DRIVERS JOURNAL CLUB

Austin Y. Hubner and Olivia M.Bullock (2025)

"Why science should have a female face: Female experts increase liking, competence, and trust in science"

Science Communication 2025, Vol. 47(7), 2527-552.

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06.10.2025

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Aus Forschung wird Gesundheit

Introduction

- Persistent stereotype: science=male
- Traits associated with a “scientist” overlap with a stereotypical man, little overlap with associations of a stereotypical woman
- Powerful positions (politics, media, science and other) associated with agentic traits (strength, competency) and rather assigned to men
- Communal traits (warmth, supportiveness) assigned to women and seen as incompatible with successful leadership

- Women, who are active communicators of their science report harassment because of their visibility and experience a backlash because they behave in a counter stereotypical way

Terms used in the paper

Perceived Likability

- Affection toward the source because of their behavior
- An overall positive evaluation of a person's warmth and friendliness

Perceived Competence

- Evaluation of one's expertise and knowledge on a topic
- Related to traits such as intelligence, skill, efficiency

- Stereotyped groups (here women in science as a male dominated field) are evaluated along these two dimensions.
- Likability-competency paradox: Successful women are seen as competent, but not likable
- Two contrary effects for women in powerful positions, who violate the norm of a male dominated field: backlash effect (individual penalized for behaving counter stereotypically) or 'women are wonderful' effect (celebrated for their accomplishments)

Background of the paper

- **Goal of the paper**:

The study wants to examine whether the gender of a scientists portrayed in a social media post about science influences both the perception of the scientists (likability and competence) and the perception of science more generally (trust in science or not).

Experimental study (N=958)

- Exposure of the participants to science-related Instagram posts
- Recruitment of the participants from Connect, a participant pool created by CloudResearch

Hypotheses

H1: Female Scientists will be rated as more likable than male scientists

- Push in recent years to increase the visibility of women scientists in the public
- More females depicted in the draw-a-scientist-test lately, Positive association with female scientists increased
- Recent studies confirmed that women scientists were rated more likable than men
- Women scientists on Social Media perceived as warmer, more positive comments on Youtube and Facebook

H2: Female Scientists will be viewed as more competent through the mechanism of increased liking

- Former research suggest, that women scientists are seen as likable, but less competent (teaching evaluation, CV experiments)
- Recent findings suggest that the perceptions of warmth might be intertwined with assessment of competency → 'women are wonderful' effect, likability creates a halo for other traits

Hypotheses

H3: Exposure to a science message from a female scientist will increase trust in science through serial mediators of increased liking and increased competence

- Does the individual evaluation of the message source translate to attitudes toward the message content?
- Trust in science is decreasing → important question who should be the face of science to increase trust
- Source credibility effect: when individuals perceive a message to come from a trustworthy source a message-consistent outcome becomes more likely.

Hypotheses

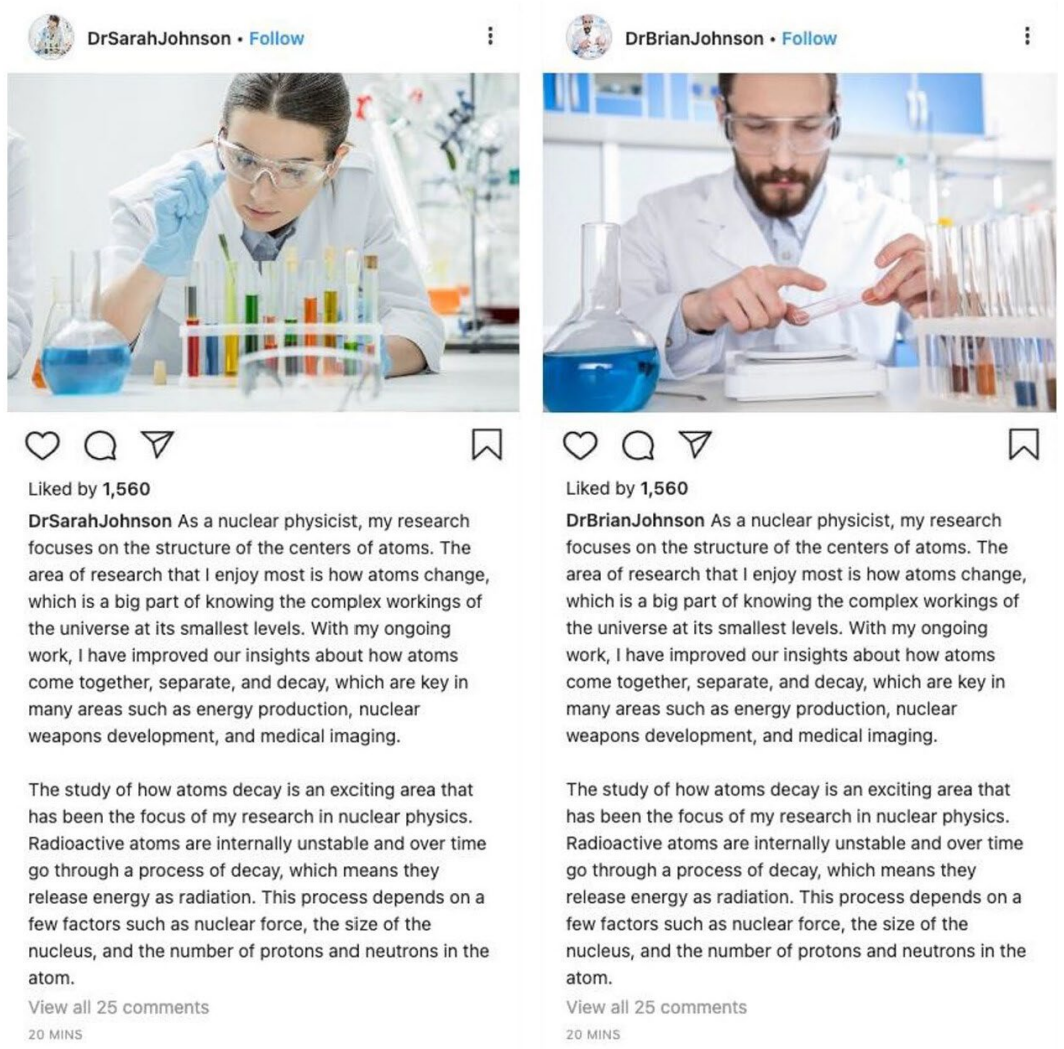
H4a: Participant gender will interact with judgements of liking by scientist gender, such that people will report greater liking when the sex of the scientist matches their own

H4b: Participant gender will interact with judgements of competence by scientist gender, such that people will report greater competence when the sex of the scientist matches their own

- Gender affinity effect suggests that individuals tend to favor and evaluate more positively those who share their gender identity
- i.e. gender bias in teaching evaluations, male students rate women professors less favorably and vice versa

Measures

- Participants were given stimuli: mimic Instagram posts of a scientist (female or male)
- Had to rate the liking and competence of the portrayed scientist (items adapted from Moss-Racusin 2012) and their trust in science in general (adaption from Pew Research's American trends Panel report on trust in science in the US)



Results of the paper

H1: Female Scientists will be rated as more likable than male scientists

- Confirmed, female scientist were rated as significantly more likable than male scientists (M=3.43, SD=1.65)

H2: Female Scientists will be viewed as more competent through the mechanism of increased liking

- Confirmed, female scientists increased perception of competence through liking

H3: Exposure to a science message from a female scientist will increase trust in science through serial mediators of increased liking and increased competence

- Calculation indicated support for the serial mediation model

Results of the paper

H4a: Participant gender will interact with judgements of liking by scientist gender, such that people will report greater liking when the sex of the scientist matches their own

- Interaction term was significant and negative, when participant's gender mismatched the gender of the scientist that they saw, the effect of scientist gender on liking was stronger
- Participants liked scienstist of the opposite gender more than scientists of their own gender

H4b: Participant gender will interact with judgements of competence by scientist gender, such that people will report greater competence when the sex of the scientist matches their own

- Interaction term was nonsignificant, no relationship between scientists gender, scientist/participant gender matching and judgement of competence

Summary of the results

- Study showed a substantial likability advantage for female scientists and the important role of likability as a mediator for the perception of competence
- When the scientific message was delivered by a female scientists (more likable, more competent), the trust in science in general was higher

→ Women might be a compelling persuasive face for science topics

→ Is it true for all topics or only for specific domains?

- Women in this study were not, on contrary to former research results, penalized for occupying a space associated with men, but rather embraced
- Important implication for public engagement of scientists: public might be more likely to engage with female experts
- Future studies could alter the source of information presented (not only Instagram post), the scale to measure competence and likability, alter the profile of the presented scientist (add race, and other factors)

Discussion

We know from other studies, that female scientists are

(Spagert et. al: Sichtbarkeit von Professor:innen an Universitäten und Hochschulen für angewandte Wissenschaften in Deutschland - Dokumentation und deskriptive Auswertung der Professor:innenbefragung 2023 im Rahmen des BMBF-Projekts Prof:inSicht)

1.) less visible

2.) receive more negative comments and judgement than men who are present in public

?? How does this correspond with the positive perception of women scientists in the public? And what about the lower visibility of women scientists in the public (as experts in interviews, articles in newespapers etc.)

?? How much can we conclude from this study with only one post and limited number of participants and a rather homogenous group of participants?

?? Should scientists of all gender present themselves as more likable to increase trust in science?

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