

The following comment by Max Planck “A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die” can be explained (i.e. why) through the use of neuropeptide modeling that encompasses elements and minerals.

In terms of bias in decision making, regardless of personal opinions or those that govern scientific theory that determines physiological and psychological welfare, long term thought processes can be verified as being driven by glial cells stored in the hippocampus.

Summary

Science and medical applications cannot progress adequately until the two disciplines are willing and able to identify the factors that drive their bias and collaborate to understand and apply neuropeptide modeling. The use of neuropeptide modeling must be based on the principles of physical science that encompasses inorganic chemistry.

<https://neurosciencenews.com/unconscious-bias-behavior-14386/>

Research questions link between unconscious bias and behavior

 NEUROSCIENCE NEWS JULY 1, 2019

Summary: *A meta-analysis reveals there is little evidence that implicit bias can be changed long term. There is even less evidence to suggest changes can lead to behavioral changes.*

Source: *University of Arkansas*

A new study calls into question the effectiveness of a popular concept for addressing social problems such as discrimination.

Implicit bias, a term for automatically activated associations, is often perceived to be a primary cause of discrimination against social groups such as women and racial minorities. Identifying and understanding implicit bias and modifying behavior that's based on it has long been a goal of those who seek to address such problems.

Patrick Forscher, assistant professor of psychology at the University of Arkansas, along with Calvin Lai, assistant professor of psychology at Washington University in St. Louis, and five other co-authors, reviewed 492 studies on changing implicit bias involving 87,418 participants. The researchers' goal was to investigate procedures that attempted to change implicit bias. They found that while implicit bias can be changed, only a small percentage of the studies they looked at examined changes over time, or whether the changes affected behavior. The study was published in the *Journal of Personality & Social Psychology*.

"When you hear people talk about implicit bias in popular media, there is often this assumption that you do this implicit bias training and the effects stick around for a long time," Forscher said. "What we found is that barely any of the studies that we captured in our analysis even attempted to assess changes over time."

Millions of people interested in assessing their own implicit bias have taken self-administered tests such as the Implicit Association Test, available on the internet, and many companies have created programs to address issues that stem from implicit bias, such as gender pay gaps and hiring discrimination.

"The promise is that if I can change what produces the score I am solving this big problem," Forscher said. "It offers an individualistic, easy solution."

But the researchers found little evidence that implicit bias can be changed long term, and even less evidence that such changes lead to changes in behavior.

"I don't think this research is ready for application," he said. "It could even be true that implicit bias doesn't have a strong impact on behavior. Even if this is not true we should not be using this body of research in its current state to inform public policy."

ABOUT THIS NEUROSCIENCE RESEARCH ARTICLE

Source:

[University of Arkansas](#)

Media Contacts:

Bob Whitby – University of Arkansas

Image Source:

The image is in the public domain.

Original Research: Open access

[“A meta-analysis of procedures to change implicit measures”](#). Patrick Forscher et al.
Journal of Personality and Social Psychology. doi:[10.1037/pspa0000160](https://doi.org/10.1037/pspa0000160)

Abstract

A meta-analysis of procedures to change implicit measures

Using a novel technique known as network meta-analysis, we synthesized evidence from 492 studies (87,418 participants) to investigate the effectiveness of procedures in changing implicit measures, which we define as response biases on implicit tasks. We also evaluated these procedures' effects on explicit and behavioral measures. We found that implicit measures can be changed, but effects are often relatively weak ($|ds| < .30$). Most studies focused on producing short-term changes with brief, single-session manipulations. Procedures that associate sets of concepts, invoke goals or motivations, or tax mental resources changed implicit measures the most, whereas procedures that induced threat, affirmation, or specific moods/emotions changed implicit measures the least. Bias tests suggested that implicit effects could be inflated relative to their true population values. Procedures changed explicit measures less consistently and to a smaller degree than implicit measures and generally produced trivial changes in behavior. Finally, changes in implicit measures did not mediate changes in explicit measures or behavior. Our findings suggest that changes in implicit measures are possible, but those changes do not necessarily translate into changes in explicit measures or behavior.