



Trust Cues: Mediated Trust in Science

AUTHORS

Justin T. Schröder, Lars Guenther

KEYWORDS

science communication, content about science, epistemic trust, trust in science, trust cues

BRIEF DESCRIPTION

Public trust in science can be mediated via trust cues – defined as trust-evoking information in content about science (Schröder et al., 2025; see also Bentele, 1994). These trust cues provide reasons to trust in science by referring to the dimensions of trust in science: expertise, integrity, benevolence, transparency, and dialogue (e.g., Reif & Guenther, 2022).

FIELD OF APPLICATION/THEORETICAL FOUNDATION

Since German audiences mostly get in contact with science via media (e.g., Wissenschaft im Dialog, 2023), content-analytical research about how trust in science is mediated is vital. The theory of public trust by Bentele (1994) acknowledges the importance of media and their contents for trust relationships such as between public audiences and science. In this relationship, media act as intermediaries of trust in science (see also Reif & Guenther, 2022; Schäfer, 2016). This content depicts trust cues that provide audiences with reasons to trust science; hence, cues that can be used to decide whether to trust science, scientific organizations, and scientists (e.g., Intemann, 2023). These reasons to trust refer to the dimensions of trust in science: Expertise, integrity, and benevolence are well established in research about trust in science (e.g., Hendriks et al., 2016); transparency and dialogue were recently added (Reif & Guenther, 2022) and tested (Reif et al., 2024). The dimensions of trust in science will be defined in Table 1 below (see “Information about variables”).

REFERENCES/COMBINATION WITH OTHER

METHODS

To date, public trust in science is predominantly assessed through direct survey measures, often overlooking specific aspects on how this trust is mediated. However, regarding mediated trust in science, empirical studies remain scarce. Existing content analytical research about trust in science typically focuses on isolated dimensions or specific aspects connected to these dimensions (e.g., by only analyzing the institutional background of researchers to signal expertise; see Hijmans et al., 2003). In a holistic analysis about how trust in science is mediated, Schröder et al. (2025) systematically identified trust cues in content about science. The use of trust cues was also quantified (Schröder & Guenther, 2025) and the effect of trust cue exposure on public trust in science was tested (Guenther et al., 2024; see also Reif et al., 2024).

EXAMPLE STUDIES

With the identification of trust cues in content about science, Schröder et al. (2025) build the foundation for future research about mediated trust in science. Following up on this, Schröder and Guenther (2025) developed a codebook to enable quantification of trust cues across different media types. This codebook includes 35 different trust cues connected to the dimensions of trust in science (i.e., expertise, integrity, benevolence, transparency, and dialogue). Using this codebook, differences in the use of trust cues across different media types became evident: Overall, journalism was the most important source for trust cues and scientists (i.e., science as an actor at the micro level) were the most prevalent object of trust—with female scientists being underrepresented. Trust cues most often referred to the dimension of expertise, followed by integrity, benevolence, transparency, and dialogue.





Object of analysis: The study analyzed a sample of German media contents about science (n = 158) including professional journalistic media, right-wing populist, non-mainstream media, social media, and other internet-based media.

Time frame of analysis: Three constructed weeks from March 2022 to August 2022

INFORMATION ABOUT VARIABLES

Variables: Mediated public trust in science was examined using a combination of deductive and inductive approaches. Deductively, the analysis was guided by the five dimensions of trust in science. At the same time, the process remained open to additional trust-relevant aspects that could be identified inductively from the texts.

Level of analysis: Textual content about science (e.g., articles, texts of social media posts) and transcripts for TV and YouTube content

Variables and values: See Table 1 for the results of the study by Schröder et al. (2025) that build the base for study by Schröder & Guenther (2025)

INFORMATION ON SCHRÖDER & GUENTHER, 2025

Authors: Justin T. Schröder & Lars Guenther

Research question: How does the use of trust cues in content about science vary across different (digital) media and genders of the scientists represented?

Object of analysis: Media contents German audiences use to get informed about science (n = 906) including (1) professional journalistic media (i.e., TV, print, and online), (2) right-wing populist, non-mainstream media, (3) social media (including YouTube, Instagram, X, Facebook), and (4) other internet-based media (i.e., blogs, news aggregators).

Time frame of analysis: Seven constructed weeks from March 2022 to March 2023

INFORMATION ABOUT VARIABLES

Variables: Mediated public trust in science was examined by five measures: trust cues that refer to the dimensions of (a) expertise, (b) integrity, (c) benevolence, (d) transparency, and (e) dialogue. These trust cues are also connected to an object of trust, i.e. scientists, scientific organizations, or the system of science, that is described with these trust cues.

Level of analysis: Textual content about science (e.g., articles, texts of social media posts) and transcripts for TV and YouTube content

Variables and values: See Table 1

Table 1. Variables and values.

Variables	Value
<i>Expertise cues</i> (100s codes) refer to the function and ability of science, scientific organizations, and scientists to identify, analyze, and/or solve problems based on specific knowledge and experience, education, and qualification in the field of research.	110 Academic education 120 Professional experience <i>Qualification is coded using the following values:</i> 131 Department or area/discipline of expertise 132 Affiliation to an institution 133 Professional position 134 Academic degree 135 Reputation



Benevolence cues (200s codes) denote science, scientific organizations, and scientists as serving the common good. This includes the orientation towards ethical norms and moral values as well as the social responsibility that scientific knowledge aims for positive impacts on the world and society.

210 Ethical norms

Social responsibility is coded using the following values:

221 Research-related risks

222 Prediction

223 Assessment of public events/current affairs

Benefit of society is coded using the following values:

231 Social significance of science

232 Discoveries and breakthroughs

233 Applicability of results

234 (Science-based) recommendations

235 Personal reasoning for benevolent behavior

Integrity cues (300s codes) signal the assurance of objectivity and reliability by adhering to scientific standards and processes. This includes the appropriate use of methods, independence from external expectations/interests, and maintained quality assurance.

Independence is coded using the following values:

311 Client

312 Funding source

313 Interests

Scientific quality assurance is coded using the following values:

321 Correction/Revision

322 (Un)Certainties (& Limitations)

Scientific standards and processes is coded using the following values:

331 Legal framework for research

332 Research collaboration

333 Working conditions in science

334 Publication

335 Description (and explanation) of research processes

Dialogue cues (400s codes) describe that science, scientific organizations, and scientists participate in and enable interaction with, and engagement by different publics. Activities and measures range from public lectures and discussions to citizen science projects.

410 Participation at public events

420 Public engagement in research

Media presence is coded using the following values:

431 Journalistic media presence

432 Direct media presence

433 Further media presence

Transparency cues (500s codes) signal that science, scientific organizations, and scientists make research and related information accessible to different publics in a clear and comprehensible manner.

510 Accessibility of results

520 Comprehensible language

* Exact definitions of these values are provided in the codebook.



Quality assurance: The trust cues were identified by four coders through a consensus-based approach.

Codebook: In the appendix (see also supplemental material in Schröder & Guenther, 2025)

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