

## Study shows explicit judgments may differ from implicit beliefs regarding stereotypes

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Credit: Human Brain Project

(Medical Xpress)—A pair of researchers at Harvard University has found that our conscious attitudes may differ significantly from those that reside in our subconscious mind when it comes to stereotypes. In their paper published in *Proceedings of the National Academy of Sciences*, graduate student Jack Cao and his advisor Mahzarin Banaji



discuss experiments they carried out that show that even when our conscious mind is acutely aware of certain facts, our unconscious mind can still be uncertain about certain stereotypes.

To gauge the difference between what a person thinks consciously, versus unconsciously, researchers have devised a button pressing question-answering deice that comes with a timer. Prior research has shown that when the <u>unconscious mind</u> is uncertain about an answer to a question, even if the <u>conscious mind</u> is well aware of it, there is a slight moment of hesitation before a button is pressed. The research duo used such a device to ascertain whether there exists a difference between what people know to be true in their conscious thinking, and what they hold in their subconscious—in this case, regarding stereotypes—and even more specifically, stereotypical gender roles.

The researchers suspected that underlying stereotypes may lurk in our subconscious, even in the face of contradictory evidence. To learn more, they set up various scenarios of the same experiment—volunteers were told that there were two people, with obviously male and female names. Then they were told that one held a traditionally male occupation, while the other a traditionally female occupation, e.g. doctor and nurse. They then had them answer questions with the button/timer device. Volunteers were asked if one or the other was the doctor or nurse, without telling them ahead of time which was which. They then told them very clearly which was the doctor and which was the nurse and then asked them which was which. The researchers found that even when the volunteers knew that the doctor was the female person named, they still hesitated when asked to name her as the doctor, and the male the nurse—a clear indication that while their conscious mind was very aware of the facts, their unconscious minds were still fighting with the idea of a woman as a doctor.

The experiments were carried out with over 3,400 volunteers where



parameters such as names were adjusted to account for interfering factors, but still, the researchers report, the results were the same.

**More information:** The base rate principle and the fairness principle in social judgment, Jack Cao, <u>DOI: 10.1073/pnas.1524268113</u>, <u>www.pnas.org/content/early/2016/06/16/1524268113</u></u>

## Abstract

Meet Jonathan and Elizabeth. One person is a doctor and the other is a nurse. Who is the doctor? When nothing else is known, the base rate principle favors Jonathan to be the doctor and the fairness principle favors both individuals equally. However, when individuating facts reveal who is actually the doctor, base rates and fairness become irrelevant, as the facts make the correct answer clear. In three experiments, explicit and implicit beliefs were measured before and after individuating facts were learned. These facts were either stereotypic (e.g., Jonathan is the doctor, Elizabeth is the nurse) or counterstereotypic (e.g., Elizabeth is the doctor, Jonathan is the nurse). Results showed that before individuating facts were learned, explicit beliefs followed the fairness principle, whereas implicit beliefs followed the base rate principle. After individuating facts were learned, explicit beliefs correctly aligned with stereotypic and counterstereotypic facts. Implicit beliefs, however, were immune to counterstereotypic facts and continued to follow the base rate principle. Having established the robustness and generality of these results, a fourth experiment verified that gender stereotypes played a causal role: when both individuals were male, explicit and implicit beliefs alike correctly converged with individuating facts. Taken together, these experiments demonstrate that explicit beliefs uphold fairness and incorporate obvious and relevant facts, but implicit beliefs uphold base rates and appear relatively impervious to counterstereotypic facts.



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