

When Gender-Bias Meets Fake-News

Results of Two Experimental Online-Studies



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Introduction

Online media represent a major source for information acquisition (Neubaum & Krämer, 2017) and are perceived to be credible information and up-to-date news. However, this also implies new possibilities to publish false information accessible to a large population (Meinert, Mirbabaie, Dungs, & Anker, 2018). To differentiate the extent of stimuli, people apply economic classification mechanisms (Metzger, 2007). Information consistent with previous attitudes and convictions are accepted more quickly (Lazer et al., 2018). This unconscious process results in biased interpretations and behavior. Whereas male attributions go along with competence, females are characterized as warm and empathic (Eckes, 2008) and leads to different associations of credibility (i.e. competence = higher vs. warmth = lower). This mechanism yields temporal stability. Goldberg (1968) already demonstrated that female authors are perceived less credible than identical articles written by male authors. It is assumed that these biases also apply in online media settings and beyond author up to content level of information with a variety of consequences for individuals and society.

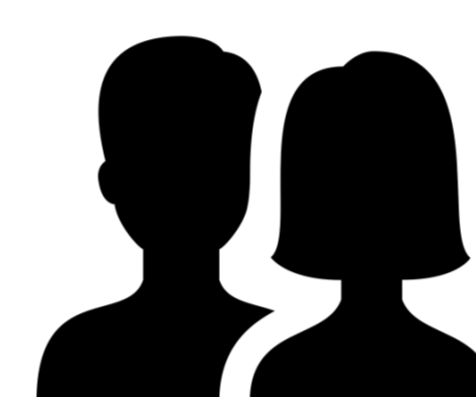
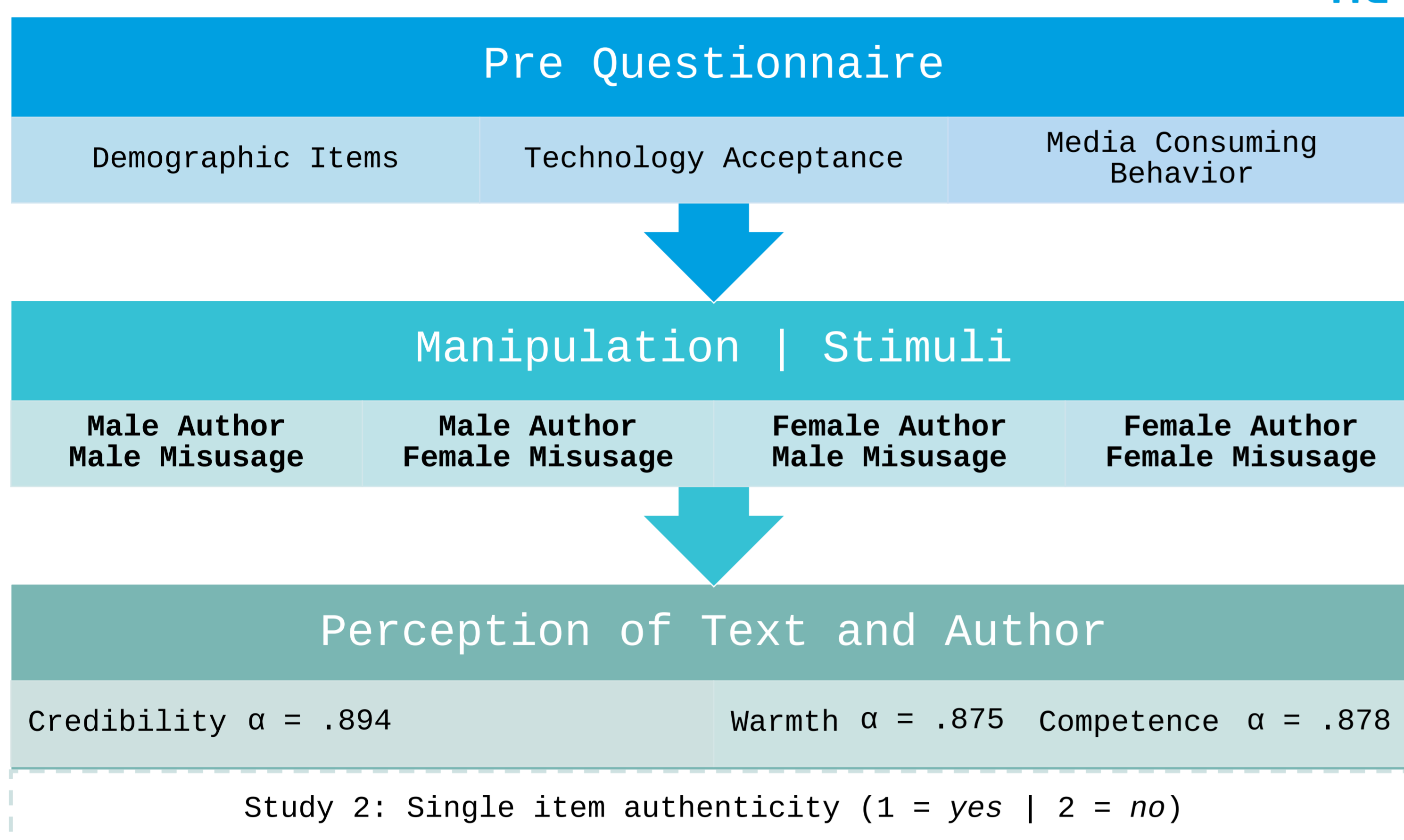
Hypotheses

- H1a:** Female authors are perceived warmer than male authors. 
- H1b:** Male authors are perceived more competent than female authors. 
- H2:** Articles of male authors are perceived more credible than female authors. 
- H3:** Articles reporting on male misuse of a technical innovation are perceived less credible. 
- H4:** There is an interaction effect of authors' and misusing persons' sex in the evaluation of credibility such as articles by male authors reporting on female misuse are perceived the most credible. 

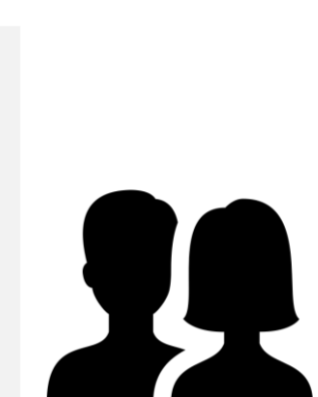
Exploratory Analysis (Study 2):

What is the influence of general perception of authenticity? 

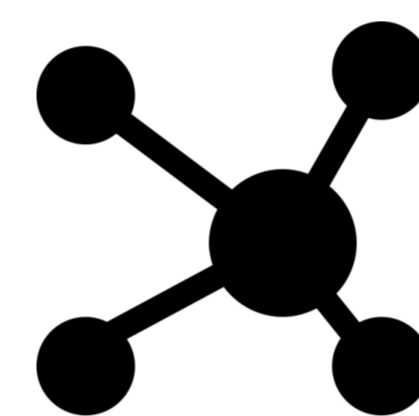
Method



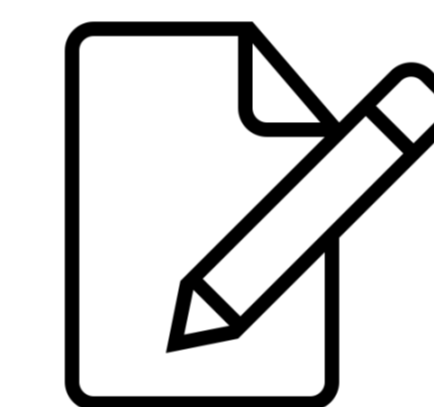
Study 1
N = 226
♂ = 100
♀ = 126
Age: M = 35.96 (SD = 11.63)



Study 2
N = 95
♂ = 73
♀ = 22
Age: M = 22.28 (SD = 4.70)



In two online studies four stimulus articles were presented in a 2x2 between-subjects-design. Participants were assigned randomly to one experimental condition and asked for their perception of the text.



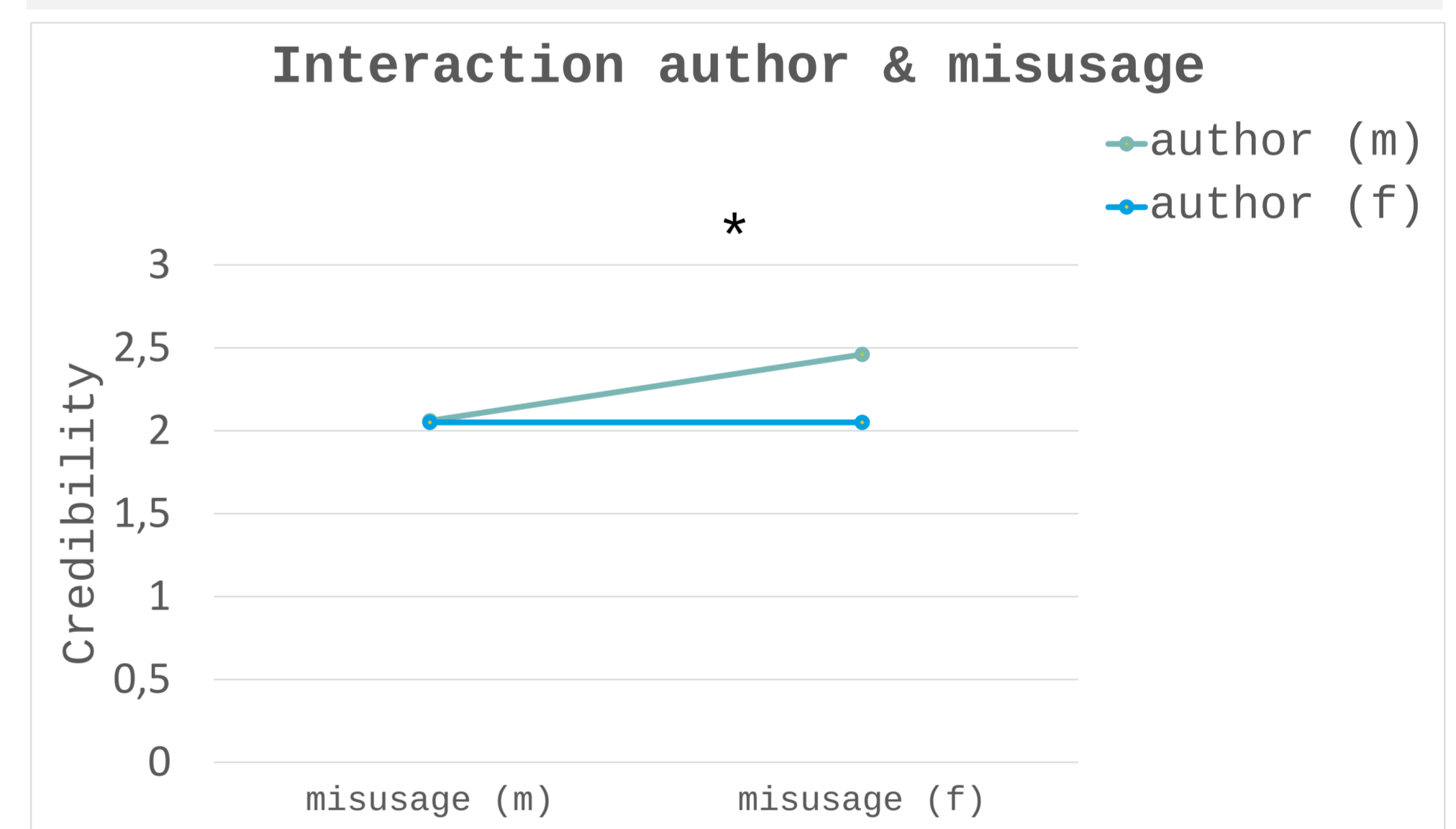
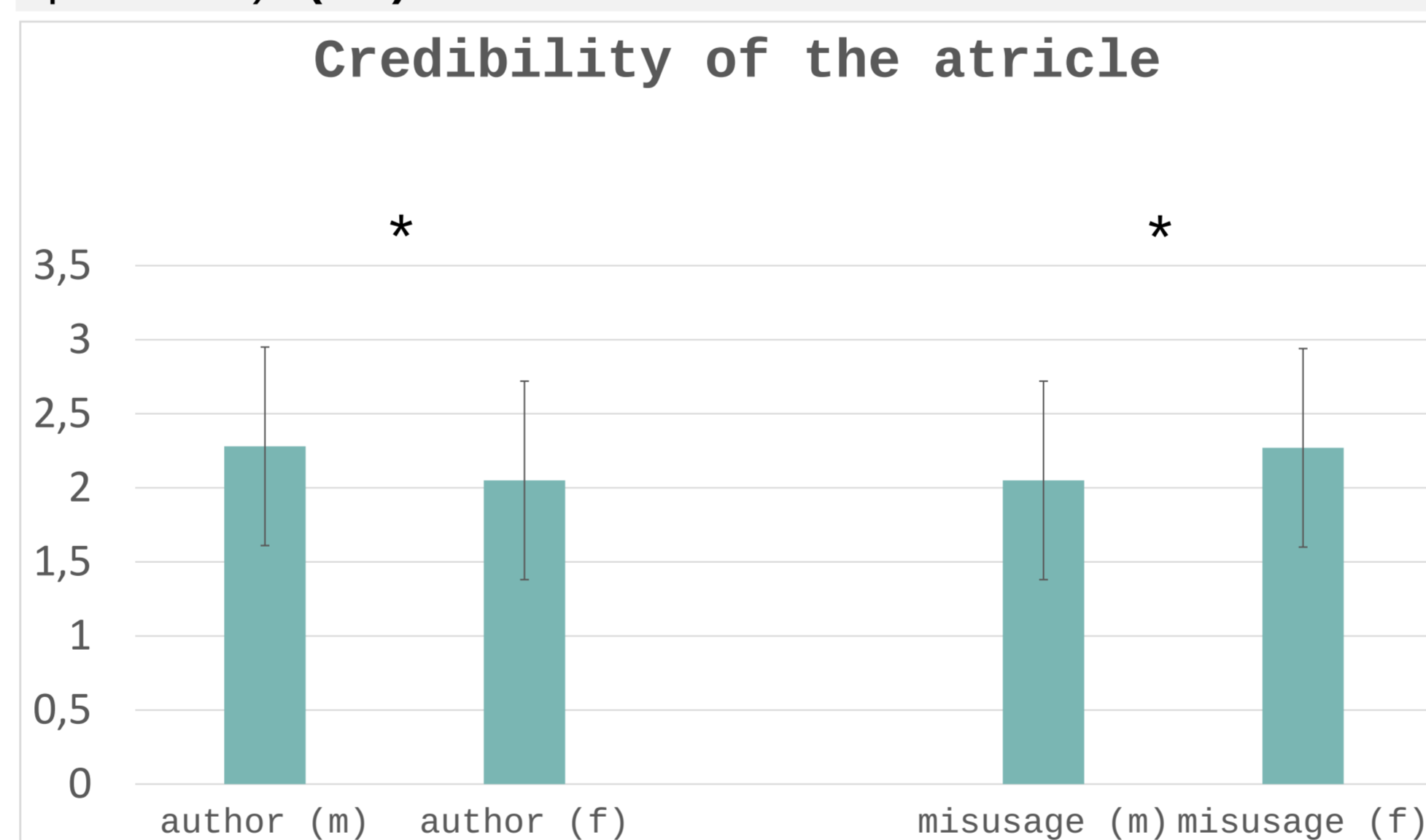
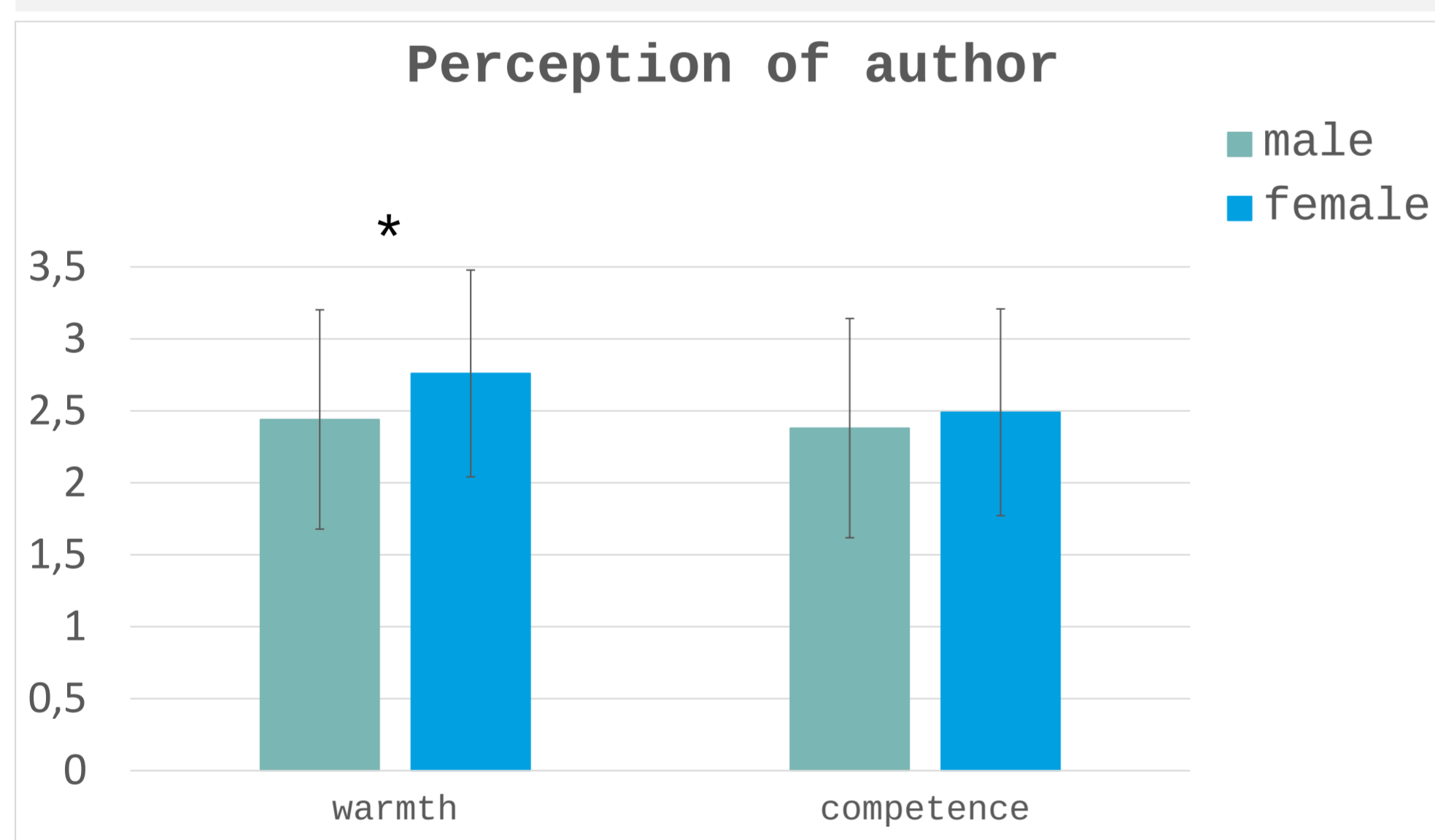
To assess credibility of the articles (e.g. "The article is well researched") we developed 10 items and for perception of the author (warmth e.g. "friendly" | competence e.g. "intelligent") we selected 20 items from the stereotype content model (Fiske et al., 2002). All measurements were assessed on a 5-point Likert scale (1 = *Strongly disagree* to 5 = *Strongly agree*).

Results Study 1

ANOVA results indicate, that female authors' warmth was perceived higher than males' ($F(1,224) = 11.08, p < .001, \eta^2 = .05$) (**H1a**), whereas no difference was found regarding perceived competence of the author (**H1b**) giving a first tendency of a gender-bias in online settings

Results (ANOVA) yield a main effect of authors gender on perceived credibility ($F(1, 224) = 5.04, p = .026, \eta^2 = .05$ showing higher scores for male authors (**H2**). Participants considered articles presenting male misuse of a technical innovation to be less credible ($F(1, 224) = 4.54, p = .034, \eta^2 = .02$) (**H3**).

Two-factorial ANOVA revealed an interaction effect showing that articles describing female misuse of technical innovation written by a male author are evaluated the most credible ($F(1, 222) = 4.01, p = .047; \eta^2 = .02$), also confirming the assumption of a gender-bias in online media (**H4**).



Results Study 2

Study 2 did not confirm prior results with respect to a highly differing sample. Exploratory analysis showed that perceived **authenticity** had an effect in such that perceived warmth and competence of the author as well as credibility of the articles was perceived higher ($F(3, 85) = 6.298; p < .001$). Analysis may be biased by the uneven distribution (76 not authentic, 19 authentic).

Discussion

Results indicate that, despite a change in the prevalence of female authors (e.g. bloggers, influencers) on the internet, a certain reproduction and stability of gender stereotypes still exists. Even unconscious perception and processing can lead to diverging interpretations in terms of warmth and competence of different authors. Female authors are perceived warmer. However, the present study could not replicate previous findings of a higher attribution of competence of male authors. Furthermore, gender-biases manifest on a deeper level. Not only authors' gender showed an effect on perceived credibility of the text but also contentwise these stereotypes are visible. Articles reporting on stereotype consistent situations written by male authors were perceived the most credible. This cumulative effect has a crucial practical implication regarding online communication. Prior attributions and opinion-consistent information determine ones rating on credibility, which seems to at least partially explain mechanisms of the distribution of fake news. Meinert and colleagues (2018) propose that this might result in biased behavior in social interactions and political contexts. The range of speed and the dissemination of online information represent another central mechanism facilitating the distribution of fake news. Further studies should address interventions for sensitization and find new ways to elucidate and effectively initiate reflection processes. Also technical solutions could facilitate the detection of fake news, e.g. as a warning system to consequently question stereotype consistent information processing.

References

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