scientists holed up in an Amsterdam hotel for a week with the goal of reaching a scientific consensus on how people form stereotypes. They emerged with a joint theory paper, which they published as a how-to guide March 9 in the *Proceedings of the National Academy of Sciences* (PNAS). Credit: Egan Jimenez, Princeton University

Five social scientists holed up in an Amsterdam hotel for a week with the goal of reaching a scientific consensus on how people form

stereotypes. Remarkably, they were encouraged by the fact that none of them actually agreed with each other.

At a conference in Europe the year before, they had presented their conflicting theories. Those in the audience—also [social scientists](#)—wondered how they could comprehensively study stereotypes if they had to choose one model and reject the others.

"People came up to us in complete and utter confusion. We worried that researchers might abandon the entire line of work altogether, so we decided we had to isolate ourselves—like Camp David—until we could reach a consensus," said co-author Susan Fiske, Eugene Higgins Professor of Psychology at Princeton University's Woodrow Wilson School of Public and International Affairs.

After the weeklong retreat in Amsterdam, the team emerged with a joint [theory](#) paper. Inspired by the experience, they also published a how-to guide March 9 in the *Proceedings of the National Academy of Sciences (PNAS)*. They describe what worked—and what didn't—to bring the adversaries to agreement. Their methods and their success suggest that government funding agencies and foundations might consider other efforts that bring together academics with differing viewpoints for the betterment of science.

"If people are willing to get in a room together and debate their differences, science can be improved," Fiske said. "Given that we've all been published in reputable journals, we never thought of it as one theory being right, or the other one being wrong. Instead, we thought there would be subtle differences in how these theories play out. After our week together, that's what we found."

Fiske worked on the project with Naomi Ellemers of the University of Utrecht, Andrea Abele of the University of Erlangen-Nürnberg, Alex

Koch of University of Chicago, and Vincent Yzerbyt of University of Louvain.

Fiske's work has long shown that people form stereotypes based on how they perceive the other people's competence and warmth. Yet, her adversarial collaborators pointed to other perceived factors such as ideology. Or they broke down warmth into being trustworthy and friendly. Or advocated morality over everything else.

Fiske and her co-authors reached the agreement that the perceived competence of the person/people being considered is clearly one factor in determining stereotypes. A second factor at play is some form of warmth or trustworthiness. This could depend on shared [political beliefs](#), depending on the situation.

Perhaps what's most important, however, is that the researchers were able to reach an agreement at all. By engaging in "adversarial collaboration," a concept pioneered by Princeton's Daniel Kahneman, a prominent psychologist and Nobel Prize-winning economist, they were able to design research to answer unresolved issues.

By engaging in the new idea of "adversarial alignment" of their theories, they determined that none of them were invalid. Rather, each theory is valid based on the situation, or the different circumstances in which one theory on stereotypes should be employed over the other. For example, Fiske's emphasis on warmth and competence works well for groups that people encounter in person, as in new kinds of people in the neighborhood. But for Koch, another researcher in the group, status and ideology works well for an overall analysis of groups' location in society.

The idea for this collaboration actually arose even earlier than the first conference—thanks to Koch, who, as a graduate student presented work at a conference that contradicted Fiske's 20 years of research on

stereotypes. Like Fiske, Koch's work also found evidence that competency played a role in stereotypes, but instead of warmth, his research pointed to political ideologies.

"I thought, certainly these are important, but if you're walking down a dark alley at night, you don't want to know who someone voted for," Fiske said. "You want to know if they intend to mug you."

Nevertheless, Fiske and Koch evaluated their models and debated their differences after which Koch asked if he could visit Fiske's lab. "I'm a scientist, so I had to say yes." Fiske said. "We started several studies aimed at solving the puzzle together."

All of this set the stage for Koch and Fiske, along with the three other researchers, to compare their competing theories in Amsterdam. To negotiate some common ground and identify some remaining challenges, they satisfied two preconditions and followed specific guidelines. Throughout their days together, Ellemers, the lead author of the latest paper in PNAS and a social/organizational psychologist, made sure the group stuck to the rules.

They began by reframing their interactions away from competitive rivalry into the pursuit of a joint goal. They also agreed that everyone shared trustworthy intentions, as well as scientific competence, with relation to the goal.

Days began with a full European breakfast and strong coffee, Fiske joked, before the team got down to business. They spent their days in a glass-walled conference room, projecting their theory models and figures onto the screen.

To start, they "leveled the playing field," which meant only one researcher from each research group attended, that seniority did not

convey privilege, and that prepared descriptions of each model had the same page allotments. They began their discussions with agreed-upon premises before debating their differences. They "capitalized on shared curiosity" as scientists.

From there, they moved into "producing measurable progress," and split off in pairs, to begin writing the paper. All of this kept in mind what they called "working toward mutual gain," as well as the realization that not reaching a resolution would be an unacceptable "downside alternative." This created a sense of urgency throughout the experience.

A week later, a draft theory paper had formed. The team spent a year revising, submitting, and revising the paper for a theory journal. Meanwhile, they distilled the main ingredients of their process into a Perspectives paper, "Adversarial Alignment Enables Competing Models to Engage in Cooperative Theory-Building, toward Cumulative Science," published March 9 in *PNAS*.

The methods have clear implications for academia, as well as for policy and the media. Adversarial collaborations on data and adversarial alignments on theory both can enhance scientific credibility among journalists, the public, and members of Congress, which is especially important in an age of misinformation and distrust, the researchers said.

"We used the behavioral science of multi-party negotiations to resolve our own polarized science, building on the models' shared insights that we needed to respect each other's competence and trust each other's intentions," Fiske noted. "Contrasting viewpoints on policy, politics, and social norms might profit from our experience as a 'team of rivals.'"

More information: Naomi Ellemers et al., "Adversarial alignment enables competing models to engage in cooperative theory building toward cumulative science," *PNAS* (2020).

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