

# Politicization of Science

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## KEYWORDS

*politicization of science, science communication, health communication, media coverage*

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## BRIEF DESCRIPTION

The politicization of science refers to the changing relationship between science and politics (e.g., Post & Ramirez, 2018). Different concepts of politicization of science focus on various aspects, e.g. political actors highlighting scientific uncertainty to question the scientific consensus or influencing scientific processes and research. In general, the politicization of science refers to the process by which science gradually takes on a political meaning and is used to pursue political goals, leading to a closer relationship between science and politics (e.g., Alinejad & Honari, 2024; Schmid-Petri et al., 2022). However, there is a lack of a multidimensional conceptualization that reflects this general understanding and also considers the media as a driver of the politicization of science (Brüggemann et al., 2020). In this perspective, the politicization of science is a process that unfolds in as well as through media coverage and can be analyzed using indicators such as the thematic blurring of politics and science, politicized actor structures, and politicized news values in media coverage (e.g., Brück et al., 2024).

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## FIELD OF APPLICATION/THEORETICAL FOUNDATION

The relationship between science and politics has been discussed for decades. Theoretical perspectives, such as those from Luhmann (e.g., social systems theory; 1995) and Habermas (e.g., scientization of politics; 1987), explore the complexities of this relationship and its societal implications. The politicization of science presents

significant challenges, especially for science communication, which is central to the interaction between politics, science, and publics (e.g., Brüggemann et al., 2020). As science becomes more media-oriented, strategic science communication must navigate the politicized public discourses while maintaining scientific integrity. Journalists play a crucial role in this process by selecting scientific information and providing it for public and political discourse (e.g., Brüggemann et al., 2020; Scheufele, 2014). The politicization of science in media coverage is mainly analyzed regarding science and health communication, with public debates on climate change and COVID-19 being prominent examples (e.g., Hart et al., 2020; Post & Ramirez, 2018).

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## COMBINATION WITH OTHER METHODS

To identify trends in the politicization of science, the media coverage is often analyzed through content analysis. Mixed-methods approaches have not yet been used; however, Alinejad and Honari (2024) focus on the online politicization of science on Twitter in a quantitative-qualitative approach, and there are survey experiments that test the effects of the politicization of science and ways to counteract it (e.g., Bolsen & Druckman, 2015).

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## EXAMPLE STUDIES

Depending on how the politicization of science is understood, various studies examine distinct aspects of the politicization of science in media coverage: Chinn et al., 2020; Hart et al., 2020; Leidecker-Sandmann & Lehmkuhl, 2022; Schmidt, 2023. Brück et al. (2024) offer a holistic concept of multiple indicators of the politicization of science that is applied to media coverage.



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**INFORMATION ON SCHMIDT (2023)****Author:** Hans Schmidt**Research question:** What differences in politicization existed between COVID-19 and other pandemic reporting? (RQ1)**Object of analysis:** The study analyzed a sample of 1,196 news articles from the *New York Times* and the *Washington Post* covering key pandemic periods in the 20th and 21st centuries. For 2020 and 2009–2010, due to the extensive volume of content, articles were selected based on one constructed week per month.**Time frame of analysis:** January 1918–December

1919; February 1957–December 1958; September 1968–April 2009; December 1970–April 2010; January 2020–June 2020 (the first 6 months of the COVID-19 pandemic).

**INFORMATION ABOUT VARIABLES****Variables:** The politicization of pandemic-related reporting was examined by four measures: (a) political angle, (b) mentions of political actors, (c) quotes from political actors, and (d) story origin.**Level of analysis:** news article**Variables and values:** see Table 1**Table 1.** *Variables and values (Schmidt, 2023).*

<b>Variables</b>	<b>Description</b>
Political angle	The variable investigates, “if a political perspective or angle (involving policy, implications, analysis, or strategy) was addressed” (p. 35).
Mentions of political actors	The variable investigates “the number of times political actors were mentioned (...) in each news report” (p. 35).
Quotes from (political) actors	The variable investigates “the number of times political actors (...) quoted in each news report” (p. 35). In addition, quotes from other actors were also measured, such as “public health officials, individual health care professionals, representatives of health care institutions, researchers, business spokespersons or analysts, health-related NGOs, civil society and movement groups, alternative practitioners, ordinary people/patients, others” (p. 36).
Story origin	The variable investigates, “if the story originated with the activities of a political actor” (p. 35). These include actions or statements of political actors, government agencies, health care institutions, researchers, international agencies, nongovernmental organizations (NGOs) or “businesses, breaking news, research publications, legal hearings, court judgments, other/undetermined” (p. 36).

**Reliability:** “Coding was conducted by the lead researcher and an assistant, a communications undergraduate student who had been trained by the lead researcher. To ensure intercoder reliability, both individuals coded 96 overlapping articles, accounting for 8.0% of the sample of COVID-19 pandemic-related articles. Analysis of nominal/categorical data showed a 94.8% agreement between coders, which is considered acceptable (Lombard et al., 2010), and a Cohen’s Kappa test also indicated a strong level of agreement between coders,  $\kappa = .883$  ( $p < .001$ ) (McHugh, 2012)” (p. 36).**Codebook:** n.a. (see Schmidt, 2023, p. 35–36).**INFORMATION ON BRÜCK ET AL. (2024)****Authors:** Janise Brück, Julia Serong, & Lars Guenther**Research question:** The overall question of this research project was: How can the politicization of science in and through media coverage be theoretically conceptualized and empirically operationalized? In a pilot study, the theoretical concept was partially tested regarding the politicization of science in media coverage by asking: To what extent has science been politicized in German COVID-19 media coverage?**Object of analysis:** The pilot study analyzes 262 science-related (online) media articles about the

COVID-19 pandemic from German (online) journalistic quality media (*Frankfurter Allgemeine Zeitung, Süddeutsche Zeitung, Die Zeit*). The articles were systematically collected as an artificial week in two time periods.

**Time frame of analysis:** Two periods in the first and second pandemic wave in 2020 in Germany (t1: March 2nd–April 19th; t2: August 17th–October 4th).

#### INFORMATION ABOUT VARIABLES

**Variables:** The politicization of science in media coverage was measured using three overarching indicators: (a) the thematic blurring of politics and science, (b) the (politicized) actor structure in the public (media) discourse, and (c) politicized news values in (science) reporting.

**Level of analysis:** news article

**Variables and values:** see Table 2

**Table 2.** Variables and values (Brück et al., 2024).

Indica-	Description	Variables	Value
Thematic blurring of politics and science	It deals with the presence of one or more (opposing) political angles/ perspectives, story origin (see Schmidt, 2023), as well as (political/ scientific) dependencies due to the exchange of political (e.g., political commissions and funding) or scientific resources (e.g., policy advice).	Presence of political perspective(s)	0 = not identifiable 1 = one political perspective 2 = different political perspectives (controversy)
		Presence of (political) story origin	0 = not identifiable 1 = scientific origin 2 = scientific and political origins 3 = political origin
		Presence of dependencies between science and politics - political resources - scientific resources	0 = not present 1 = present
Politicized actor structure	It deals with the presence of political and scientific actors as well as scientific administrations, based on the distinction between mentions and citations.	Mentions/ citations of political actors	0 = not present 1 = mention 2 = citation
		Mentions/ citations of scientific actors	
		Mentions/ citations of scientific administrations	
Politicized news values	Due to the pilot study approach, this indicator is assessed solely on the emphasis on science-related uncertainty. Previous research has identified this as the most prominent indicator, focusing on how media coverage either downplays, highlights or accurately conveys (un)certainly in scientific contexts (Guenther, 2014). The variables capture the presence of different types of science-related uncertainty (Gustafson & Rice, 2020).	Emphasis on different types of science-related uncertainty: - deficient - technical - consensus - scientific	0 = not present 1 = emphasis without political (de)legitimization 2 = emphasis with political (de)legitimization

**Reliability:** Since only one coder was involved in the final coding, 44 randomly selected articles (about 15 % of the original sample) were coded twice – at the beginning and halfway through the coding phase – to test the codebook. The intracoder reliability was satisfying for all variables included in the analysis (Holsti's CR: > .81; Krippendorff's  $\alpha$ : > .72).

**Codebook:** in the appendix (in German; for the original version, see Brück, 2024)

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