Recommended by Google Home: The Effects of Gender Stereotypes and Conformity when Interacting with Voice Assistants

Florian Schneider[1]

[1] Institute for Media Psychology, University of Wuerzburg

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Abstract

What role does deliberation play in susceptibility to political misinformation and “fake news”? The Motivated System 2 Reasoning (MS2R) account posits that deliberation causes people to fall for fake news because reasoning facilitates identity-protective cognition and is therefore used to rationalize content that is consistent with one’s political ideology. The classical account of reasoning instead posits that people ineffectively discern between true and false news headlines when they fail to deliberate (and instead rely on intuition). To distinguish between these competing accounts, we investigated the causal effect of reasoning on media truth discernment using a two-response paradigm. Participants (*N* = 1,635 Mechanical Turkers) were presented with a series of headlines. For each paradigm, participants were first asked to give an initial, intuitive response under time pressure and concurrent working memory load. They were then given an opportunity to rethink their response with no constraints, thereby permitting more deliberation. We also compared these responses to a (deliberative) one-response baseline condition where participants made a single choice with no constraints. Consistent with the classical account, we found that deliberation corrected intuitive mistakes: Participants believed false headlines (but not true headlines) more in initial responses than in either final responses or the unconstrained one-response baseline. In contrast—and inconsistent with the MS2R account—we found that political polarization was equivalent across responses. Our data suggest that, in the context of fake news, deliberation facilitates accurate belief formation and not partisan bias.

Voice-enabled personal assistants like Google Home have been adopted by the masses (Hoy, 2018). As speech is the main channel for communication between humans (Flanagan, 1972) and is an innate human behavior (Pinker, 1995), interacting with a voice interface is intuitive (Cohen, Giangola, & Balogh, 2004). Studies conducted under the Computers Are Social Actors (CASA) paradigm indicate that speech-output and interactivity are two main factors to elicit social reactions in users (Nass, Steuer, Tauber, & Reeder, 1993). Users have been shown to

adopt human principles like conformity and gender stereotypes when interacting with computers (Nass & Moon, 2000).

Based on these results we predict that a smart-assistants voice will act as a social cue during the interaction with the device thus triggering the same stereotypes:

RQ1: A voice assistants comptetence and warmth are rated differently depending on the gender of its voice.

Conformity can be tied to the own gender as well as the gender of interaction partners depending group membership. It has been shown in conformity research that individuals are more likely to be convinced by members of their own in-group (e.g. gender) (Eagly, 1983). This was replicated in human-computer (Lee and Nass, 2002) as well as human-smartphone interaction (Carolus et al., 2008). Based on these results we predict that similar effects will be observed during the interaction with a voice assistant:

RQ2: Participants will show different levels of conformals behavior when interacting with a voice assistant depending on their own gender as well as the assistants gender.

A laboratory experiment with 62 participants was conducted. Participants interacted with a Google Home speaker that either used a male or a female voice to present them with different social dilemma situations. For each dilemma, the assistant gave a recommendation on how it would resolve that dilemma. This recommendation was always based on the less likely solution. Participants were then asked to rate these recommendations and whether they would make the same or another decision to measure conformity. Following the interaction with the voice assistant participants were then asked to fill in an online questionnaire to rate the assistant's warmth and competence using items derived from the Stereotype Content Model by Fiske et al. (2002).

Keywords: voice assistants, media equation, gender stereotypes, conformity

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