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Science journalists and public trust: comparative insights from Germany, Italy, and Lithuania

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Abstract

In an era of digital fragmentation and contested expertise, mediated public trust is under pressure. This study examines how journalists in Germany, Italy, and Lithuania perceive their role amid structural media shifts, politicized environments, and the rise of alternative sources. Drawing on 14 focus group discussions and 8 narrative interviews, we explore how national media systems and professional cultures shape journalistic strategies. Rather than a uniform erosion of trust, journalists report polarization shaped by ideology, platform dynamics, and shifting audience expectations. Many strive to act as trust brokers but face constraints from precarious working conditions, editorial pressures, and fragmented publics. We argue that trust in science journalism depends not only on journalistic practice but on broader systemic conditions, including institutional support, media infrastructures, and audience trust cultures (i.e., prevailing trust norms among different publics). This cross-national comparison advances a more differentiated understanding of how trust is negotiated in contemporary science communication.

Keywords

Public perception of science and technology; Risk communication; Science and media

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1 ▪ Introduction

Public trust in science has become a central concern in both academic and public discourse [Goldenberg, 2023]. The intersecting dynamics of misinformation, political polarization, and digital media fragmentation have reshaped how scientific knowledge is communicated, interpreted, and contested [Scheufele & Krause, 2019; Iyengar & Massey, 2019]. Science is no longer confined to academic institutions but increasingly embedded within political, cultural, and societal contexts. Controversies surrounding vaccination, artificial intelligence, and climate change illustrate how science simultaneously operates as a source of authority and as a subject of public contestation.

Some scholars interpret recent challenges to scientific authority as part of a broader institutional trust crisis [Achterberg et al., 2017; Milkoreit & Smith, 2025], while others emphasize the contextual nature of trust, shaped by factors such as disciplinary norms, audience composition, and communicative environments [Gauchat, 2012; Brewer & Ley, 2013]. Trust in science is neither uniform nor static; it varies across national settings and social groups and is increasingly mediated through media channels and platforms, including the algorithmic filtering and viral amplification that shape online information flows [Huber et al., 2019; Bogert et al., 2024].

In this shifting landscape, science journalism plays a pivotal role. Journalists are tasked with translating complex findings and assessing the credibility of scientific sources and claims [that is, their perceived accuracy and expertise; Fleerackers et al., 2024]. Here, an important conceptual differentiation is important: while trust in science is often conceptualized through the dimensions of competence/expertise, integrity, and goodwill/benevolence [Hendriks et al., 2016], trust in journalism rests on partly different foundations. For example, Kohring [2004] defines trust in journalism primarily as trust in journalistic selection, while other studies emphasize aspects such as accuracy and fairness [e.g. Strömbäck et al., 2020]. In our context, fostering public trust in science journalism refers not to applying the dimensions of trust in science directly to journalism, but to demonstrating reliable selection, accurate representation, and transparency in communicating uncertainty [see e.g. Barnoy & Reich, 2022]. This understanding of trust in journalism, however, does not exist in isolation. At the same time, their work is shaped by structural pressures, including shrinking newsroom budgets, platform-driven content distribution, politicized media environments, and competition from alternative media actors [Magin & Geiß, 2019; Litvinenko et al., 2022]. These forces influence not only journalistic routines but also how science (and trust in science) is depicted, negotiated, or challenged in the public sphere [Mohseni et al., 2022].

While considerable research has examined how audiences interpret scientific information or respond to misinformation, less attention has been paid to how journalists themselves understand and perform their role in fostering public trust [Núñez-Mussa et al., 2025]. Even fewer studies address these questions in a comparative perspective, despite well-established differences in journalism cultures, media systems, and institutional conditions across countries [Hallin & Mancini, 2004; Brüggemann et al., 2020].

Our study addresses this gap through a cross-national qualitative investigation of science journalists in Germany, Italy, and Lithuania: three countries with distinct media infrastructures, political traditions, and science communication cultures [Scheu & Olesk, 2018; Valinciute, 2020; Rubin et al., 2020]. By focusing on journalists' own reflections, the

study explores how public trust in science is experienced, maintained, or contested at the communicative frontlines. Rather than seeking generalization across contexts, the goal is to develop a comparative understanding of how trust-related roles are enacted within diverse journalistic environments. Our central research question is: how do science journalists perceive their role in maintaining, restoring, or challenging public trust in science amid misinformation, digital fragmentation, and institutional constraints? Drawing on perspectives of journalists themselves, this study contributes to a more differentiated understanding of the conditions under which public trust in science is built, strained, or reconfigured. It advances current scholarship by situating trust not as a fixed attribute, but as a context-sensitive practice shaped by national media systems and professional cultures. This perspective has been largely absent from previous trust research, which has focused predominantly on audiences. By foregrounding journalistic reflections, the study reveals how trust is actively negotiated at the communicative frontlines and shaped by institutional, editorial, and structural constraints. This has implications for both science communication scholarship and policy.

2 ▪ Theoretical framework

Trust in science is a foundational yet contested concept in science communication research. In this context, it is often understood as a willingness to accept vulnerability based on expectations that scientific actors possess competence, integrity, and goodwill [Barber, 1987; O'Neill, 2002; Robbins, 2016]. These dimensions are specific to trust in scientific contexts and should not be conflated with the foundations of trust in other domains, such as journalism or politics, which rest on partly different criteria. Within scientific contexts, this trust becomes especially critical because most individuals lack the expertise or resources to independently verify scientific claims or replicate results [Hendriks et al., 2020]. Consequently, trust serves as a *social mechanism* that allows non-experts to rely on scientists and scientific institutions under conditions of complexity and uncertainty [Hendriks et al., 2016; Mousoulidou et al., 2022; Barimah, 2024]. The media not only mediate the flow of information between scientific and public domains but also underpin the legitimacy of scientific authority in democratic societies. Yet, in this context is important to distinguish trust from the related concept of credibility [Nah & Chung, 2012]. While credibility pertains to how believable or convincing a message or source appears within a specific context, trust implies a more durable, relational commitment rooted in perceived integrity, competence, and benevolence [Ecker et al., 2022; Hendriks et al., 2016]. Credibility may be situational and provisional; trust tends to develop over time through institutional experience and cultural context [Wynne, 1992; Yamamoto, 2012; Dawson et al., 2024].

Science communication scholars have proposed multidimensional frameworks to conceptualize public trust in science. A widely cited model outlines three interrelated dimensions: expertise (knowledge and competence), integrity (honesty and transparency), and benevolence (serving the public interest over personal or ideological agendas) [Hendriks et al., 2016; Besley et al., 2021; Reif et al., 2025]. Building on this, Reif and Guenther [2021] added the dimensions of transparency and dialogue orientation, emphasizing openness and responsiveness in digital and, in some contexts, polarized media environments. Especially where public debate is increasingly structured along ideological lines and opposing camps consume and share different sets of information [Fletcher et al., 2020]. Trust in science is not a stable property of individuals or institutions. Rather, it is dynamic, context-sensitive,

and unequally distributed across social groups and national contexts [Younger-Khan et al., 2024]. Research shows that trust levels vary based on discipline, political orientation, education, and exposure to science [Gauchat, 2012; Pechar et al., 2018; Milkoreit & Smith, 2025]. In some instances, trust may be placed in specific scientific claims while skepticism is directed at science as an institution, or vice versa [Achterberg et al., 2017; Bouchard, 2016]. The COVID-19 pandemic illustrated the volatility of trust dynamics: initial increases in trust were followed by growing public skepticism as uncertainty persisted and scientific recommendations became politicized [Bromme et al., 2022; Post et al., 2021].

Skepticism, often understood as antithetical to trust, can also reflect civic engagement and epistemic vigilance [Blue & Medlock, 2014]. Citizens may critically assess scientific claims not out of anti-scientific sentiment but in response to conflicting expert views, perceived institutional bias, or a lack of relevance to lived experiences [Weingart, 2022; Fisher, 2022]. Particularly in contested domains such as vaccination, climate change, or artificial intelligence, public attitudes often reflect a combination of cautious trust and critical inquiry [Jelen & Lockett, 2014; Većkalov et al., 2023].

Science journalism plays a critical role in mediating trust, credibility, and skepticism [Gesualdo et al., 2020; Mohseni et al., 2022]. Journalists interpret and contextualize scientific knowledge for public audiences, thereby shaping how science is received and understood. Anderson and Dudo [2023] describe this function as a "trust interface" between science and society. In this role, journalists act as knowledge brokers, mediating not only facts but also uncertainty, values, and public expectations. Balancing professional skepticism with the obligation to inform, they must navigate editorial, ethical, and communicative pressures [Schipani, 2024]. However, journalists' ability to act as effective intermediaries between science and the public is increasingly constrained. Structural transformations in the media sector (including newsroom budget cuts, the decline of specialized science beats, and the algorithmic logic of digital content distribution) have contributed to the weakening of professional science journalism [Weingart & Guenther, 2016; Dempster et al., 2022; Anderson & Dudo, 2023]. As a consequence, science coverage is often produced by general assignment reporters or adapted from press releases, frequently under tight time and resource limitations. In parallel, platform-driven media environments prioritize content based on engagement metrics, promoting emotionally charged or polarizing narratives at the expense of nuance and factual accuracy [Iyengar & Massey, 2019]. In response to these challenges, specialized science journalism training programs are being introduced to better equip journalists to report on complex scientific issues in this evolving media landscape [Smith & Morgoch, 2022].

In this fragmented landscape, public trust in science is shaped not only by what is communicated but by who communicates it [van der Bles et al., 2020; Mann & Schleifer, 2020]. Alternative media actors, influencers, and self-proclaimed experts compete with traditional journalism, offering narratives that blend scientific claims with ideological framings or disinformation [Starbird et al., 2018; Huber et al., 2019]. These actors often operate outside conventional journalistic norms, blurring the boundaries between information, advocacy, and propaganda. Understanding how science journalists perceive and enact their role in this environment is therefore critical. Role theory in journalism studies offers relevant typologies (such as disseminator, interpreter, watchdog, or civic facilitator) that describe how journalists balance objectivity, advocacy, and audience engagement [Hanitzsch & Vos, 2017; Brüggemann et al., 2020; Lewis, 2019]. These roles are embedded

in broader journalism cultures, which differ across national contexts in terms of institutional autonomy, political orientation, and professional norms [Hallin & Mancini, 2004].

This study draws on these conceptual strands to examine science journalists as brokers of trust. This means as actors who must navigate competing pressures while making editorial and ethical decisions about how science is represented. Focusing on journalists in Germany, Italy, and Lithuania, we explore how trust-related responsibilities, constraints, and strategies are perceived and enacted. By comparing these media systems, the study contributes to a more differentiated understanding of how science communication and public trust are shaped under conditions of epistemic uncertainty and systemic strain.

3 ▪ Methods

Our paper employs a comparative, qualitative research design to explore how science journalists and affiliated communicators perceive and respond to public trust challenges amid scientific misinformation, political polarization, and structural media constraints. Conducted as part of a broader international project on science communication in digital societies, the research aims to surface both commonalities and differences in how journalists across distinct media systems understand their trust-related roles and responsibilities.

The methodological approach was guided by three principles: (1) cross-national comparability with sensitivity to local context; (2) professional diversity within journalism; and (3) thematic focus on trust, credibility, and misinformation in science communication. The following subsections outline the rationale for country selection, participant sampling, data collection procedures, and analytical strategies.

3.1 ▪ *Country selection and sampling*

This study focuses on three national contexts (Germany, Italy, and Lithuania) selected to reflect variation in media systems, journalistic cultures, and levels of institutional trust. Drawing on Hallin and Mancini's typology [2004], Germany exemplifies the democratic-corporatist model, characterized by strong public service broadcasting, robust journalistic autonomy, and institutionalized professional standards [Summ & Volpers, 2016]. Italy represents the polarized-pluralist model, distinguished by politicized media ownership, clientelistic structures, and historically weaker norms of journalistic independence [Padovani, 2015]. While Lithuania is not part of Hallin and Mancini's original framework, it reflects features of the post-communist media model: marked by transitional regulatory structures, market instability, and limited institutional support for independent science journalism [Jakubowicz & Sükösd, 2008]. Including these cases allows for a comparative analysis across diverse media environments with differing capacities for fostering trust in science communication.

The sampling strategy was purposive and criterion-based, aiming for diversity in media type (public, private, online), career stage (early-career to senior), and role (e.g., science journalists, general reporters, editors, press officers involved in science coverage). Across the three countries, 87 individuals participated in the study. The breakdown is as follows:

- *Germany*: 19 moderated focus groups with 63 journalists; 8 follow-up narrative interviews

- *Italy*: 2 structured online focus groups with 7 participants, including journalists and institutional press officers
- *Lithuania*: 1 composite session comprising 4 thematically organized focus groups with 15 participants (journalists, science communicators, scientists, and members of the public)[1]

These differences in format and composition reflect both structural conditions in national media systems and pragmatic fieldwork considerations. In Germany, the relatively robust and differentiated science journalism landscape enabled a large number of thematically stratified focus groups. In Italy, a more limited and fragmented science journalism field (combined with logistical constraints) led to smaller online sessions that integrated perspectives from both journalists and institutional communicators. In Lithuania, where science journalism is less institutionalized, it was necessary to include a broader range of stakeholders to capture the dynamics of science communication and trust-building more comprehensively. Despite these variations, all data collection followed a shared conceptual design, ensuring analytic comparability across cases:

- In *Germany*, the comparatively large and diverse science journalism community allowed us to organize a broad range of focus groups, stratified by media type and geographical region. Participants were recruited via professional networks, mailing lists, and snowball sampling. In addition, eight narrative interviews were conducted with individuals selected for their particularly rich insights or distinctive professional backgrounds. The theoretical rationale behind the development of the interview guide, as well as the guide itself, can be found in appendix C.
- In *Italy*, where the science journalism field is smaller and more concentrated in institutional settings, we conducted two virtual focus groups. These included both journalists and press officers working at universities and public agencies, reflecting the tight institutional coupling of science and media in that context.
- In *Lithuania*, a small-language, under-resourced media environment, the sample was deliberately more heterogeneous. The composite session included four moderated focus groups organized by professional role. Including non-journalistic actors (e.g., scientists, public communicators) was necessary to capture trust-building dynamics in a media system where journalistic, institutional, and scientific boundaries often overlap. However, only the data from professional journalists were used for comparative cross-national analysis; the other voices were treated as background or contextual enrichment.

A full overview of the participant pool is provided in a secure data repository. Appendix A includes a representative subset of 21 anonymized profiles, selected to illustrate the diversity of roles and affiliations without compromising confidentiality.

1. Each Lithuanian focus group included 3 to 4 participants. While smaller than the typical recommended size for focus groups, this format enabled more intensive, individualized contributions from each participant. At the same time, the limited number of voices per group may have reduced the diversity of perspectives within each thematic discussion and constrained the dynamics that often emerge in larger group settings.

3.2 ▪ *Data collection*

Data were collected between November 2022 and July 2023 using a shared semi-structured discussion guide (appendix B), collaboratively developed by the international research team. The guide was informed by prior literature on:

- Dimensions of public trust in science [Hendriks et al., 2016; Reif & Guenther, 2021]
- Professional journalistic roles [Hanitzsch & Vos, 2017; Brüggemann et al., 2020]
- Science misinformation and trust erosion [Ecker et al., 2022; Scheufele & Krause, 2019]

The guide included four core thematic blocks:

1. Perceptions of public trust in science
2. Journalists' roles in maintaining, restoring, or challenging trust
3. Responses to misinformation and structural constraints
4. Trust-building strategies and audience engagement

The guide was initially drafted in English and then translated and culturally adapted for each national context. Adaptations were minor but accounted for differences in media terminology, professional hierarchies, and institutional structures.

The data collection formats were tailored to national circumstances while preserving thematic consistency. In Germany, 19 face-to-face focus groups with peer journalists were conducted, each lasting 60–90 minutes, along with 8 follow-up narrative interviews (45–65 minutes, in person or online). In Italy, two structured online focus groups (90 minutes each) explored institutional roles and science-related public engagement. In Lithuania, one moderated session comprised four parallel focus groups by role (journalists, communicators, scientists, public), each lasting about 60 minutes (see Table 1). All sessions were conducted in participants' native languages, audio-recorded with informed consent, and transcribed verbatim. Transcriptions were anonymized and securely stored in accordance with GDPR standards, and all interviewers were trained researchers experienced in qualitative science communication studies. All sessions were conducted in the participants' native language, audio-recorded with informed consent, and transcribed verbatim. Transcriptions were anonymized and securely stored according to GDPR standards. Interviewers were trained researchers with experience in qualitative science communication studies.

Table 1. Overview of data collection formats by country.

Country	*Formats used*	*Participants*	*Description*
Germany	19 Focus Groups 8 Narrative Interviews	63 (FG) + 8 (NI) = 71	Focus groups with peer journalists across outlets; follow-up life-history interviews for depth
Italy	2 Structured Focus Groups (online)	7	Journalists and press officers from national media and institutions
Lithuania	4 Parallel Focus Groups (within 1 session)	15	Grouped by role: journalists, science communicators, scientists, public; only professional voices used in cross-national analysis

3.3 ▪ *Data analysis*

Data were analyzed using reflexive thematic analysis, following the six-phase framework proposed by Braun and Clarke [2006, 2022], The analysis combined inductive and deductive logic: codes emerged organically from the data while being guided by theoretical constructs relevant to trust, credibility, and journalistic roles.

Coding was conducted in the original language by native-speaking researchers to preserve linguistic nuance and avoid meaning loss. To support cross-national comparison, selected quotes, codes, and analytical memos were translated into English and reviewed collaboratively during virtual coding workshops and cross-site synthesis sessions.

The analytic process involved the following six steps:

1. *Familiarization*: in-depth reading and note-taking on each transcript within national teams
2. *Initial coding*: open, inductive line-by-line coding focused on recurring ideas, tensions, and trust perceptions
3. *Theme development*: clustering of codes into thematic categories (e.g., "platform-induced skepticism", "trust fatigue", "editorial constraints")
4. *Cross-national comparison*: identification of shared and divergent themes across countries
5. *Theme refinement*: distillation of robust patterns and clarification of context-specific findings
6. *Reporting*: integration of themes into the Results section with anonymized, clearly labeled participant quotes [e.g., J04, m, Germany]

We employed several validation strategies to enhance analytic rigor:

- *Investigator triangulation*: multiple coders analyzed the same material in each country
- *Audit trail*: coding schemas, theme evolution, and key decisions were documented in project logs
- *Data triangulation*: findings were compared across data formats (focus groups vs. interviews) and across participant types (e.g., journalists vs. press officers)

Themes that recurred across countries and roles were treated as analytically robust. Patterns unique to a single context were highlighted as exploratory and interpreted in relation to local media conditions.

4 ▪ Findings

4.1 ▪ *Journalists' perceptions of public trust in science*

Across Germany, Italy, and Lithuania, science journalists described public trust in science as highly variable and shaped by complex sociopolitical, media, and cultural dynamics. Rather than identifying a uniform erosion of trust, participants emphasized that public confidence in

science must be continuously earned and is increasingly contingent on context, platform, and perceived institutional alignment. Trust is not a binary phenomenon but a relational and situational orientation shaped by evolving norms, expectations, and experiences. Drawing on Hendriks et al. [2016], we structure this analysis according to the dimensions of *expertise*, *integrity*, and *benevolence* to highlight how trust is experienced, challenged, and negotiated.

4.1.1 ▪ *Trust in expertise: from credentials to contested legitimacy*

In Germany, journalists noted a growing ideological polarization in how scientific expertise is interpreted. While segments of the public continue to value institutional credentials, others assess expertise through emotionally and politically charged filters. One participant remarked, "People don't evaluate scientific facts independently anymore. They trust or reject science based on whether it aligns with their political identity" [J05, f, Germany]. This was echoed by other participants who observed that scientific credentials alone are no longer sufficient to confer public legitimacy.

Italian journalists emphasized the episodic visibility of science in the media. As one journalist explained, "Science journalism in Italy is treated as a luxury. When there's a crisis, it suddenly matters. Otherwise, it's ignored" [J31, f, Italy]. This pattern undermines consistent public exposure to scientific reasoning and limits the opportunity to develop trust over time. In Lithuania, the dominance of headlines and lack of in-depth engagement were perceived as critical barriers to expertise recognition: "People trust headlines without reading further, which amplifies misinformation" [J10, m, Lithuania]. These examples illustrate a broader trend: trust in expertise is increasingly mediated by contextual cues, affective resonance, and identity alignment, rather than by evidence or qualifications alone.

4.1.2 ▪ *Integrity under pressure: contradiction and confusion*

The COVID-19 pandemic emerged as a defining moment in journalistic accounts of trust. In Germany, participants described a dynamic arc: initial enthusiasm for expert input gave way to confusion and skepticism as guidance evolved. "At first, people wanted explanations. Then they became skeptical due to contradictory facts, especially on social media" [J03, m, Germany]. This shift, according to participants, was less about changing scientific facts and more about the public's difficulty in processing scientific uncertainty.

Italian journalists expressed frustration with reactive editorial policies that contribute to fragmented coverage and confuse audiences. Lithuanian participants noted that the distinction between scientific uncertainty and perceived inconsistency is often lost: "People confuse scientific uncertainty with incompetence, which fuels mistrust" [J11, m, Lithuania]. Additionally, the politicization of health messaging and science-related controversies has led to increased accusations of bias against journalists, even when they adhere to professional standards. "Some readers thanked me for the clarity, but others accused me of being 'controlled' by the government" [J01, f, Germany]. These accounts suggest that integrity is not just a matter of journalistic ethics but is deeply entangled with audience perceptions shaped by broader information ecologies.

4.1.3 ▪ *Benevolence and public orientation: structural limits on continuity*

Journalists across all three countries stressed that the public often questions not only the accuracy of science communication but also its motivation. Italian participants noted that limited and reactive coverage contributes to perceptions that science journalism lacks a consistent public mission: "Science is only covered reactively, which prevents a stable public relationship" [J29, m, Italy]. This lack of continuity undermines trust in the benevolence of both journalism and science.

In Lithuania, misinformation and public disengagement were seen as compounding factors that make sustained, benevolent engagement difficult: "Scientific content rarely draws active attention unless it's sensational" [J10, m, Lithuania]. German journalists described efforts to build long-term relationships with audiences through local platforms and sustained interaction, but acknowledged the difficulty of doing so within tight editorial constraints. Collectively, these reflections point to a nuanced understanding of benevolence: it is not simply a presumed institutional virtue but must be demonstrated through consistent, transparent, and responsive engagement.

4.2 ▪ *Challenges in science journalism*

Journalists described a series of interrelated challenges that complicate their ability to support public trust in science. These include the proliferation of misinformation, commercial pressures that distort editorial priorities, and the erosion of institutional support for specialized reporting.

4.2.1 ▪ *Misinformation and disinformation: a reactive profession*

Misinformation was widely described as a pervasive and accelerating threat. Journalists reported that social media platforms enable the rapid spread of falsehoods, often outpacing the ability of professional outlets to respond. In Germany, one journalist noted: "We're constantly fact-checking claims that have already gone viral" [J06, f, Germany]. Italian journalists emphasized that some disinformation campaigns are designed to undermine journalism itself: "Alternative platforms discredit us first so their audience never even considers fact-based reporting" [J29, m, Italy].

These dynamics place journalists in a reactive position, where efforts to correct or contextualize are often perceived as defensive or partisan. Lithuanian participants highlighted how digital manipulation, including AI-generated misinformation, further complicates the landscape: "AI-generated content looks factually correct but often distorts scientific nuance" [J13, f, Lithuania]. In all contexts, journalists voiced concern that the asymmetry between misinformation production and journalistic correction undermines their perceived authority and capacity.

4.2.2 ▪ *Economic and algorithmic pressures: distorted incentives*

Participants across Italy and Lithuania emphasized that economic constraints and algorithmic distribution models incentivize sensationalism over substance. An Italian journalist described editorial expectations as follows: "Editors want stories that generate

clicks, not ones that explain complexity" [J27, f, Italy]. Lithuanian journalists added that they often lack the institutional support to counteract these pressures: "We don't have the support to do long-term science journalism" [J12, m, Lithuania].

Journalists in Germany acknowledged similar pressures but also pointed to existing infrastructure that helps buffer some of the impact. Nevertheless, even in relatively well-funded environments, the demand for emotionally engaging, easily shareable content shapes editorial choices in subtle but significant ways. These pressures not only affect content quality but also contribute to audience perceptions that journalism is guided by commercial rather than civic priorities.

4.2.3 ▪ *Shrinking expertise and professional capacity*

A major concern among participants was the decline of specialized science journalism. In Germany, journalists noted that even dedicated science desks face increasing demands to produce rapid, simplified content: "We are subtly pressured to produce content that attracts clicks and shares, even if it means simplifying complex science" [J01, f, Germany]. In Italy and Lithuania, participants described a steep decline in dedicated science reporting roles, with generalists frequently covering complex topics without adequate background or support.

This loss of expertise has consequences not only for journalistic quality but also for public trust. Inaccurate headlines, lack of context, and oversimplification were cited as factors that diminish credibility: "Headlines don't reflect content. They're designed for clicks, not comprehension" [J10, m, Lithuania]. Participants emphasized that without adequate time, resources, and institutional recognition, journalists cannot fulfill their trust-brokering role effectively.

4.3 ▪ *Strategies for building trust in science*

Despite the challenges, journalists across all three countries shared a commitment to developing new strategies for trust-building. These strategies combined professional values with pragmatic adaptations to the changing media environment. They emphasized relational, dialogic, and audience-centered approaches.

4.3.1 ▪ *Transparency: communicating uncertainty as integrity*

Participants agreed that transparency about scientific uncertainty, journalistic limitations, and editorial decisions is crucial for building trust. A German journalist emphasized, "Being honest about uncertainties builds trust. If we hide them, audiences go elsewhere" [J01, f, Germany]. Italian journalists described transparency as a means of affirming their credibility rather than undermining it: "Even in controversial situations, sincerity is the only way to maintain credibility" [J25, f, Italy].

Lithuanian participants acknowledged the editorial trade-offs involved in presenting complex information transparently but maintained that audiences value honesty: "We constantly feel the tension between telling the full story and writing something that will actually get published" [J12, f, Lithuania]. Across contexts, transparency was seen as a core journalistic principle that reinforces rather than detracts from trust.

4.3.2 ▪ *Public orientation: demonstrating benevolence in practice*

Journalists repeatedly emphasized the importance of showing that their work serves the public good. German participants described using local blogs and social media platforms to foster reciprocal relationships: "A proper exchange develops… in almost real time. That builds understanding on both sides" [J02, m, Germany]. In Italy, journalists expressed a desire to break from elite institutional narratives and instead focus on lived experiences and civic relevance: "We need to show how science matters in daily life, not just during crises" [J28, m, Italy].

In Lithuania, public disengagement posed a significant challenge, but journalists still saw value in outreach and education: "Scientific content rarely draws active engagement unless it's controversial or sensationalized. But we try to invite people into the conversation" [J10, m, Lithuania]. Benevolence was not conceptualized as a passive attribute but as a set of active practices: listening, responding, and engaging with communities over time.

4.3.3 ▪ *Responsiveness and empathy: humanizing science communication*

Participants stressed that trust is relational and must be earned through attentiveness to audience needs and concerns. German journalists championed the use of podcasts, video explainers, and social media threads to foster greater understanding: "We have to stop writing for other journalists. These are the formats that allow us to show the 'why', not just the 'what'" [J06, f, Germany].

Empathy, described not as sentimentality but as a communicative stance, was viewed as critical. Lithuanian and Italian journalists described co-creation formats, educational collaborations, and open forums as ways to bridge emotional and cognitive gaps: "You can't build trust without paying attention to what your audience actually cares about" [J11, m, Lithuania]. This emphasis on listening, humility, and dialogic engagement reflects a shift in how journalists understand their public role.

5 ▪ Discussion

This study explored how science journalists across Germany, Italy, and Lithuania perceive their role in fostering, maintaining, or challenging public trust in science amid increasing misinformation, digital fragmentation, and institutional pressures. Through a comparative qualitative lens, we identified four major dynamics that characterize the current landscape of science journalism: (1) public trust in science is not uniformly declining but is actively negotiated and contested across audience segments and societal contexts; (2) science journalists operate within increasingly constrained environments shaped by the converging forces of misinformation, political polarization, economic instability, and platform governance; (3) digital ecosystems simultaneously open new pathways for interaction while deepening fragmentation and competition for attention; and (4) journalists respond with pragmatic, reflective strategies to maintain their credibility, often balancing professional ideals with structural limitations.

In this section, we relate these findings to the broader literature in science communication, journalism studies, and media sociology. We consider how trust is enacted and experienced

by journalists, how structural conditions shape their practices, and what the implications are for science communication in the evolving media landscape.

5.1 ▪ *The fragility of trust and the misinformation challenge*

Journalists across all three countries perceived trust not as a linear or static condition but as a dynamic and contingent relationship, shaped by media narratives, political divisions, and emotional resonance. While many participants observed continued public confidence in science among well-educated or institutionally engaged audiences, they also noted intensified skepticism among groups exposed to populist discourse or entrenched in alternative information ecosystems. This reflects a growing consensus in research that trust in science is fragmented and context-dependent [Reif & Guenther, 2021; Scheufele & Krause, 2019].

A central concern was the asymmetry between the speed and persistence of misinformation and the slower, more labor-intensive processes of verification and correction. Journalists described a sense of constant defensiveness, where their efforts to debunk were met with suspicion or hostility. This aligns with literature on the "infodemic" [Eysenbach, 2020] and research on motivated reasoning [Lewandowsky et al., 2012], which show that individuals are more likely to accept information that aligns with their worldview and reject corrections that appear to contradict it.

In response, journalists are increasingly moving toward proactive communication strategies such as "prebunking". The practice of inoculating audiences against misinformation before it spreads [Basol et al., 2021; Bruns et al., 2024]. These strategies are complemented by a shift toward relational and dialogic communication: building trust over time by acknowledging uncertainty, embracing transparency, and engaging in open-ended dialogue with audiences. As our findings illustrate, trust cannot be demanded through facts alone; it must be cultivated through credible relationships, attentive listening, and communicative responsiveness.

5.2 ▪ *Structural pressures on science journalism*

Beyond misinformation, journalists described economic and institutional pressures that shape their capacity to cover science effectively. These pressures include newsroom downsizing, click-driven editorial agendas, shrinking resources for investigative work, and a growing emphasis on metrics over merit. The result is a media environment where complex science stories often give way to sensationalist or emotionally charged content.

Our findings echo concerns raised by Bucchi and Trench [2008] and Schäfer and Painter [2021] about the commercialization and politicization of science journalism [see also Litvinenko et al., 2022] Several participants reported editorial interference or self-censorship, particularly in institutional contexts where journalists were embedded within scientific organizations. These dynamics blur the line between independent reporting and science PR [Brüggemann et al., 2020].

This erosion of journalistic autonomy poses risks for public trust. If audiences perceive science coverage as promotional rather than critical, they may discount it as biased or instrumental. Therefore, science communicators must embrace transparency, acknowledge institutional affiliations, and clearly differentiate between communication and advocacy.

Institutional trust is not only built through content but through perceived independence and editorial integrity.

5.3 ▪ *Digital media and the fragmentation of trust*

Digital platforms were viewed ambivalently by journalists. On the one hand, they allow for new forms of engagement, interactivity, and audience outreach. On the other hand, platform logics driven by algorithmic visibility, click incentives, and emotional valence often disadvantage nuanced and evidence-based reporting. Journalists described a "visibility trap": quality content gets lost in the feed, while sensationalist material dominates.

These insights resonate with research on the platformization of science communication [Fähnrich, 2021; Huber et al., 2019; Jordan, 2023; Fecher et al., 2024], which critiques how platforms reconfigure the flow and reception of scientific information. While some journalists referred to "echo chambers", it is more accurate to say they observed a segmented attention economy, where different audiences consume vastly different types of content, often without a shared epistemic framework.

Participants identified key strategies to adapt:

- Producing interactive formats (e.g., explainers, podcasts, Q&A sessions).
- Building relationships within digital communities instead of relying on one-way messaging.
- Calibrating content to platform affordances without compromising scientific accuracy.

These approaches are not panaceas but represent necessary experiments in a fluid and competitive information environment. They reflect a shift from dissemination to dialogue and from authority to co-creation, recognizing that trust must be built where audiences already are.

5.4 ▪ *Rethinking trust-building in science communication*

Our study highlights that trust-building is not merely about message quality or content accuracy but involves sustained communicative relationships. Journalists stressed the importance of transparency, humility, and empathy: not as abstract ideals but as everyday practices embedded in editorial decisions, audience interactions, and storytelling formats.

However, journalists also voiced ambivalence. Several emphasized that their role is not simply to build trust, but also to maintain critical distance. "We want to be trustworthy, not unquestioning", as one participant aptly stated [J05, f, Germany]. This tension reflects a key challenge: trust-building must coexist with journalistic independence. The goal is not blind endorsement of science, but the facilitation of informed, pluralistic discourse.

Participants repeatedly underscored the need for systemic support. Trust-building efforts cannot rest solely on individual journalists or communicators. Structural reforms are needed:

- Public funding models to reduce commercial dependence.
- Media literacy programs to support informed news consumption.
- Stronger platform regulation to mitigate algorithmic bias and misinformation.

Several participants described collaborative initiatives (co-producing content with scientists, incorporating reader feedback, experimenting with new formats) as ways to operationalize trust-building. These efforts suggest a move toward hybrid communication ecosystems where science journalism, institutional outreach, and civic participation intersect.

5.5 ▪ *Limitations*

As a qualitative, exploratory study, our findings provide in-depth insights but are not generalizable. The sample likely included journalists more engaged with science than the broader journalism field. Freelancers, generalists, or journalists in under-resourced environments may face different constraints and perceptions.

Our study is also based on self-reported accounts, which may be shaped by retrospective bias or selective emphasis. Participants may overestimate their own agency or downplay audience disengagement. To strengthen future research, triangulation with audience perspectives and media content analysis would provide a fuller picture of trust dynamics.

Translation also posed challenges. Although great care was taken to preserve consistency across languages, cultural nuances and linguistic differences may have influenced how questions were understood or answered. These translation effects, while common in cross-national research, should be considered when interpreting our data.

Lastly, we focused on journalists, without including institutional actors such as editors, media executives, or platform stakeholders. These actors shape the conditions under which science journalism is produced and circulated. Future studies should explore how these broader forces influence trust-building and science communication at the systemic level.

6 ▪ Conclusion

This paper underscores the pivotal role of science journalists in shaping public trust in science within an increasingly complex, digitally fragmented, and politically contested media landscape. While trust in science continues to hold firm among significant segments of the public, it is far from stable or universally distributed. Rather, it is shaped by a constellation of factors: from ideological polarization and misinformation to the structural limitations of journalism itself. In this context, science journalists do more than mediate scientific facts. They play a central role in negotiating the boundaries of the public legitimacy and credibility of science. Our comparative analysis across Germany, Italy, and Lithuania illustrates that these dynamics play out differently depending on national media systems, institutional infrastructures, and journalistic cultures. German journalists benefit from relatively strong institutional frameworks but still face market-driven and algorithmic pressures. In Italy, the marginalization of science journalism and the dominance of politicized media discourse complicate long-term engagement. Lithuanian journalists operate in an under-resourced, small-language media space that is highly vulnerable to misinformation and lacks editorial stability. Despite these differences, all journalists described trust as dynamic, fragile, and contingent: requiring ongoing, context-sensitive engagement.

While this analysis foregrounds trust in science as a generally desirable objective, it is important to acknowledge that the appropriateness of such trust may vary across contexts.

Science systems themselves differ in terms of governance, transparency, and susceptibility to political or commercial influence. In some settings, these conditions may warrant a degree of public skepticism toward scientific institutions or outputs. Although such concerns were not prominent in the cases of Germany, Italy, or Lithuania (where science systems broadly adhere to internationally recognized standards of research integrity) recognizing this possibility provides a more nuanced understanding of the relationship between science, journalism, and public trust.

Importantly, this study shows that science journalists are not merely passive recipients of systemic change. They are adapting, sometimes creatively, sometimes cautiously, by experimenting with new formats, prioritizing transparency, engaging directly with audiences, and forging collaborative networks to enhance credibility. Such practices reflect what Brüggemann et al. [2020] describe as 'post-normal' modes of science communication, in which journalists respond to blurred boundaries, institutional pressures, and shifting audience expectations with pragmatic and reflexive strategies. These efforts constitute a conscious attempt to reassert the relevance and integrity of science journalism under difficult conditions [see also Anderson & Dudo, 2023] Yet, the responsibility for maintaining public trust in science cannot rest on journalists alone. Structural reforms and collaborative partnerships are essential to supporting their efforts.

6.1 ▪ *Future directions: bridging gaps and expanding inquiry*

Our findings point to several critical areas for further research and action:

- Audience-Centered Research: while this study provides deep insights into journalists' perceptions, it remains agnostic about how audiences interpret or respond to these trust-building efforts. Future research should examine how transparency, responsiveness, and engagement strategies are received by diverse public groups. Mixed-method studies could triangulate journalist interviews with audience surveys, focus groups, and media reception analysis to better understand trust formation in practice.
- Institutional and Policy-Level Analysis: we highlight the need to examine how newsroom hierarchies, funding models, political pressures, and platform architectures shape science journalism from above. Research should investigate how structural conditions enable or inhibit journalists' ability to maintain independence, nuance, and accuracy. Comparative studies could also assess the effectiveness of public service media, science journalism grants, or policy interventions aimed at supporting quality science communication.
- Cross-Sector Collaboration: journalists, scientists, educators, and platform stakeholders must develop joint strategies for improving public discourse around science. Our findings suggest that practices like co-production, reader engagement, and educational outreach offer promising pathways for restoring trust. Programs that bring together researchers and journalists (for example, through storytelling workshops, embedded reporting opportunities, or shared fact-checking platforms) can enhance mutual understanding and communicative effectiveness.

In an era marked by what some scholars describe as "epistemic volatility", science journalism occupies a uniquely consequential space. It acts not only as a conveyor of

knowledge but as a trust interface: mediating between science, the public, and the institutions that bind them. Journalists' everyday choices (what they report, how they frame uncertainty, whose voices they amplify) shape public imaginaries of science and its role in society. As this study shows, science journalists are increasingly aware of the high stakes of their work. They navigate an information ecosystem where authority must be earned, not assumed; where transparency and responsiveness are essential signals of credibility.

Supporting science journalists in this role requires more than rhetorical endorsement. It calls for sustained investment in the conditions that make critical, independent, and dialogical science journalism possible. This includes robust public funding, editorial protections, platform accountability, and renewed attention to media education. Without these systemic supports, even the most dedicated journalists will be constrained in their ability to foster meaningful public engagement with science.

Ultimately, building and maintaining trust in science is not a one-off communicative act. Rather, it is an ongoing societal project. Science journalists play a central role in this endeavor, but they cannot do it alone. The future of public trust in science depends on collective responsibility: among journalists, scientists, policymakers, and citizens alike. By recognizing this interdependence and acting on it, we can begin to construct a more resilient and trustworthy science communication ecosystem.

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A ▪ Participant overview

This appendix provides a detailed summary of the professional background and demographic characteristics of the individuals whose voices appear directly in this manuscript via quoted material. Although a total of 87 individuals participated in the broader study across Germany, Italy, and Lithuania, the table below includes only those whose contributions were cited in the analysis sections. The anonymized coding format [e.g., J01, m, DE] corresponds to references in the main text.

Table 2. Demographic details of cited participants by anonymized code, including country, gender, professional role, and media/institution type.

Code	*Country*	*Gender*	*Role*	*Media/Institution Type*
J01	Germany	f	Investigative journalist	National print media
J02	Germany	m	Reporter	Regional daily newspaper
J03	Germany	m	Editor	Online science platform
J04	Germany	m	Science journalist	Public broadcasting (ARD)
J05	Germany	f	Reporter	Regional daily newspaper
J06	Germany	f	Science journalist	Private TV broadcaster
J08	Germany	f	Science journalist	National news magazine
J11	Lithuania	m	Journalist	National daily newspaper
J10	Lithuania	m	Journalist	Private TV station
J12	Lithuania	f	Editor	Public news website
J13	Lithuania	f	Journalist	Online health news portal
J25	Italy	f	Press officer	Public Institution
J27	Italy	f	Press secretary	Public University
J28	Italy	m	Social media manager	Public University
J29	Italy	m	Scientific journalist	Scientific Media
J30	Italy	m	Scientific journalist	Independent association
J31	Italy	f	Press officer	National Institute of Health

Note

The full sample includes:

- Germany: 63 participants across 19 group discussions and 8 narrative interviews
- Italy: 7 participants in two structured group interviews
- Lithuania: 15 participants in a multi-stakeholder discussion format

An anonymized subset of transcripts will be archived at the Qualitative Data Repository (QDR) for secondary use, with all personal identifiers removed and compliance with GDPR ensured. All participants provided informed consent for long-term data preservation and research reuse.

B ▪ Discussion guide

Used in structured group settings across all three countries, this guide facilitated semi-structured conversations about public trust in science, journalistic roles, and communication challenges.

Topic blocks and sample questions

1. *Public trust in science*
   - How would you describe the current state of public trust in science in your country?
   - What factors increase or decrease this trust?
   - Are there audience groups that are more or less trusting?
2. *Journalists' role in trust-building*
   - Do you see yourself as contributing to or challenging public trust in science?
   - Should journalists actively build trust, or prioritize critical distance?
   - What defines "responsible" science reporting to you?
3. *Misinformation and structural constraints*
   - What types of misinformation do you encounter in your work?
   - How do commercial and institutional pressures affect your reporting?
   - How do you handle public skepticism or conspiracy thinking?
4. *Strategies and best practices*
   - What practices have you found helpful in fostering trust?
   - Do you collaborate with scientists, educators, or fact-checkers?
   - How do formats like social media, podcasts, or visual explainers contribute to your work?

Note on terminology and formats

- In *Germany*, focus groups were conducted.
- In *Italy*, participants took part in structured group interviews.
- In *Lithuania*, one extended session included several thematic subgroups (journalists, scientists, science communicators, and public stakeholders).

All focus group discussions were semi-structured, recorded with informed consent, and conducted in the respective national languages using the same core topics.

C ▪ Narrative interview guide (Germany)

The interviews followed a narrative format to elicit open-ended, reflective accounts of the participants' professional experiences, values, and role perceptions in relation to science journalism and public trust. The interviews typically lasted between 45 and 90 minutes and were guided by the following prompts:

Interview guide prompts

1. *Professional background*
   - Can you tell me about your career path as a journalist?
   - How did you become involved in science or health reporting?
2. *Role and motivation*
   - What motivates you in your work as a science journalist?
   - How do you see your role when reporting on scientific topics?
3. *Trust and credibility*
   - How do you understand the concept of trust in science journalism?
   - What makes a source or a scientific claim credible in your view?
4. *Challenges and constraints*
   - What challenges do you face when covering science or health issues?
   - How do editorial, political, or commercial pressures affect your reporting?
5. *Audience relationship*
   - How do you perceive your audience?
   - Do you think audience trust in science is changing? If so, how?
6. *Cross-border comparison*
   - Do you think there are particular cultural or national factors that shape science journalism in your country?
   - Have you noticed differences compared to other countries or media systems?
7. *Looking ahead*
   - What are your hopes or concerns for the future of science journalism?

Development and theoretical rationale

The narrative interview guide was developed based on existing literature in science communication, journalism studies, and public trust research. Key influences included:

- *Journalistic role theory*, particularly Hanitzsch [2007] and Mellado et al. [2017] to explore how journalists perceive their normative and professional functions in society.
- *Theories of public trust* in science and media [e.g., Brewer & Ley, 2013; Hendriks et al., 2016] to frame questions about credibility, transparency, and perceived audience expectations.

- *Science journalism under pressure* [e.g., Fähnrich, 2021], which informed the inclusion of questions about structural constraints and shifting communication ecosystems.

The design followed a *semi-structured narrative logic*, encouraging participants to tell stories from their own experience while allowing the interviewer to guide the conversation toward the key analytical dimensions of the study. The guide was piloted with two journalists in each participating country and adapted slightly for national context and language.

References

Achterberg, P., de Koster, W., & van der Waal, J. (2017). A science confidence gap: education, trust in scientific methods, and trust in scientific institutions in the United States, 2014. *Public Understanding of Science*, *26*(6), 704–720. https://doi.org/10.1177/0963662515617367

Anderson, J., & Dudo, A. (2023). A view from the trenches: interviews with journalists about reporting science news. *Science Communication*, *45*(1), 39–64. https://doi.org/10.1177/10755470221149156

Barber, B. (1987). Trust in science. *Minerva*, *25*(1–2), 123–134. https://doi.org/10.1007/bf01096860

Barimah, G. K. (2024). Epistemic trust in scientific experts: a moral dimension. *Science and Engineering Ethics*, *30*, 21. https://doi.org/10.1007/s11948-024-00489-x

Barnoy, A., & Reich, Z. (2022). Trusting others: a Pareto distribution of source and message credibility among news reporters. *Communication Research*, *49*(2), 196–220. https://doi.org/10.1177/0093650220911814

Basol, M., Roozenbeek, J., Berriche, M., Uenal, F., McClanahan, W. P., & van der Linden, S. (2021). Towards psychological herd immunity: cross-cultural evidence for two prebunking interventions against COVID-19 misinformation. *Big Data & Society*, *8*(1). https://doi.org/10.1177/20539517211013868

Besley, J. C., Lee, N. M., & Pressgrove, G. (2021). Reassessing the variables used to measure public perceptions of scientists. *Science Communication*, *43*(1), 3–32. https://doi.org/10.1177/1075547020949547

Blue, G., & Medlock, J. (2014). Public engagement with climate change as scientific citizenship: a case study of world wide views on global warming. *Science as Culture*, *23*(4), 560–579. https://doi.org/10.1080/09505431.2014.917620

Bogert, J. M., Buczny, J., Harvey, J. A., & Ellers, J. (2024). The effect of trust in science and media use on public belief in anthropogenic climate change: a meta-analysis. *Environmental Communication*, *18*(4), 484–509. https://doi.org/10.1080/17524032.2023.2280749

Bouchard, F. (2016). The roles of institutional trust and distrust in grounding rational deference to scientific expertise. *Perspectives on Science*, *24*(5), 582–608. https://doi.org/10.1162/posc_a_00224

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2022). *Thematic analysis: a practical guide*. SAGE Publications.

Brewer, P. R., & Ley, B. L. (2013). Whose science do you believe? Explaining trust in sources of scientific information about the environment. *Science Communication*, *35*(1), 115–137. https://doi.org/10.1177/1075547012441691

Bromme, R., Mede, N. G., Thomm, E., Kremer, B., & Ziegler, R. (2022). An anchor in troubled times: trust in science before and within the COVID-19 pandemic. *PLoS ONE*, *17*(2), e0262823. https://doi.org/10.1371/journal.pone.0262823

Brüggemann, M., Lörcher, I., & Walter, S. (2020). Post-normal science communication: exploring the blurring boundaries of science and journalism. *JCOM*, *19*(03), A02. https://doi.org/10.22323/2.19030202

Bruns, H., Dessart, F. J., Krawczyk, M., Lewandowsky, S., Pantazi, M., Pennycook, G., Schmid, P., & Smillie, L. (2024). Investigating the role of source and source trust in prebunks and debunks of misinformation in online experiments across four EU countries. *Scientific Reports*, *14*, 20723. https://doi.org/10.1038/s41598-024-71599-6

Bucchi, M., & Trench, B. (Eds.). (2008). *Handbook of public communication of science and technology* (1st ed.). Routledge. https://doi.org/10.4324/9780203928240

Dawson, C., Julku, H., Pihlajamäki, M., Kaakinen, J. K., Schooler, J. W., & Simola, J. (2024). Evidence-based scientific thinking and decision-making in everyday life. *Cognitive Research: Principles and Implications*, *9*, 50. https://doi.org/10.1186/s41235-024-00578-2

Dempster, G., Sutherland, G., & Keogh, L. (2022). Scientific research in news media: a case study of misrepresentation, sensationalism and harmful recommendations. *JCOM*, *21*(01), A06. https://doi.org/10.22323/2.21010206

Ecker, U. K. H., Lewandowsky, S., Cook, J., Schmid, P., Fazio, L. K., Brashier, N., Kendeou, P., Vraga, E. K., & Amazeen, M. A. (2022). The psychological drivers of misinformation belief and its resistance to correction. *Nature Reviews Psychology*, *1*(1), 13–29. https://doi.org/10.1038/s44159-021-00006-y

Eysenbach, G. (2020). How to fight an infodemic: the four pillars of infodemic management. *Journal of Medical Internet Research*, *22*(6), e21820. https://doi.org/10.2196/21820

Fähnrich, B. (2021). Conceptualizing science communication in flux — a framework for analyzing science communication in a digital media environment. *JCOM*, *20*(03), Y02. https://doi.org/10.22323/2.20030402

Fecher, B., Kunz, R., Sokolovska, N., & Wrzesinski, M. (2024). Platformisation of science: conceptual foundations and critical perspectives for the science system. *LIBER Quarterly: The Journal of the Association of European Research Libraries*, *34*(1), 1–18. https://doi.org/10.53377/lq.16693

Fisher, R. (2022). The translator versus the critic: a flawed dichotomy in the age of misinformation. *Public Understanding of Science*, *31*(3), 273–281. https://doi.org/10.1177/09636625221087316

Fleerackers, A., Chtena, N., Pinfield, S., Alperin, J. P., Barata, G., Oliveira, M., & Peters, I. (2024). Making science public: a review of journalists' use of Open Access research. *F1000Research*, *12*, 512. https://doi.org/10.12688/f1000research.133710.2

Fletcher, R., Cornia, A., & Nielsen, R. K. (2020). How polarized are online and offline news audiences? A comparative analysis of twelve countries. *The International Journal of Press/Politics*, *25*(2), 169–195. https://doi.org/10.1177/1940161219892768

Gauchat, G. (2012). Politicization of science in the public sphere: a study of public trust in the United States, 1974 to 2010. *American Sociological Review*, *77*(2), 167–187. https://doi.org/10.1177/0003122412438225

Gesualdo, N., Weber, M. S., & Yanovitzky, I. (2020). Journalists as knowledge brokers. *Journalism Studies*, *21*(1), 127–143. https://doi.org/10.1080/1461670x.2019.1632734

Goldenberg, M. J. (2023). Public trust in science. *Interdisciplinary Science Reviews*, *48*(2), 366–378. https://doi.org/10.1080/03080188.2022.2152243

Hallin, D. C., & Mancini, P. (2004). *Comparing media systems: three models of media and politics*. Cambridge University Press. https://doi.org/10.1017/CBO9780511790867

Hanitzsch, T. (2007). Deconstructing journalism culture: toward a universal theory. *Communication Theory*, *17*(4), 367–385. https://doi.org/10.1111/j.1468-2885.2007.00303.x

Hanitzsch, T., & Vos, T. P. (2017). Journalistic roles and the struggle over institutional identity: the discursive constitution of journalism. *Communication Theory*, *27*(2), 115–135. https://doi.org/10.1111/comt.12112

Hendriks, F., Kienhues, D., & Bromme, R. (2016). Trust in science and the science of trust. In B. Blöbaum (Ed.), *Trust and communication in a digitized world: models and concepts of trust research* (pp. 143–159). Springer. https://doi.org/10.1007/978-3-319-28059-2_8

Hendriks, F., Kienhues, D., & Bromme, R. (2020). Replication crisis = trust crisis? The effect of successful vs failed replications on laypeople's trust in researchers and research. *Public Understanding of Science*, *29*(3), 270–288. https://doi.org/10.1177/0963662520902383

Huber, B., Barnidge, M., Gil de Zúñiga, H., & Liu, J. (2019). Fostering public trust in science: the role of social media. *Public Understanding of Science*, *28*(7), 759–777. https://doi.org/10.1177/0963662519869097

Iyengar, S., & Massey, D. S. (2019). Scientific communication in a post-truth society. *Proceedings of the National Academy of Sciences*, *116*(16), 7656–7661. https://doi.org/10.1073/pnas.1805868115

Jakubowicz, K., & Sükösd, M. (Eds.). (2008). *Finding the right place on the map: Central and Eastern European media change in a global perspective*. Intellect Books.

Jelen, T. G., & Lockett, L. A. (2014). Religion, partisanship, and attitudes toward science policy. *Sage Open*, *4*(1). https://doi.org/10.1177/2158244013518932

Jordan, K. (2023). Academics' perceptions of research impact and engagement through interactions on social media platforms. *Learning, Media and Technology*, *48*(3), 415–428. https://doi.org/10.1080/17439884.2022.2065298

Kohring, M. (2004). *Vertrauen in Journalismus: Theorie und Empirie*. UVK Verlagsgesellschaft.

Lewandowsky, S., Ecker, U. K. H., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: continued influence and successful debiasing. *Psychological Science in the Public Interest*, *13*(3), 106–131. https://doi.org/10.1177/1529100612451018

Lewis, S. C. (2019). Lack of trust in the news media, institutional weakness, and relational journalism as a potential way forward. *Journalism*, *20*(1), 44–47. https://doi.org/10.1177/1464884918808134

Litvinenko, A., Borissova, A., & Smoliarova, A. (2022). Politicization of science journalism: how Russian journalists covered the Covid-19 pandemic. *Journalism Studies*, *23*(5–6), 687–702. https://doi.org/10.1080/1461670x.2021.2017791

Magin, M., & Geiß, S. (2019). Beyond time and space: the impact of autonomy from politics and commercialization pressure on mediatization in German and Austrian newspapers — a multilevel approach. *Political Communication*, *36*(4), 543–564. https://doi.org/10.1080/10584609.2019.1608605

Mann, M., & Schleifer, C. (2020). Love the science, hate the scientists: conservative identity protects belief in science and undermines trust in scientists. *Social Forces*, *99*(1), 305–332. https://doi.org/10.1093/sf/soz156

Mellado, C., Hellmueller, L., & Donsbach, W. (Eds.). (2017). *Journalistic role performance: concepts, contexts, and methods*. Routledge. ISBN 9780367869991. https://doi.org/10.4324/9781315768854

Milkoreit, M., & Smith, E. K. (2025). Rapidly diverging public trust in science in the United States. *Public Understanding of Science*, *34*(5), 616–627. https://doi.org/10.1177/09636625241302970

Mohseni, A., O'Connor, C., & Weatherall, J. O. (2022). The best paper you'll read today: media biases and the public understanding of science. *Philosophical Topics*, *50*(2), 127–153. https://doi.org/10.5840/philtopics202250220

Mousoulidou, M., Christodoulou, A., Argyrides, M., Siakalli, M., & Constantinou, L. (2022). Trust in science and COVID-19. *Encyclopedia*, *2*(1), 602–616. https://doi.org/10.3390/encyclopedia2010040

Nah, S., & Chung, D. S. (2012). When citizens meet both professional and citizen journalists: social trust, media credibility, and perceived journalistic roles among online community news readers. *Journalism*, *13*(6), 714–730. https://doi.org/10.1177/1464884911431381

Núñez-Mussa, E., Riquelme, A., Valenzuela, S., Aldana, V., Padilla, F., Bassi, R., Campos, S., Providel, E., & Mendoza, M. (2025). The threat of misinformation on journalism's epistemology: exploring the gap between journalist's and audience's expectations when facing fake content. *Digital Journalism*, *13*(3), 478–499. https://doi.org/10.1080/21670811.2024.2320249

O'Neill, O. (2002). *A question of trust. The BBC Reith Lectures 2002*. https://www.bbc.co.uk/radio4/reith2002/

Padovani, C. (2015). 'Berlusconi's Italy': the media between structure and agency. *Modern Italy*, *20*(1), 41–57. https://doi.org/10.1080/13532944.2014.988605

Pechar, E., Bernauer, T., & Mayer, F. (2018). Beyond political ideology: the impact of attitudes towards government and corporations on trust in science. *Science Communication*, *40*(3), 291–313. https://doi.org/10.1177/1075547018763970

Post, S., Bienzeisler, N., & Lohöfener, M. (2021). A desire for authoritative science? How citizens' informational needs and epistemic beliefs shaped their views of science, news, and policymaking in the COVID-19 pandemic. *Public Understanding of Science*, *30*(5), 496–514. https://doi.org/10.1177/09636625211005334

Reif, A., & Guenther, L. (2021). How representative surveys measure public (dis)trust in science: a systematisation and analysis of survey items and open-ended questions. *Journal of Trust Research*, *11*(2), 94–118. https://doi.org/10.1080/21515581.2022.2075373

Reif, A., Taddicken, M., Guenther, L., Schröder, J. T., & Weingart, P. (2025). The public trust in science scale: a multilevel and multidimensional approach. *Science Communication*, *47*(5), 670–701. https://doi.org/10.1177/10755470241302758

Robbins, B. G. (2016). What is trust? A multidisciplinary review, critique, and synthesis. *Sociology Compass*, *10*(10), 972–986. https://doi.org/10.1111/soc4.12391

Rubin, A., Pellegrini, G., & Šottník, L. (2020). Role of science communication in beliefs, perceptions and knowledge of science and technology issues among European citizens. *EGU General Assembly 2020. Online, 4–8 May 2020. EGU2020-2943*. https://doi.org/10.5194/egusphere-egu2020-2943

Schäfer, M. S., & Painter, J. (2021). Climate journalism in a changing media ecosystem: assessing the production of climate change-related news around the world. *WIREs Climate Change*, *12*(1), e675. https://doi.org/10.1002/wcc.675

Scheu, A. M., & Olesk, A. (2018). National contextual influences on mediatization: the comparison of science decision makers in Estonia and Germany. *Science Communication*, *40*(3), 366–392. https://doi.org/10.1177/1075547018766917

Scheufele, D. A., & Krause, N. M. (2019). Science audiences, misinformation, and fake news. *Proceedings of the National Academy of Sciences*, *116*(16), 7662–7669. https://doi.org/10.1073/pnas.1805871115

Schipani, V. (2024). Journalism and public trust in science. *Synthese*, *204*(2), 56. https://doi.org/10.1007/s11229-024-04701-0

Smith, H., & Morgoch, M. L. (2022). Science & journalism: bridging the gaps through specialty training. *Journalism Practice*, *16*(5), 883–900. https://doi.org/10.1080/17512786.2020.1818608

Starbird, K., Arif, A., Wilson, T., Van Koevering, K., Yefimova, K., & Scarnecchia, D. (2018). Ecosystem or echo-system? Exploring content sharing across alternative media domains. *Proceedings of the International AAAI Conference on Web and Social Media*, *12*(1), 365–374. https://doi.org/10.1609/icwsm.v12i1.15009

Strömbäck, J., Tsfati, Y., Boomgaarden, H., Damstra, A., Lindgren, E., Vliegenthart, R., & Lindholm, T. (2020). News media trust and its impact on media use: toward a framework for future research. *Annals of the International Communication Association*, *44*(2), 139–156. https://doi.org/10.1080/23808985.2020.1755338

Summ, A., & Volpers, A.-M. (2016). What's science? Where's science? Science journalism in German print media. *Public Understanding of Science*, *25*(7), 775–790. https://doi.org/10.1177/0963662515583419

Valinciute, A. (2020). Lithuanian scientists' behavior and views on science communication. *Public Understanding of Science*, *29*(3), 353–362. https://doi.org/10.1177/0963662520907001

van der Bles, A. M., van der Linden, S., Freeman, A. L. J., & Spiegelhalter, D. J. (2020). The effects of communicating uncertainty on public trust in facts and numbers. *Proceedings of the National Academy of Sciences*, *117*(14), 7672–7683. https://doi.org/10.1073/pnas.1913678117

Većkalov, B., van Stekelenburg, A., van Harreveld, F., & Rutjens, B. T. (2023). Who is skeptical about scientific innovation? Examining worldview predictors of artificial intelligence, nanotechnology, and human gene editing attitudes. *Science Communication*, *45*(3), 337–366. https://doi.org/10.1177/10755470231184203

Weingart, P. (2022). Trust or attention? Medialization of science revisited. *Public Understanding of Science*, *31*(3), 288–296. https://doi.org/10.1177/09636625211070888

Weingart, P., & Guenther, L. (2016). Science communication and the issue of trust. *JCOM*, *15*(05), C01. https://doi.org/10.22323/2.15050301

Wynne, B. (1992). Misunderstood misunderstanding: social identities and public uptake of science. *Public Understanding of Science*, *1*(3), 281–304. https://doi.org/10.1088/0963-6625/1/3/004

Yamamoto, Y. T. (2012). Values, objectivity and credibility of scientists in a contentious natural resource debate. *Public Understanding of Science*, *21*(1), 101–125. https://doi.org/10.1177/0963662510371435

Younger-Khan, S., Weidmann, N. B., & Oswald, L. (2024). Consistent effects of science and scientist characteristics on public trust across political regimes. *Humanities and Social Sciences Communications*, *11*, 1379. https://doi.org/10.1057/s41599-024-03909-2

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