SHOOT THE MESSENGER:
CHANGES IN EVALUATIONS OF SCIENTIFIC INFORMATION AS A FUNCTION OF MESSENGER IDENTITY

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Introduction

Research on cognitive biases has shown that humans are not impartial, objective receivers of information. In the current studies, we investigate the degree to which individuals' evaluations of scientific information are biased by the identity of the messenger who provides the information.

We hypothesized that messenger identity affects participants' opinions of the messenger's credibility, the messenger's intent, the quality of the information, and participants' own desire to share or censor the information.

Method

EXPERIMENT 1: SEX DIFFERENCES

In Experiment 1, on sex differences, a sample of 205 college students and a sample of 154 community adults reviewed a handout describing research findings on sex differences relevant to women's under-representation in high-level corporate and academic positions in STEM; each handout included scientific information that runs counter to prominent narratives about gender discrimination as the primary cause of women's under-representation. We manipulated messenger identity by describing the speaker who provided the handout as either a **male** or **female** professor.

EXPERIMENT 2: GENDER DYSPHORIA

In Experiment 2, on gender dysphoria, a sample of 159 college students and a sample of 154 community adults reviewed a handout describing research findings on gender dysphoria; each handout included scientific information that runs counter to prominent narratives about gender dysphoria incidence rates, prognosis, and treatment considerations. We manipulated messenger identity by describing the speaker who provided the handout as either a **trans** or **non-trans** professor.
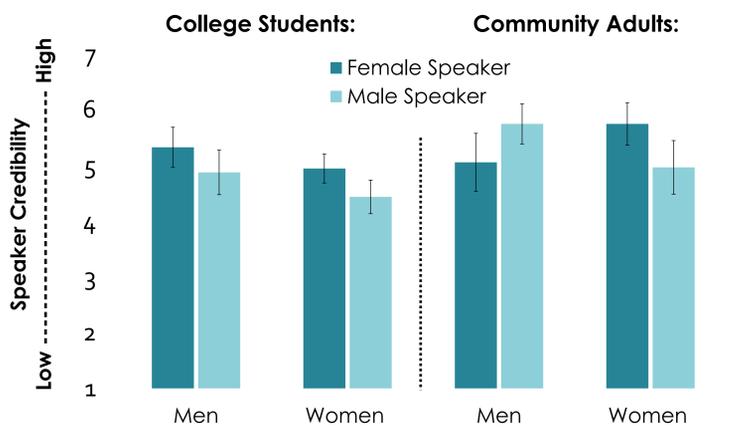
In both studies, participants reviewed their handout and then reported their level of agreement with statements such as, "The speaker is credible," (speaker credibility; 3 items), "The speaker is an advocate for women (or the transgender community)," (speaker intent; 1 item), "The information on the handout is offensive," (quality of the information; 7 items), and "The speaker should be allowed to present this information to others" (desire to share versus censor the information; 4 items). Items from all categories were highly correlated and were combined into a single measure of "Overall Receptivity" (15 items). Participants also provided basic demographic information and completed the ten-item Words Can Harm scale (Bellet et al., 2018), a measure of the degree to which individuals believe that words can cause emotional harm.

Results and Discussion

In Experiment 1, on sex differences, the male college students were not affected by messenger identity. As predicted, though, women were affected; women in the female messenger condition rated the speaker as more credible than did women in the male messenger condition.
In the community sample, men rated the male messenger as more credible, whereas women rated the female messenger as more credible.
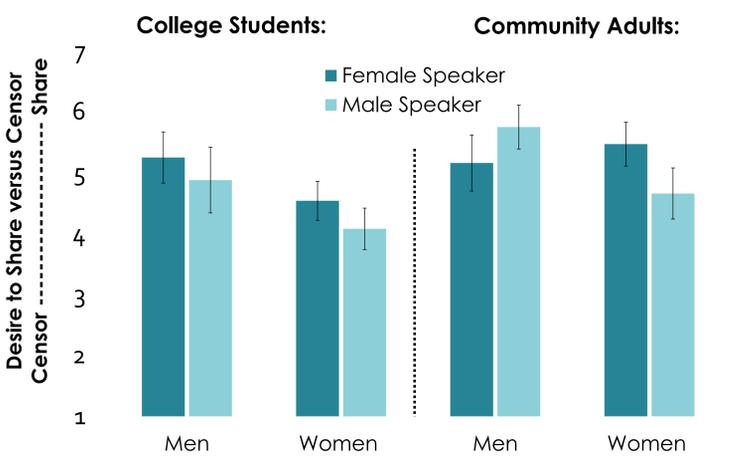
In the college student sample, men's desire to share or censor the information about sex differences was not affected by messenger identity. On average, women reported less desire to share the information than men did, particularly when the messenger was a male professor.
Among community adults, men showed a reduced desire to share the information when the messenger was female, and women showed a reduced desire to share the information when the messenger was male.
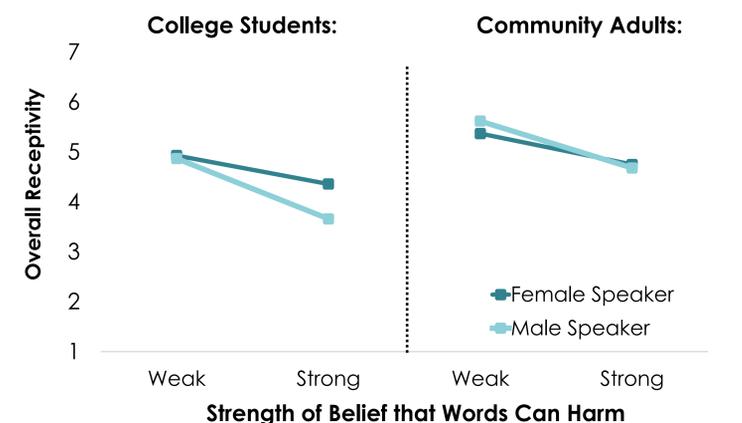
In the sex differences experiment, college students scored nearly a full point higher than community adults did on the Words Can Harm scale (4.7 vs 3.9); it is unclear whether this difference reflects a generational effect, an age difference (Mean age of 20 vs 40), or both.
As shown in the graph at left, participants who held stronger beliefs that words can harm were less receptive, overall, to the information on sex differences; this effect was magnified among college students in the *male* messenger condition.

In Experiment 2, on gender dysphoria, college students were affected by messenger identity; those exposed to the trans speaker rated the speaker as more credible than did those who were exposed to the non-trans speaker. This effect of messenger identity held for participants who were members or allies of the trans community as well as those who were not.
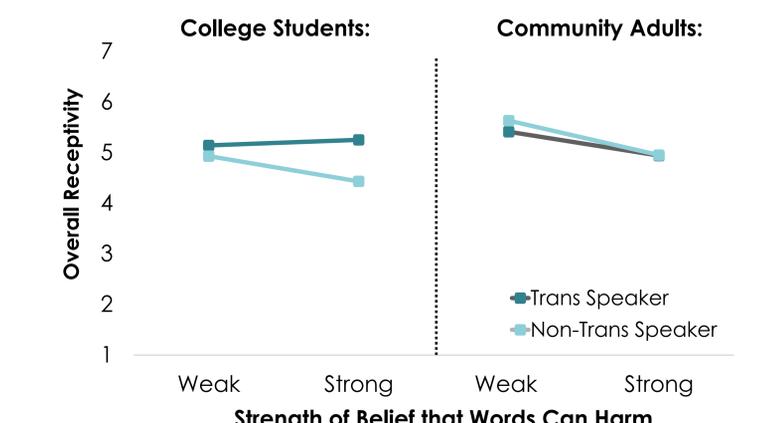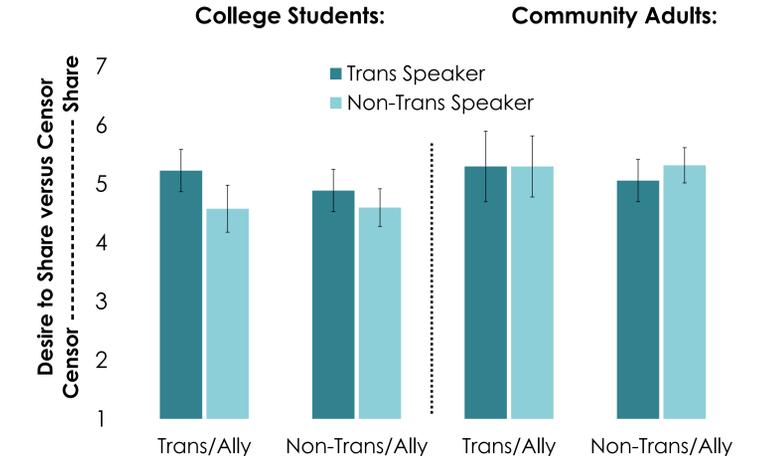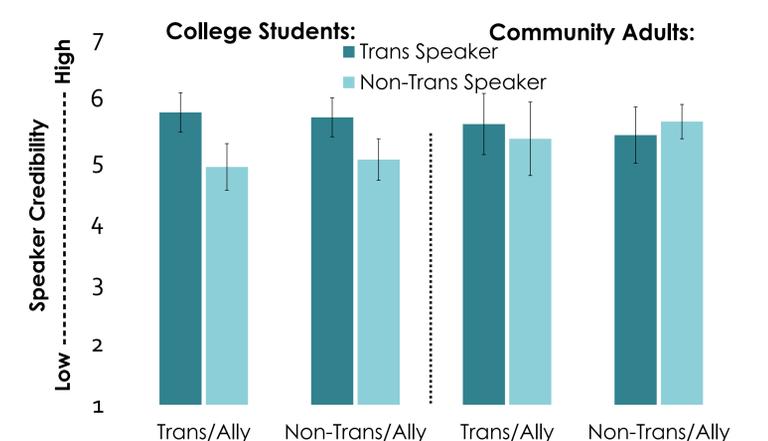In the community sample, perceptions of speaker credibility were similar across conditions.

There was a significant effect of messenger identity on college students' reactions to the information: students were less willing to share the information when the speaker was non-trans compared to trans. This main effect was driven by those students who were members or allies of the trans community.
Among community adults, desire to share the information was similar across conditions.

In the gender dysphoria experiment, college students again scored nearly a full point higher than the did the community adults in belief that words can cause emotional harm (4.8 vs 4.0).
Among college students in the non-trans messenger condition, and community adults in both messenger conditions, individuals who held stronger beliefs that words can cause emotional harm were less receptive, overall, to the scientific information on gender dysphoria than were individuals who held weaker beliefs that words can cause harm.

These findings are concerning. They show that individuals evaluate the same scientific information differently depending on their own lived experience, the presumed lived experience of the speaker in question, or both.

Note. In bar graphs, error bars reflect ±2 Standard errors of the mean. "Weak" and "Strong" represent 1 SD below and 1 SD above the mean on the Words Can Harm scale.

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SELECT REFERENCES

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