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Trust Cues in Content about Science: How the Media Presents Female and Male Scientists Differently

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Introduction

During the COVID-19 pandemic, science was enormously important to people's lives. Science had a significant impact on the behavior of people who wanted to protect themselves and others from infection, and science enabled the development of vaccines, which played a key role in fighting the pandemic. Despite female scientists being at the forefront of COVID-19 vaccine development, female scientists did not feature to the same extent as their male counterparts in related media coverage (Hubner, 2023; Joubert et al., 2023). This problem has persisted, with women continuing to be underrepresented not only in news coverage about COVID-19 (Araújo et al., 2022; Fletcher et al., 2021) but also in media coverage about science itself (Kitzinger et al., 2008a; Mitchell & McKinnon, 2019; Niemi & Pitkänen, 2017).

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Not only during crises, but also in the context of everyday life scientific information is becoming more and more important in an increasingly complex society (Hendriks et al., 2015; Vaupotič et al., 2021). *Public trust in science* helps to reduce this complexity (Giddens, 1990). In the field of communication research, *trust* is viewed as a relational variable that involves a minimum of two parties: firstly, a subject of trust, and secondly, an object of trust. Most people receive scientific information, or, indeed, come into contact with science, through (digital) media (European Commission, 2021; National Science Board, 2018; Wissenschaft im Dialog, 2021), which in the case of science communication act as intermediaries of trust, meaning that they mediate trust between a subject of trust (publics)[1] and an object of trust (science). Media do so by providing *trust cues*: linguistic components, such as language and characteristics, that serve as indicators of trust that public audiences can use to assess whether or not to trust science (Schröder et al., 2024).

Given the differences in the presentation of female and male scientists in science media coverage, it seems plausible that variations also exist in how trust cues are depicted for each gender. This is particularly significant because female scientists play a vital role in advancing scientific knowledge, and modern societies increasingly rely on information derived from this knowledge for daily decision-making and the management of crises. Furthermore, equitable presentation is important as female scientists are role models, especially for young women with the desire to become scientists (Kitzinger et al., 2008b). As such, it is crucial to investigate potential differences in media coverage of female and male scientists with regard to the portrayal of trust in science.

Therefore, the overarching research question of this chapter is: *How is trust in female and male scientists mediated differently in content about science?* To answer this question, a qualitative content analysis will be

[1] In this research, the terms "publics" and "public audiences" are used to account the constituency of the modern public sphere by linking diverse media types. This leads to "a multitude of overlapping publics of different sizes, lifespans, visibility, and impact, across a variety of online and offline communicative channels and platforms" (Bruns, 2018, p. 339).

applied to the most important sources of scientific information for German publics; thus, trust cues will be identified, with an emphasis on the differences regarding how they are used when referring to female and male scientists.

Theoretical Background

Female and Male Scientists in Science Media Coverage

Female scientists are significantly involved in scientific progress: Marie Curie discovered radioactivity, Ada Lovelace created the world's first computer program, and Ann Tsukamoto co-patented a process to isolate human stem cells. In general, gender diversity in science promotes novelty and innovation (Hofstra et al., 2020), contributing significantly to the enhancement of societal progress, problem solving, and crisis management. However, female scientists do not get the same recognition as male scientists; the under-recognition of women in media is known as the *Matilda effect*[2] (Knobloch-Westerwick & Glynn, 2013; Rossiter, 1993).

An imbalance in the representation of female and male scientists is also apparent when it comes to science media coverage (Araújo et al., 2022; Fletcher et al., 2021; Joubert et al., 2023; Kitzinger et al., 2008a; Mitchell & McKinnon, 2019; Niemi & Pitkänen, 2017). Drawing attention to this imbalance is crucial since most people receive scientific information, and get in contact with scientists, scientific organizations (e.g., universities or private research organizations), and the science system (Mayer et al., 1995), through (digital) media (European Commission, 2021; National Science Board, 2018; for a focus on scientists on X/Twitter, see Chapter 6). Given that journalism in general, and science journalism in particular, tends toward personalization, grounded in the news factor of a "human angle" (Amend & Secko, 2012; Guenther, 2019), scientists play an important role in science coverage. But female

[2] Named after Matilda J. Gage, an American suffragist and feminist critic by Rossiter (1993).

and male scientists are not represented equally in science media coverage, neither in terms of frequency of coverage (e.g., citation) nor in terms of the characteristics of how female and male scientists are portrayed (e.g., through stereotypes).

Evidence shows that female scientists are cited significantly less often in science media coverage than male scientists (GMMP, 2020; Kitzinger et al., 2008a). Additionally, men are often cited first, and when female scientists are cited, they are usually cited as a secondary source (Kitzinger et al., 2008a). These trends were observed across diverse media outlets (Kitzinger et al., 2008a), and they explain why science media coverage is dominated by the voices of male scientists (GMMP, 2020).

However, it is important to highlight that media representations of female scientists differ from those of their male counterparts not only in terms of frequency but also, to some extent, in their portrayal of stereotypes (Chimba & Kitzinger, 2009; GMMP, 2020; Joubert et al., 2022; Klaus, 1998; Lünenborg & Maier, 2012; Mitchell & McKinnon, 2019). This can be linked to discussions around *being a woman in science*, which implies a primary identification as a woman, rather than as a scientist. It also encompasses considerations related to *family and domestic responsibilities*, involving relationships and parental status, as well as the challenges of balancing family life with a scientific career; here, aspects like having children, childcare as well as cooking are discussed in connection with female scientists (Chimba & Kitzinger, 2009; Mitchell & McKinnon, 2019). Furthermore, the media tends to focus more on the *physical appearance and attractiveness* of female scientists than on that of their male colleagues—this includes, for women, discussions about femininity and sexuality (Chimba & Kitzinger, 2009; Mitchell & McKinnon, 2019). Notably, however, evaluations of *individual brilliance and determination*, that refers to the intelligence and motivation of scientists, appear to be more balanced between women and men. In addition, *teamwork and interpersonal skills* are described similarly for female and male scientists, with references to their communication, kindness, teamwork, and other interpersonal skills and aspects of social conscience (Mitchell & McKinnon, 2019).

However, differences in the representation of female and male scientists in the context of public trust in science have not yet been investigated for science media coverage. This issue is important as media are crucial components in the trust relationship between science and its publics.

The Trust Relationship Between Science and Its Publics

Whether taking medication when sick, commuting to work by car, or buying groceries for dinner at the supermarket, the influence of science permeates our daily lives. Hence, scientific information is not only important for addressing crises, such as the COVID-19 pandemic or climate change, but also for people's everyday decision-making (Hendriks et al., 2015; Vaupotič et al., 2021; for a focus on expertise in the COVID-19 pandemic, see Chapter 3). The public is increasingly reliant on science and scientific information (see Chapter 5 for "celebrity scientists" during the COVID-19 pandemic), and requires a mechanism for reducing complexity, which reinforces the importance of trust in science (Luhmann, 2014). As mentioned above, since most people come into contact with science through media (European Commission, 2021; National Science Board, 2018), these media act as intermediaries of trust, meaning that they mediate trust between publics and science through content (Bentele, 1994; Reif & Guenther, 2022). Given our focus on *public trust in science* (i.e., publics are the subject of trust), the concept of *epistemic trust* becomes particularly relevant. Epistemic trust pertains to trust in science as a reliable producer of valid and accurate knowledge. This extends to assurance of the inherent validity of scientific knowledge and to the reliability of science as a dependable source of information (Origgi, 2012).

We further define trust in science as a multidimensional construct that manifests itself in five dimensions that are also considered to be *reasons* to trust: expertise, integrity, benevolence, transparency, and dialogue (Hendriks et al., 2015, 2016; Reif & Guenther, 2022; Reif et al., 2024; Schröder et al., 2024; see also Chapter 20). *Expertise* illustrates science's

capacity to identify, evaluate, and target problems by using specialized knowledge acquired through education, experience, and qualifications (in the respective fields of research). *Integrity* means the assurance of objectivity, validity, and reliability achieved through adherence to scientific standards and processes. The orientation of science toward ethical norms and moral values, as well as awareness of science's responsibility to society, form the dimension of *benevolence*. Additionally, science is expected to make research and corresponding scientific information publicly accessible, which results in the dimension of *transparency*. *Dialogue* refers to science participating in and enabling interaction with public audiences (Reif et al., 2024; Schröder et al., 2024). All dimensions of trust can potentially be referred to by trust cues, understood here as linguistic markers and characteristics that can be used by audiences to assess whether to trust science at the message/content level, i.e., written words (Schröder et al., 2024).

In digital media environments, this includes the epistemic risk associated with the potential exposure to incorrect or misleading information by emerging science communicators (Schröder & Guenther, 2024; Taddicken & Krämer, 2021). Journalistic and non-journalistic actors can equally communicate about science issues (see also Weingart & Guenther, 2016), including actors with various interests, such as politicians or public relations professionals (Weingart, 2017).

Currently, however, research on trust cues is lacking. As such RQ1 of this chapter asks: *Which trust cues in content about science can be (a) identified, (b) categorized, and (c) how can trust cues be connected to the established dimensions of trust?* Since we argued that female and male scientists are represented differently in news media, this might also be true in the context of mediated trust in science. For this reason, RQ2 asks: *Which qualitative differences exist in the use of trust cues between female and male scientists?*

Methods

Based on a general lack of research on trust cues connected to differences between female and male scientists, the present study uses an exploratory approach. To answer the RQs, a qualitative content analysis was conducted, aiming to reveal potential differences in how mediated trust in scientists varied by gender.

Sample and Selection Process

Since we aimed to identify as many trust cues in content about science as possible, we tried to include a broad spectrum of sources public audiences in Germany most frequently use to stay informed about science (European Commission, 2021; Wissenschaft im Dialog, 2021). Hence, we included journalistic (i.e., quality and tabloid media), right-wing populist, social (i.e., X/Twitter, YouTube, Instagram, Facebook), and other online media (i.e., blogs and news aggregators). Their content was collected in three constructed weeks (Hester & Dougall, 2007), starting on a Monday in March 2022, and ending on a Sunday in August 2022. This approach of data collection was used to secure a comprehensible and representative sample.

For this study, *journalistic media*, incorporating television (TV) newscasts (Public TV: ARD Tagesschau, ZDF heute; Private TV: RTL Aktuell, Sat.1 Nachrichten) and special science TV programs (WDR Quarks, BR Gut zu wissen), print and online newspapers (Frankfurter Allgemeine Zeitung, FAZ.net, Süddeutsche Zeitung, SZ.de, Bild, bild.de), weekly news magazines/newspapers (Spiegel, spiegel.de, Zeit, zeit.de), and specialized science magazines (Geo, P.M. Magazin, Spektrum der Wissenschaft) were selected. Furthermore, *right-wing populist, non-mainstream media* sources were included (epochtimes.de, jungefreiheit.de, compact-online.de). Moreover, several *social media* (Facebook groups: Wissenschaft aktuell, Harald Lesch Ultras, Fortschritt in der Wissenschaft; Instagram: @doktorwissenschaft, @universumsfakten, @don.medicus, @diewissenschaftlerin; X/Twitter: c_drosten, dfg_public,

BMBF_bund, helmholtz_de; YouTube: MaiLab, Breaking Lab)[3] were considered. In addition, to incorporate online contexts more detailed than in previous research, we chose science blogs (scienceblogs.de, scilogs.de) and online news aggregators (t-online.de, web.de). Due to the extensive number of information sources included, multiple databases (e.g., Factiva and MediathekView) and approaches were used to generate the sample.

In total, $n = 5{,}262$ pieces of information were collected and manually checked to ensure that all material included (1) an object of trust (scientists, scientific organizations, and references to the science system) and (2) aspects that the coders considered useful for assessing whether to trust this object of trust—this, consequently, excluded plain descriptions of research and scientific information. Thus, the initial sample was reduced to $n = 763$ pieces of information about science. Next, a smaller representative picture of the material was produced for the qualitative content analysis: For this, a representative sample of the population was created for the first two weeks; it contained a large share of (online/print) journalism, followed by news aggregators, and (print/online) tabloid media. In the third artificial week, focus was placed on underrepresented media (i.e., TV sources, popular science magazines, populist media, blogs, and social media), with the aim of extending the trust cues identified. In total, a sample of $n = 158$ pieces of information was built.

Qualitative Content Analysis

Here, a qualitative content analysis was applied on articles and transcripts (e.g., YouTube, TV) with a deductive-inductive approach (Kuckartz, 2014). Deductively, we assessed formal criteria (source of information, media type). Inductively, we gathered the level of trust for each object of trust connected to science identified in the sample, i.e., we assessed whether the content referred to scientists at the micro-level, scientific organizations at the meso-level, or the science system at the macro-level.

[3] In this study, accounts for different science communicators are included: influencers (e.g., MaiLab), scientists (e.g., c_drosten), public science fundings (e.g., dfg_public), governmental institutions (e.g., BMBF_bund), and other research institutes (e.g., helmholtz_de).

Furthermore, we inductively gathered the gender of all objects of trust at the micro-level (female, male, other), as well as specific trust-relevant criteria, i.e., the trust cues (see model in Reif & Guenther, 2022; see also Schröder & Guenther, 2024). With this approach, we aimed to examine a wide variety of media content to identify a broad range of trust cues that are generally associated with science (RQ1). Subsequently, to address RQ2, we focused on all codes related to scientists (i.e., the micro-level). Hence, codes for scientific organizations (meso-level) and the science system (macro-level) were not considered for the comparison.

To improve the validity and reliability of the analysis, two independent coders conducted the qualitative content analysis after testing and adjusting the coding process over several weeks (Kuckartz, 2014). In the 158 coded pieces of media content included in the analysis, $n = 1{,}329$ trust cues were collected overall (which are the base for RQ1), with 136 of these pieces containing $n = 1{,}033$ cues connected to scientists at the micro-level (in order to answer RQ2).

The coders refrained from pre-defining the dimensions of trust (i.e., expertise, integrity, benevolence, transparency, and dialogue) and instead adopted an open approach to assess the information, allowing for inductive classification. This entailed coders summarizing their findings in their own words, copying and pasting relevant words or passages, and collecting thoughts on their coding more generally. Trust cues were iteratively summarized and condensed; hence, most trust cues were grouped into superordinate categories, though some constituted singular categories in themselves. To answer the RQs, we first looked at quantitative frequencies; however, since this is a qualitative study, these were only used as a guide to see which qualitative differences were worth investigating in more detail.

Results

We considered all coded trust cues ($n = 1{,}329$) to answer RQ1 and focused on the trust cues connected to the micro-level, i.e., references to scientists, to answer RQ2 ($n = 1{,}033$).

Identification of Trust Cues in Content About Science (RQ1)

For RQ1, a qualitative content analysis was used to identify trust cues in content about science. The inductively identified trust cues were condensed in superordinate categories of trust cues, which could, in fact, each be connected to one of the five dimensions of trust. Hence, we can refer to them as expertise, integrity, benevolence, transparency, and dialogue cues, depending on which dimensions the cues relate to. To answer RQ1, in the following, (a) the identified trust cues and (b) their respective categories will be described for (c) each dimensions of trust they are connected with.

Expertise cues refer to academic education, professional experience, and qualification. Academic education and professional experience are categories in themselves and do not have further subcategories, i.e., trust cues. Qualification, on the other hand, can be referred to by trust cues mentioning an academic degree, a professional position, an affiliation to an organization, a department or area of expertise, or reputational aspects.

Integrity cues include references to scientific standards and processes, methods of scientific quality assurance, and independence. Scientific standards and processes are discussed with trust cues referring to publications, descriptions, and explanations of research processes, and research collaborations, as well as the legal framework in which science can act, or working conditions in science. Furthermore, scientific quality assurance includes the discussion about corrections or revisions in research, peer review processes, continuity and permanence of research, and (un)certainties as well as limitations of research. Independence is addressed by trust cues referring to clients (often for contract research), funding sources, or further interests connected to research projects.

Benevolence cues address ethical norms in research, the social responsibility of science, and its benefits for society. Ethical norms do not have any further subcategories; social responsibility is referred to by trust cues communicating research-related risks, predictions made by science, and scientific assessments of public events and current affairs

that provided a better understanding of these events for public audiences. In addition, benefits for society are referred to by discussing the social significance of science in general, discussing discoveries and breakthroughs, giving science-based recommendations, and making scientific information applicable to the everyday lives of people.

Transparency cues are connected to the accessibility of research results as well as the use of (in)comprehensible language, i.e., the use of simple words to explain scientific issues or, conversely, the use of technical jargon in research. There are no further expressions of these cues.

Regarding dialogue cues, public engagement in research is discussed, including media presence as well as the participation at public events. Media presence can be in journalistic media but also directly in social media or it can refer to other types of media presence, e.g., public relations content.

Qualitative Differences Between Female and Male Scientists (RQ2)

RQ2 asks to what extent qualitative differences in the portrayal of female and male scientists in content about science and in the context of trust in science, i.e., using trust cues, exist. To answer RQ2, we further analyzed the trust cues found at the micro-level ($n = 1{,}033$) with a special focus on gender; here, 297 cues are clearly connected to women and 487 to men.[4] In order to get an impression of where to start for the analysis of qualitative differences, we considered the distribution of trust cues. Overall, the order of prevalence of stated dimensions of trust remains consistent across female and male scientists: For both genders, the focus lies at expertise, followed by integrity, benevolence, dialogue, and transparency. Furthermore, the use of trust cues differs between genders

[4] It was not possible to identify individuals with other gender; hence, in the following we will only refer to female and male scientists. Further 249 trust cues were connected to groups consisting of female and male scientists or remained unknown.

within the dimensions of trust and within the subordinate categories. In the following, only qualitative differences will be discussed in detail.[5]

For female scientists, *expertise* is represented via expertise cues referring to their qualification, addressing, for instance, their department or area of expertise: "*Virologist* Sandra Ciesek" (Ganster, 2022 [FAZ.net, journalistic quality media]). This is similar for the presentation of male scientists but, additionally, their specific affiliation is emphasized more often than that of female scientists: "Fernando Maestre, an *ecologist of drylands at the University of Alicante*" (Pennisi, 2022 [SZ.de, journalistic quality media]). Professional experience of male scientists in nonacademic contexts is not given relevancy, whereas it is (albeit seldomly) mentioned for female scientists: "Lisa Kainz is 33, an agricultural scientist, and *works for the animal rights organization PETA* in Stuttgart" (Schipperges, 2022 [Zeit.de, journalistic quality media]).

For female scientists, *integrity* cues mainly refer to scientific standards through research processes that are described or explained (e.g., "Head of testing Christine Hentschel *cuts up various everyday objects, arranges the plastics by color, and weighs them on a precision balance. The centrifuged plastic-solvent mixture is evaporated in the gas chromatograph* […] *and forced through a tube with a carrier gas*" (Beller & Lauter, 2022 [GEO, journalistic specialized science magazine]), as well as the mention of overarching research goals: "Harrington now wants to work on a blood test for babies so that the enzyme can serve as a biomarker to determine the risk of sudden infant death syndrome. *'It is the hope that the results could lead to the development of a screening test in a few years,'* the researcher said in an interview" (Porwol, 2022 [Bild.de, journalistic tabloid media]). This is also the case for male scientists; however, integrity in their case is additionally indicated via quality assurance, discussing (un)certainties and limitations of research: "Christoph Reuter took a closer look at the meta-analysis and came to the conclusion *that many of the studies included had some methodological flaws themselves*" (Schwenkenbecher, 2022 [SZ.de, journalistic quality media]).

[5] Trust cues are shown in italics in the examples. References are provided according to APA7 but media type is added for more context.

For scientists in general, *benevolence* is represented through addressing benefits of science and research for society—and is usually connected to male scientists differently than it is to female scientists. For female scientists, for example, benevolence is indicated via the assessment of public events and current affairs: "In a guest article for F.A.Z.-Einspruch, Wallrabenstein *called the plans for the expatriation of IS fighters 'boundlessly selfish in the literal sense of the word'. Germany is forgetting a promise it made after the Holocaust: 'to be a home for displaced persons and never to produce any again itself'*" (Grunert, 2022 [FAZ, journalistic quality media])". Furthermore, personal reasoning for benevolent behavior is discussed for female scientists, whereas this is almost never described for their male counterparts: "Research leader Dr. Theres Harrington *was driven by a stroke of fate: in 1991, she lost her son Damien to what is known as sudden infant death syndrome.* At the time, Harrington was an attorney, but had previously worked as a biochemist. […] three years later, a friend's child also died. '*That afternoon, I quit my job as a lawyer and returned to the world of medical research. That day, I made the decision to leave no stone unturned to solve the mystery of sudden infant death syndrome,'* Harrington writes on a crowdfunding page for the Sydney Children's Hospital Foundation […]" (Porwol, 2022 [Bild.de, journalistic tabloid media]). In this example, the role of being a mother and the career that resulted from her personal fate is discussed. This case is different for men; for them, benefits for society are expressed mainly in giving (science-based) advice and recommendations: "In view of the economic risks, *he* [Sebastian Dullien] *advocates for reducing dependence on energy supplies from Russia and doing so as quickly as possible–but not imposing an embargo in the short term*" (Pennekamp, 2022 [FAZ.net, journalistic quality media]). Personal aspects of male scientists such as being a father are not discussed at all.

The dimensions of *dialogue* and *transparency* do not show differences in their presentation between female and male scientists. Dialogues cues primarily refer to the media presence of scientists: "Professor Stefan Rahmstorf […], a welcome *expert on ARD and ZDF, and a regular author for Spiegel Online*" (Behrens, 2022 [jungefreiheit.de, right-wing populist media]). For transparency cues, gender differences do not

appear while addressing linkages to external studies or research material that is rather gender-neutral (e.g., "Here is the link to the study"; Hoferichter, 2022 [SZ.de, journalistic quality media]), or using professional jargon, i.e., (in)comprehensible language (e.g., "The two Nobel laureates invented the general *CRISPR-Cas9* method a few months before Zhang, but Zhang described the application of *CRISPR-Cas9 in eukaryotes*" (@doktorwissenschaft, 2022 [Instagram, social media]).

Discussion and Future Research

By means of a qualitative content analysis of the most important sources public audiences in Germany use to stay informed about science, trust cues were identified which could, in turn, be categorized as well as assigned to the dimensions of trust: expertise, integrity, benevolence, transparency, and dialogue (Reif & Guenther, 2022). This corroborates contemporary research about dimensions of trust that are referred to in media content about science (Hendriks et al., 2015, 2016; Reif & Guenther, 2022; Reif et al., 2024; Schröder et al., 2024). It was found that most trust cues refer to scientists (micro-level), which is where the personalization tendencies of science journalism become apparent (Amend & Secko, 2012; Guenther, 2019). These identified trust cues were then compared between female and male scientists. In general, the imbalance in regard to the portrayal of female and male scientists found in previous research was substantiated in this chapter.

A more detailed consideration of media content revealed further similarities and differences in the use of trust cues connected to female and male scientists. For the dimensions of expertise and integrity there are only small differences in the way female and male scientists are portrayed. These two dimensions can be interpreted as part of the stereotype of *individual brilliance and determination* that refers to the drive and intelligence of scientists (Chimba & Kitzinger, 2009; Mitchell & McKinnon, 2019); according to previous research, differences between genders for this stereotype are small, a finding which also seems to hold in the context of public trust in science. Differences between female and male scientists are more prevalent for benevolence cues. Women are described

in a more personal manner, and as more caring for society than men. In the example provided, the personal experience of the women is described as the reason why she is working in science; it should be noted that this is not only personal but can also be interpreted as part of her social conscience. Here, stereotypes of *being a woman in science* and *family and domestic responsibilities* as well as *teamwork and interpersonal skills* become visible. This stands in contrast to the use of benevolence cues for male scientists; men give advice in an unemotional and impersonal way and, therefore, appear stricter and more dominant. With regard to the remaining dimensions, transparency and dialogue did not show any differences between genders.

In our coding, only 297 cues were clearly connected to women and 487 to men, which corroborates previous research about the under-recognition of female scientists in the media (GMMP, 2020; Kitzinger et al., 2008a). In conclusion, it seems like there are small yet recognizable differences between the portrayal of female and male scientists when it comes to public trust in science, when focusing on the established dimensions of trust. The main differences are that personal details seem to be more present in descriptions of female scientists in the media compared to their male counterparts. Hence, this research shows that qualitative portrayals of female and male scientists in the context of trust in science align with previous research about stereotypes of scientists in science media coverage. This research, therefore, supports previous research on gender representation of scientists and shows that stereotypes are also replicated in the context of trust in science (Chimba & Kitzinger, 2009; Mitchell & McKinnon, 2019).

Even though this research used a qualitative approach, it seems like the under-recognition of female scientists in the context of public trust in science may be more apparent when analyzed quantitatively, based on the prevalence of female and male scientists in science coverage for which RQ1 provided some initial insights. However, this finding needs to be substantiated with a more comprehensive quantitative examination. As such, even though qualitative differences exist to some extent, future research should focus on quantitative analysis of the use of trust cues connected to female and male scientists, to examine whether similarities and/or differences in addressed dimensions of trust and corresponding

aspects exist. Moreover, this would allow for comparisons across different media types and outlets. Additionally, it seems reasonable to include sources for trust cues, such as journalists or other scientists in the media, in this future research in order to reveal potential biases (see, e.g., Niemi & Pitkänen, 2017). It should be noted that the prevalence of trust cues in content about science does not allow any statements about the actual effect they may have on public audiences. Therefore, audience studies could be used to test the diverse effects of trust cues connected to female and male scientists and, furthermore, whether they are perceived differently across demographics and between genders in particular.

Since the research on trust cues is still in its infancy, there is a lot of research that needs to be done and the study presented is only a first steps toward a better understanding of public trust in science with a focus on media as intermediaries of trust.

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