Klatt, Nikolina; Blum, Sonja

How does the use of evidence in policy narratives change during crises? A comparative study of New York City's pandemic school shutdowns

Review of Policy Research

Received: 13 March 2023 | Revised: 2 November 2023 | Accepted: 2 November 2023

DOI: 10.1111/ropr.12589

RPR REVIEW OF POLICY RESEARCH

ORIGINAL ARTICLE

How does the use of evidence in policy narratives change during crises? A comparative study of New York City's pandemic school shutdowns

Nikolina Klatt[1,a] | **Sonja Blum**[2]

[1]Wissenschaftszentrum Berlin, Berlin, Germany

[2]Bielefeld University, Bielefeld, Germany

Correspondence
Nikolina Klatt, Wissenschaftszentrum Berlin, Berlin, Germany.
Email: nikolina.klatt@wzb.eu

Abstract

Narratives play an essential role in fast-paced policy making that occurs during crises. The COVID-19 pandemic brought numerous disruptions of normality, including school closures, which were intensely debated in narratives by many policy actors. Two shutdowns of New York City's public school system affected over 1.1 million students. This article investigates how scientific evidence was used in the narratives surrounding the school shutdowns in NYC by analyzing around 160 policy narratives with the Narrative Policy Framework. We ask whether and how the growing certainty of evidence on the new Coronavirus was reflected in the policy narratives in the second compared to the first shutdown. While there is increased use of scientific evidence in the second shutdown stage, this does not reflect an increased evidence base: The evolving use of evidence in policy narratives is mainly reflected in its strategic uses to support a certain policy solution within a blame-avoidance strategy.

KEYWORDS

COVID-19, crisis, evidence, Narrative Policy Framework, school shutdown, uncertainty

[a]The work was partly conducted as a BA thesis at the FernUniversität in Hagen.

INTRODUCTION

Stories are constitutive of human existence and sense-making, and humans have been termed "Homo Narrans," storytelling animals (Jones et al., 2014). In public policy research, stories are set center-stage by the Narrative Policy Framework (NPF), which studies the role of narratives in the policy process (Jones et al., 2014; Schlaufer et al., 2022; Shanahan et al., 2017). The NPF postulates that policy debates are held through narratives (Shanahan et al., 2017). Under fast-paced policy making facing high levels of uncertainty, which occurs in crises and "mega-crises" such as the COVID-19 pandemic, the role of "narrative sense-making" becomes particularly pertinent[1] (Boin et al., 2016, 2021). Also, the role of evidence and expertise in COVID-19 decision-making has attracted significant interest (e.g., Cairney, 2021; Vicentini & Galanti, 2021), but evidence use within policy narratives of COVID-19 decision-making has so far received less scholarly attention (but see, e.g., Peci et al., 2023).

Extant research showed that narrative elements (e.g., problem definitions) change according to "the phases of the disaster cycle" (Crow et al., 2017) and that *timing* is, therefore, crucial under crisis conditions, as is the changing level of certainty and uncertainty (Stephan, 2020). However, our understanding is still limited in how the changing nature of crisis over time influences the strategic use of evidence within policy narratives (e.g., McBeth et al., 2007) and the connection of evidence to different narrative elements, such as plots and characters (Schlaufer, 2018). For NPF research, the pandemic as a "natural disaster" thus offers a unique possibility to further illuminate the role of evidence within policy narratives: COVID-19 forms an extreme case when it comes to the availability of evidence, in being marked by very high uncertainty early-on, and rapidly increasing knowledge during the pandemic (cf. Boin et al., 2021, p. 43). This allows us to test expectations regarding evidence use, particularly whether a more extensive evidence base in later crisis stages is reflected in correspondingly higher use of evidence within policy narratives. Alternatively, evidence availability does not impact its narrative use, indicating strategic-selective uses of evidence in policy narratives as well as its function to reduce complexity (cf. Stone, 2012). This article addresses this critical case.

Empirically, we ask how scientific evidence was used in the narratives surrounding two pandemic school shutdowns in New York City (NYC). Closures of childcare and schools became a core containment measure against the spread of COVID-19, employed by almost all countries globally. By the beginning of April 2020, nearly 1.5 billion students were affected by school closures (UNESCO, 2020). However, the length and modalities of these closures differed significantly between countries (Dobrotić & Blum, 2023). In March 2020, NYC became an early epicenter of the pandemic in the US (Thompson et al., 2020). With a population of 8.34 million, NYC is the most populous American city (Statista, 2021), and its public school system is the largest in the US. The shutdowns (State of New York, 2020) affected over 1.1 million students (NYT, 2020a). Due to its size and significance, NYC plays an essential role in the US and worldwide, and its handling of school shutdowns has been watched closely (NYT, 2020b). With great efforts regarding safety regulations, schools were reopened in September 2020, only to be shut down again in November 2020 (NYT, 2020c). Both shutdowns came with narratives by policy actors against and in favor of school closures, likewise arguing for the safety of students, teachers, parents, and the overall population. Therefore, the two shutdowns in NYC, enacted in March and November 2020, respectively, enable us to study comparatively how narratives were based on scientific evidence.

While most NPF studies draw data from traditional sources such as press releases, governmental documents, and newspapers, there has been increasing interest in analyzing policy narratives from social media, in particular Twitter (today: X) (Gupta et al., 2018; Merry, 2016). Gupta et al. (2018), using the NPF to study narrative elements and strategies in Twitter debates over

nuclear energy, showed that tweets are used similarly to traditional communications and that they include the basic narrative elements and strategies (see also Kuhlmann & Blum, 2021, for a similar finding for the case of COVID-19 policies in Germany). A first look at our empirical case of the NYC school shutdowns indicates that both social media and traditional media coverage (including press conferences and briefings like those by New York State Governor Andrew Cuomo) played a crucial role. Therefore, this article mines policy narratives from traditional sources (press conferences) and Twitter.

The following section details the NPF and presents expectations on how the use of scientific evidence develops throughout the crisis when comparing the first to the second shutdown of New York City's public school system. Section 3 elaborates on the study design, data collection, and analysis. Afterward, Section 4 includes a descriptive case presentation of the two NYC school shutdowns during COVID-19 and introduces the relevant policy actors. Section 5 presents the analysis, and the two final sections discuss the main findings and their relevance for future NPF research.

THE NPF AND THE ROLE OF EVIDENCE

The NPF

The NPF offers a theoretical approach to systematically examine the role and power of narratives in public policy. It postulates that all policy debates take place through narratives in formal and informal contexts and that it is thus crucial to understand the role of narratives to understand the policy process (Shanahan et al., 2017).

Policy actors make sense of reality through policy narratives, and they are therein bounded, e.g., by certain belief systems, ideologies, or norms (Jones et al., 2014). However, they also use the narratives strategically. Eventually, the variation of socially constructed realities shown in policy narratives can help explain policy processes and outcomes (Jones et al., 2014). For empirical investigation, a policy narrative is described by form and content (Jones et al., 2014). The NPF argues that the form of policy narratives has a specific set of elements (setting, characters, plot, and moral of the story), independent of context, and is thus generalizable (Jones et al., 2014; Shanahan et al., 2017). Contrariwise, narrative content is relative and unique to the context of a particular story. However, the meaning of narrative content is not random and can be analyzed regarding belief systems[2] and strategies (Jones et al., 2014; Shanahan, Jones, et al., 2018).

The form of policy narratives includes several elements: First, the *setting* of a policy narrative is the context in which a policy problem is addressed. It is "where and when the action is taking place" (Shanahan, Raile, et al., 2018). The "stage" of the setting can include elements like a legal background or characteristics of a specific geographic area (e.g., NYC). Second, *characters* are defined as those entities who act or are acted upon (Shanahan, Jones, et al., 2018). Based on the work of Stone (2012), the three distinct characters involved in policy narratives are heroes, villains, and victims. Third, the *plot*'s function is to connect characters to each other and the setting. While there are numerous story types, the NPF highlights four outlined by Stone (2012): the story of decline, the story of rising, the story of helplessness, and the story of control. Finally, the *moral* of the story in a policy narrative "gives purpose to the characters' actions and motives" (Shanahan, Raile, et al., 2018, p. 933) and centers around the policy solution to the problem (Shanahan et al., 2017). These formal elements of policy narratives can be strategically manipulated in various ways, including the strategic use of evidence, to which the next section attends.[3]

Scientific evidence in the NPF

To capture a variety of evidence uses for policy narratives, we follow a broad definition of "evidence" as scientifically based information to inform the selection of possible strategies for policy making and to learn about goal achievement (see Parkhurst, 2016, p. 14). The popular notion of "evidence-based policy making" is understood as policy measures following "rigorous and accurate uses of scientific evidence" (Parkhurst, 2016, p. 4), but from a policy-process perspective it is clear that what constitutes "evidence" is not only contested but also strategically used by policy actors (Cairney, 2021). Policy narratives allow us to investigate this. However, although evidence appears in many NPF studies (Shanahan et al., 2017), advancements in conceptualizations and analytical approaches have only recently been developed.

Smith-Walter et al. (2016) developed a broad conceptual approach to evidence within the NPF by differentiating various categories of evidence. According to our research interest, we include those types with scientific connotations: scientific studies, statistics, and numbers.[4] *Scientific studies* include general references to science and "instances where the description of the evidence indicated it was of a scientific nature" (Smith-Walter et al., 2016, p. 1061). *Statistics and numbers* are a specific type of evidence as they include "the use of any number that is not connected to a scientific study or public opinion poll" (Smith-Walter et al., 2016, p. 1061). These categories capture different forms of scientific evidence, yet evidence can also be cited within policy narratives by referring to the evidence sources. We thus include two additional categories of *individual experts*[5] and (national or international) *institutions*.

Next to *what* evidence is used in policy narratives, *how* it is used is also crucial. Mosley and Gibson (2017) discuss how advocates strategically deploy different types of evidence, including empirical findings and personal anecdotes, to influence policy makers. In other cases, scientific doubt is used to manipulate public opinion, as seen with climate change (Jones et al., 2014). Several studies have demonstrated the strategic use of science in policy narratives. Crow and Berggren (2014) examine the use of science in narratives and its implications for evidence-based decision-making. They find no significant difference in the use of science between winning and losing coalitions in policy debates. Surprisingly, a substantial percentage of both winning and losing narratives do not include science, challenging the assumption that science plays a significant role in supporting coalition arguments. When used, science is primarily employed to support the narrative's argument rather than refute opponents' claims. However, Gupta et al. (2018) find that winning coalitions use science in a way that shows certainty in the status quo, whereas losing coalitions use science to demonstrate uncertainty about unwanted public policies. There may also be variations between policy domains.[6]

Schlaufer (2018) challenged the widespread notion in NPF research that evidence is either an isolated narrative element or that it is most commonly attributed to the "policy problem" in the setting and the "solution" in the moral of the story. She advanced by demonstrating that evidence can instead be found in all elements of a narrative's form. Depending on the element to which scientific evidence is linked, it fulfills various functions in the story's plot (Schlaufer, 2018).

Following Schlaufer's categorization, evidence can play seven roles in policy narratives (see also in the following, Schlaufer, 2018, pp. 99–102). The first is to demonstrate the policy problem, both in the narrative element of the setting and the plot. Schlaufer argues that in the plot, evidence is used to announce a story of decline. Second, evidence is used to support the policy solution and to demonstrate that the problem can be "solved." This takes place in the moral of the story and the plot. Third, evidence is used (in the moral of the story) to prove that the proposed solution of the opponents is wrong. Fourth, evidence can be pointed out to discredit the

opponent. Policy actors thereby accuse their opponents of misusing evidence to highlight their evilness.[7] Fifth, evidence can be used to downplay the policy problem. Policy actors can use evidence to prove that "the policy problem defined by the opposing coalition does not exist or that its extent is not problematic" (Schlaufer, 2018, pp. 101–102). Sixth, evidence can itself be the focal point of a narrative. This way, policy actors employ a narrative strategy of creating scientific uncertainty and countering the evidence presented in opposing narratives (Schlaufer, 2018). Last, the narrative function can focus on the hero character, who uses evidence to fix a policy problem.

Schlaufer's study confirms her expectations of how evidence is integrated into policy narratives by opposing coalitions. Coalitions with a negative narrative strategy predominantly used evidence to highlight policy problems. Conversely, coalitions with a positive narrative strategy used evidence to support their policy solutions.

Beyond the distinction between winning or losing coalitions, there are also variations in how different policy actors use evidence in their narratives. The study by Tosun and Schaub (2021) aligns with using evidence strategically to strengthen policy narratives and mobilize support. They find that European Citizens' Initiatives predominantly use evidence in their narratives to expand the scope of the conflict, demonstrate policy problems, support their proposed policy solutions, or refute opposed policy actions.

Likewise focusing on stakeholders, Huda (2021) finds for the agricultural biotechnology field that they used evidence, risks, and benefits differently to support their positions. Proponents of the genetically modified eggplant de-emphasized risks and primarily highlighted the benefits associated with the technology. Contrariwise, opponents invoked multidimensional risk, emphasizing the potential negative consequences.

Expectations

To date, a comparative perspective on the use of evidence in policy narratives has yet to receive special attention. In this article, we are interested in the comparative perspective around evolving evidence throughout crises over time by asking for the similarities and differences in narrative uses of evidence between the two school shutdowns. The categorizations of different forms of evidence (amended categories by Smith-Walter et al., 2016) and their narrative-strategic uses (Schlaufer, 2018) will be applied to the meso-level analysis of the public school shutdowns in NYC. For formulating expectations, we can build on the previous works that have applied this novel thinking and the case knowledge.

Especially after the initial preventive lockdowns of the spring of 2020, while the pandemic prolonged, school shutdowns increasingly became a matter of weighing public health protection against competing concerns (e.g., economic development and education losses). Uncertain, emerging, and ascertained evidence played a significant role in these debates. As with other big crises, the first period was marked by high uncertainty, e.g., about the infection risk of children (Boin et al., 2021). Over time, such public health evidence reached higher certainty (e.g., about the "behavior" of the virus and the effectiveness of school lockdowns). However, case studies showed (e.g., Böcher et al., 2021, for Germany) that the evidence base was also increasingly broadened to other disciplines (e.g., about the shutdowns' mental health effects on students).

Given this evolving landscape of evidence used in narratives, our central questions of interest are: How is the increased availability and certainty of evidence reflected in policy narratives? Does the enlarged evidence base manifest both qualitatively and quantitatively in narratives? In

other words, do we find an increase in scientific evidence in the narratives of the second as compared to the first shutdown? How do the categories of evidence differ between the narratives of the two shutdowns? Do we see a shift in the types of roles evidence plays in narratives from the first to the second shutdown?

Expectation 1: Increase in use of evidence

As the pandemic unfolded, the scientific understanding of the virus and its transmission methods rapidly evolved (Koelle et al., 2022). During the early pandemic stages, policy decisions, such as the initial shutdown, were made amidst significant uncertainty and often with limited evidence (Boin et al., 2021; Cairney & Wellstead, 2021; Schippers & Rus, 2021). However, the literature suggests that as scientific research progresses, its subsequent incorporation into policy narratives becomes more pronounced (Baekkeskov, 2016). In line with these observations, we anticipate that the narratives surrounding the second shutdown would exhibit a richer use of evidence, reflecting the broader and more mature scientific understanding available at the time.

Expectation 2: Policy actors' use of evidence

Increasing scientific knowledge does not guarantee its adoption in all policy narratives. Prior NPF research suggests contradictory patterns: Crow and Berggren (2014) found no marked difference in how scientific elements were used in the narratives of pro-reform and pro-status quo sides. In contrast, Gupta et al. (2014) identified that pro-reform coalitions emphasized scientific certainty, while their status-quo counterparts highlighted scientific uncertainty. In light of these conflicting findings, we hypothesize: While we expect to see variances in how different policy actors employ evidence in their narratives, we particularly anticipate that the anti-shutdown coalition, during the second shutdown, will strategically deploy scientific evidence to contest the narratives of the pro-shutdown coalition.[8]

Expectation 3: Divergence in categories of evidence used

Smith-Walter et al.'s (2016) categorization explains the various forms and types of evidence that can be employed in policy debates. Schlaufer (2018), on the other hand, outlines how these characteristic forms can be strategically utilized within narratives to further policy objectives. Integrating these concepts, we focus on the distinct types of evidence that policy actors might prioritize in their narratives and their potential strategic intentions behind such selections.

Given the multifaceted nature of the pandemic and its impacts, from direct health consequences to secondary effects like mental health problems for students, a broad spectrum of evidence from diverse disciplines becomes available for policy actors. However, not all evidence is employed equally, and certain forms might be more appealing to specific policy actors depending on their strategic goals, the audience they are addressing, and the narrative they aim to construct. Hence, our third expectation posits that different policy actors will preferentially lean on specific categories of evidence in their narratives.

Before we turn to the case study, the following two sections detail the case of NYC school closures and the study's data and methodology.

PUBLIC-SCHOOL SHUTDOWNS DURING THE PANDEMIC: THE CASE OF NYC

In late 2019, the new Coronavirus type started spreading through China, which caused all educational activities in the country to be halted by the end of January 2020. On March 1, the first coronavirus case was confirmed in New York, and shortly after, on March 7, a rise in infections led to the declaration of a Disaster Emergency in the State (Chalkbeat, 2020a). A few days later, the World Health Organization (WHO) declared the coronavirus outbreak a global pandemic.

School and childcare closures ramped up quickly as a global response to COVID-19 (Dobrotić & Blum, 2023). Facing high uncertainty about the behavior of the new Coronavirus (e.g., its transmission, infection rates, etc.), scientists and policy makers partly relied on studies on previous infectious diseases such as SARS and influenza, e.g., studies on school closures as a means to stop or slow virus spread (e.g., Bin Nafisah et al., 2018, showing a delay of the epidemic peak the earlier a closure is implemented and the longer its duration). Also, previous studies on the learning losses of children during long summer breaks and related social inequalities were considered (e.g., Blazer, 2011). Already until autumn 2020 (and the start of the second pandemic waves), the evidence bases on the new Coronavirus quickly improved, e.g., a systematic review by Viner et al. (2020) indicated a limited containment potential of school closures (alone) and pointing to their amendment (or substitution) by other measures.

In spring 2020, as large gatherings were banned in New York and other states and countries began closing schools (Dobrotić & Blum, 2023), there was rising pressure to close schools to stop the spread of the Coronavirus (Chalkbeat, 2020a). By Friday, March 13, the city's teachers' union and the union representing school administrators also demanded a city-wide closure of public schools. City Council Speaker Corey Johnson first supported schools to remain open, then also demanded their shutdown (NYT, 2020d).

Mayor de Blasio and the Chancellor of the Department of Education rejected those calls in order to help parents. The mayor stated on March 9 that parents "depend on the schools, they are a safe place for their kids, and by the way, they want their kids to keep getting educated" (Mayor Bill de Blasio, 2020a). Another policy actor advocating for keeping schools open was 1199SEIU, the local healthcare workers union, which insisted on sufficient childcare options for the union's members. When that issue seemed to be resolved by March 15, 1199SEIU also started to advocate for a shutdown (Chalkbeat, 2020a).

The mayor and the DOE Chancellor repeatedly stated that a complete shutdown was a last resort (Chalkbeat, 2020a) and that, instead, only individual schools would temporarily close. However, scientific experts also called for a public school shutdown: 36 infectious disease experts sent a letter to the mayor urging him to close schools (Forbes., 2020). On Sunday, March 15, Mayor de Blasio announced the shutdown of the public school system (Mayor Bill de Blasio, 2020b).

The main arguments for keeping schools open were various. First, the significant consequences of a shutdown for the very vulnerable population of NYC students and their families: In 2020, most students (about 750,000) lived at or below the poverty line (NYT, 2020d), and around 10% were homeless (Advocates for Children of New York, 2020). Furthermore, about three-quarters of city students are eligible for free or reduced-price meals at school (NYT, 2020d). Moreover, in 2019, many low-income families lacked internet access and computers, making remote learning

extremely difficult (Comptroller, 2019). Thus, a main argument for keeping schools open was the potential short-term and long-term effects of school closure for NYC students and families. Extensive learning losses and increased mental health problems were expected (McKinsey, 2020). Another dominant argument for keeping schools open was the potential staffing shortage in hospitals, as healthcare workers depend on childcare to work.

Arguments for closing the schools primarily focused on health safety. The goal of closing schools was to stop the spread of the Coronavirus. The overall city population, including people with compromised immune systems, was to be protected from the disease. Previous studies have shown that closing schools can stem the impact of certain epidemics (Chalkbeat, 2020b). However, there was no consensus on whether the closures would effectively curb the virus' spread and, if so, *how long* schools would need to stay closed (Chalkbeat, 2020b).

Schools remained closed for the rest of the school year. NYC's reopening plan for the following school year, which the State Education Department required, was bound to a condition regarding the infection rate in the city. The schools would only open (and stay open) if the Coronavirus infection rate was under 3% over a seven-day rolling average in the city (cf. Mayor Bill de Blasio, 2020c).[9] This positivity rate of 3% was lower than the 5% rate cited by experts such as the WHO as a sign that it is safe to open schools and businesses (WHO, 2020). The New York Assembly even set a higher threshold of 9% regarding the status of school openings (New York State Assembly, 2020).

Around 8 weeks after reopening on September 21 (Chalkbeat, 2020c), the positivity rate rose close to the 3% threshold. The mayor's press conferences centered around the threshold standard (see Section 5). On November 18, the threshold was met at precisely 3%, and the entire school system shut down again (NYT, 2020c).

While the overall infection rate in the city increased, it remained stable and low within the schools. The schools' random testing revealed that the positivity rate within the schools was under 0.2% in October (NYT, 2020e). Businesses like restaurants and bars remained open, although the infection risk was much higher, as shown by the rising number of infections in the city. Thus, there was doubt whether the threshold of 3% should be applied after all.

This descriptive look at the case indicates that scientific evidence was not only given a prominent role by the decision to introduce the threshold but also because of the nature of the pandemic: “Experts played leading roles in the COVID-19 crisis, to a much larger extent than customary in “normal” crisis situations” (Boin et al., 2021, p. 27). The complexity of the virus infection and transmission put life science research center stage. Although the Coronavirus has been known previously, the pandemic revealed a lot of uncertainties and unknown facts in the healthcare expertise.

DATA AND METHODOLOGY

Asking how scientific evidence was used in the narratives surrounding two consecutive pandemic school shutdowns in NYC, this case study is a meso-level NPF study (Shanahan, Jones, & McBeth, 2018). Narratives were compared for two periods: First, from the end of January 2020, when China was the first country to announce the school shutdown, to the first school shutdown in NYC on March 16. Second, from September 21, when schools were reopened in NYC, to the second shutdown on November 19.[10] The focus of the analysis is on what narratives were told for each shutdown and what similarities and differences can be identified regarding the uses of evidence.

Policy actors pursue certain policy goals, and therein build certain narratives and communicate them strategically in the "narrative arena": "Thus, agora narrans is NPF's meso-level examination of the strategic construction and communication of policy narratives to achieve a desired policy goal" (Jones et al., 2014, p. 15). Different policy actors are engaged in these processes (e.g., politicians, NGOs, scientists, media, companies, engaged citizens, etc.), who can form advocacy coalitions (Jones et al., 2014). This study examines data from relevant policy actors in the school closure debates: First, the executive level, namely the Mayor of NYC (Bill de Blasio), the New York State Governor (Andrew Cuomo), and the NYC Council Speaker (Corey Johnson). While the mayor holds power over deciding whether or not the schools shut down, we also include the actors most affected by the consequences: Two teachers' organizations—the American Federation of Teachers (AFT; inducing the AFT's president Randi Weingarten) and United Federation of Teachers (UFT)—as well as the healthcare workers' union 1199 SEIU, the Centers of Disease Control (CDC), NYC Public Schools. Furthermore, we included the NYC Parents Union, which was only involved in the first shutdown, and a coalition of NYC public school families called #KeepNYCSchoolsOpen (#KeepNYCSchoolsOpen, 2020a).[11] During the studied period, these policy actors formed coalitions for and against the school shutdown.

Narrative data can be sourced from any communication, such as text, video, or symbols. For this study, we conducted a content analysis of the policy debates surrounding the public school shutdowns, specifically narratives used in press briefings and conferences, media interviews, and short messages from the social media platform Twitter. Twitter, as a text message platform, is particularly popular amongst policy actors (Stier, 2016). While press conferences are important for state actors such as the mayor or governor, social media communication is used by smaller NGOs and interest groups (here, e.g., the NYC Parent Union), which have different access to media representatives or press conferences. Recently, NPF studies have increasingly used social media, particularly Twitter data (e.g., Gupta et al., 2018; Kuhlmann & Blum, 2021; Merry, 2016). It has thus been shown that even short tweets can be policy narratives as long as a character is manifest who shapes the story's intention (Shanahan, Jones, & McBeth, 2018). Still, combining material from press conferences and briefings helps to include text with potentially higher narrativity (cf. Kuhlmann & Blum, 2021).

Our data collection proceeded in distinct steps: First, data were sourced from websites and Twitter accounts of the policy actors. Spoken narratives from press conferences and media interviews were analyzed in text form, as written transcripts of the video/audio material are available on government websites. Tweets and press briefings are already published in text form. Tweets that refer to or contain media interviews without transcripts were excluded. The documents were then filtered for keywords related to COVID-19 and the school shutdowns.[12] After that, we filtered the material for policy narratives by applying NPF's minimal definition that a policy narrative must include at least one character and public policy referent (Shanahan et al., 2017), i.e., here, one of the two school shutdowns in NYC in 2020. Applying this search strategy, 163 policy narratives were identified in total. For the first shutdown, there were 82 narratives, of which 43 narratives were from press conferences, briefings, and media interviews, and around 39 narratives from Twitter. For the second shutdown, from the 81 narratives in total, 19 were from traditional sources, and 62 were tweets.

For the data analysis, a comprehensive coding scheme (Table 1) was developed, building upon the insights and procedures of established NPF studies (cf. Schlaufer, 2018; Shanahan et al., 2013). The codebook is a foundational structure that guided our thematic extraction and categorization of narratives. It includes information on metadata (e.g., source, date) and classical NPF elements. Given our specific interest in how scientific evidence was utilized in policy

TABLE 1 Abbreviated coding scheme following Schlaufer (2018) and Shanahan et al. (2013).

Coding scheme	
Name of variables	**Description of variable, coding instructions**
Source	*Including the URL of the source*
Document Type	Tweet Press release/briefing Press conference Media interview
Date of the source	*Date of the document*
Narrator	*Policy actor*
Quote	*Quote of the actual policy narrative*
Position of the narrator	*Position regarding school closings* Pro-school shutdown Anti-school shutdown
Setting/policy problem	*What is the policy problem the narrator addresses?* Containment of the pandemic Health Education Provision (food, support, childcare, etc.)
Moral of the story/policy solution	*Does the narrator offer a policy solution? If yes, what is the solution?* Total shutdown of the school system Temporary shutdown of individual schools Other
Characters	*Who are the characters contained in the document?*
Hero	*Is a character directly depicted or implied as a hero? If yes, who?* City administration Public health authorities/science Federal government State government Schools Unions Healthcare worker Other
Villain	*Is a character directly depicted or implied as a villain? If yes, who?* Coronavirus City administration Federal government State government CDC Unions Healthcare worker Other

(Continues)

TABLE 1 (Continued)

Coding scheme	
Name of variables	**Description of variable, coding instructions**
Victim	*Is a character directly depicted or implied as a victim? If yes, who?* Students in need, who rely on school for food or medical support Parents/families Teachers Workers/employees Employers/businesses Economy School system City administration Unions Healthcare worker Other
Plot	*What is the storyline of the narrative?*
Story type	*What is the type of the story?* Story of decline Story of control Decline-is-only-an-illusion story
Evidence use	*Is evidence used in the document?*
Evidence use categorization	*Which reference is used for evidence?* Scientific studies (general references to science, study and research) Statistics and numbers Individual experts Institutions (e.g., the CDC, the WHO)
Purpose of evidence	*How is evidence used?* To demonstrate a policy problem To prove that there is no policy problem To support a policy solution To refute the policy solution of others In association with the hero of the narrative In association with the villain of the narrative In association with the victim of the narrative Center of the document's plot Other

narratives, the categories "Evidence use," "Evidence use categorization," and "Purpose of evidence" were central. They allowed us to classify and analyze the various forms and purposes of evidence deployment within the narratives.

To operationalize Expectation 1, we quantitatively assessed the incidence of evidence use by counting the number of narratives containing scientific evidence. This provided a measure of how much evidence was incorporated into the policy discussions during the two periods under study. For Expectation 2, we delved deeper into those narratives containing evidence, applying Schlaufer's (2018) analytical framework to categorize how the different coalitions used evidence. This allowed us to identify instances where the anti-shutdown coalition was using evidence to contest the narratives of the pro-shutdown coalition. Regarding Expectation 3, we categorized

the types of evidence used in the narratives. We assessed preferential leaning by examining the frequency and prominence of different categories of evidence in each actor's narratives based on the expanded categories set up by Smith-Walter et al. (2016).

Examples of policy narratives from the case study are in Table 2. These examples illustrate the various ways in which evidence was used and categorized in the narratives, in line with our operationalized expectations.

For Twitter data, one tweet formed the unit of analysis; for longer texts (e.g., transcripts of press conferences), the relevant paragraphs were structured into policy narratives before the analysis. Given our research interest, we particularly attended to the category and the purpose of evidence use within the narratives. To sufficiently classify the various uses of scientific evidence that occurred in the chosen case, the categories set up by Smith-Walter et al. (2016) were expanded (see above) by two additional categories: individual experts as well as (national and international) institutions. The category "individual experts", e.g., includes public health scientists who are cited as scientific evidence. "Institutions" include any reference to official institutions such as the WHO, CDC, or The American Academy of Pediatrics. For an intercoder reliability test, 20% of the narratives from the first shutdown and 20% from the second shutdown were coded individually by a second coder. This test showed a high value of agreement overall (Cohen's kappa = .84; and 86.11% agreement), with satisfying values across the main categories (see Table S1A).

We used quantitative analysis to count the frequency of narrative use and to test for differences in narrative uses of evidence and policy solutions using Pearson's chi-squared test and Cramer's V. By effectively operationalizing evidence with the NPF, it is possible to describe its strategic use within policy narratives (Smith-Walter et al., 2016). The results are described next.

FINDINGS: NARRATIVE USES OF EVIDENCE AROUND THE NYC SCHOOL SHUTDOWNS

In the following, the general findings on the narratives for the two school shutdown stages are described and compared, followed by an in-depth look into the use of scientific evidence within these narrative debates, structured along the abovementioned expectations.

Evolving narratives: Policy actors and their stances across two shutdowns

Narratives for both shutdowns started to appear around 3–8 weeks before the closing, yet they only gained track a few days before the shutdowns. What were the general commonalities and differences in the narratives around the shutdowns?

Regarding the *involvement of policy actors and narrators* in both shutdowns, there is a notable difference (see Figure 1). Nine policy actors are involved as narrators for the first shutdown and six narrators for the second. For the second shutdown, the policy narratives remain highly dominated by the mayor, but also the #KeepNYCSchoolsOpen coalition. The #KeepNYCSchoolsOpen coalition emerged on November 15, only 3 days before the shutdown, and rose to a very active and vocal coalition to keep schools open. The reduction of involved actors could be explained by the novelty of the policy problem in March in contrast to November: Although the shutdown of the complete

TABLE 2 Examples of policy narratives from the case study, following Shanahan et al. (2013).

	Definition	Examples from the case study
Narrative form		
Setting	The context in which a policy problem is addressed	The consequences of the coronavirus pandemic on the NYC school system
Moral of the story	A solution to the policy problem	School shutdown/keep schools open
Characters		
Hero	The entity of the story, who potentially fixes a policy problem	The teachers' union, which fights for the health of teachers but also students, parents, and overall population
Villain	The entity of the story, who causes the problem	The mayor, refusing to contain the spread of the virus by keeping schools open
Victim	The entity of the story, who is harmed by the problem	The homeless students, who depend on school for support and nutrition
Plot	Story-link, which connects characters and the policy-setting	By shutting down the schools, the spread of the virus can be controlled
Narrative strategies		
Use of evidence	Demonstrate a policy problem	"And again, when you look at the CDC guidance, I think you've got a real window on how complex the equation is." Mayor Bill de Blasio
	Prove that there is no policy problem	"Public health folks say it appears that transmission is when people are symptomatic." Mayor Bill de Blasio
	Support a policy solution	"Listen to the experts! Close the schools. Teachers are NOT babysitters. Stop endangering the health and lives of students, teachers, and staff. @NYCMayor@NYGovCuomo" NYC Parents Union
	Refute the policy solution of others	"[...] there may come a day where the facts lead us to shut schools, but it's not going to be because of who has the loudest voice, I assure you." Mayor Bill de Blasio
	In association with a hero of the narrative	"[...] not only are schools open today in New York City, schools will also be open tomorrow in New York City. So, another day where we've stayed below that threshold because of everything that you have done [...] because of the huge levels of participation of everyday New Yorkers, because we put in place the things that would make a difference." Mayor Bill de Blasio
	In association with a villain of the narrative	@NYCMayor @NYGovCuomo @UFT Are We Seriously Talking About Closing Schools Again? @NYTimesOpEd highlights unclear, arbitrary 3% threshold: "None of this is based on statistical modeling or science." #KeepNYCSchoolsOpen #KeepNYCSchoolsOpen on Twitter, Nov 17

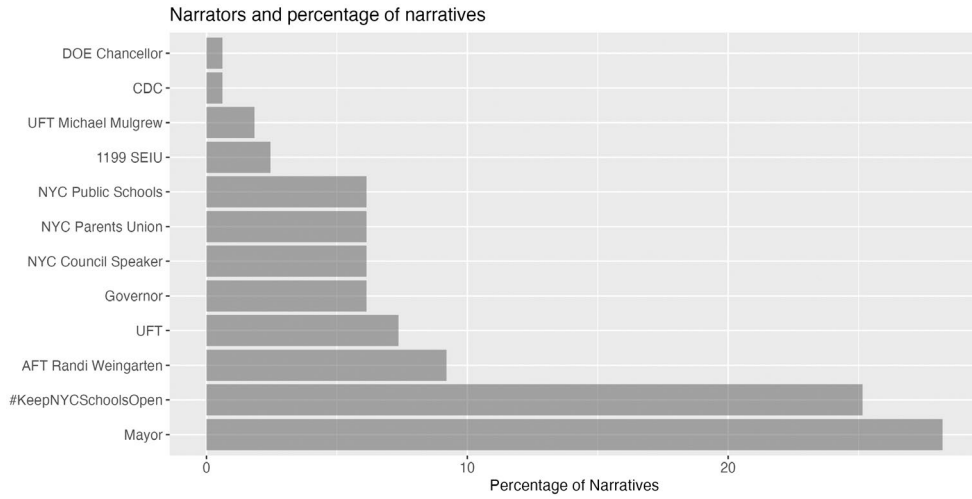

FIGURE 1 Narrator overview and percentage of narratives by each narrator for both shutdowns.

NYC school system was still an infrequent event in November, by then, it had already happened once before, and thus might have drawn less debate and involved policy actors.[13]

Morals of the story include the preferred policy solution and thus lead to the narrator's position: While the analysis focuses on the narrator's position (either keeping the school system open or shutting it down), a third option was a temporary shutdown of individual schools.[14,15] For the first shutdown, the analyzed narratives are almost equally distributed between the two standpoints closing (45%, $n = 37$) or keeping schools open (either fully 32.7%, $n = 27$), or involving a temporary shutdown of individual schools (20.4%, $n = 13$). For the second shutdown, two positions are distinguishable: the "anti-school shutdown" and the "shutdown if the 3% positivity rate threshold is met", the latter being favored almost solely by the mayor. Analyzing changes in the moral of the story sheds light on some underlying dynamics: The first shutdown had two clear coalitions arguing against and in favor of closing schools. As time preceded in March, with the WHO declaring the transmission of the Coronavirus to be a pandemic, the narrators' positions partly changed from anti- to pro-shutdown. This was different in the second shutdown. There were still two coalitions—one in favor of keeping the schools open and the other in favor of not breaching the 3% positivity threshold rule set up in the summer before schools' reopening. In contrast to the first shutdown, narrators did not shift their positions.

Evidence use in narratives

Expectation 1: Increase in the use of evidence

Only about one-quarter of all narratives from the first shutdown employed scientific evidence. Six of the nine analyzed policy actors use evidence when telling a story about whether to keep the schools open. Policy actors using scientific evidence against the school shutdown are the mayor, the governor, and the council speaker. However, the council speaker is also using evidence in favor of a shutdown, as well as the AFT, including Randi Weingarten, the CDC, and the NYC Parents Union.

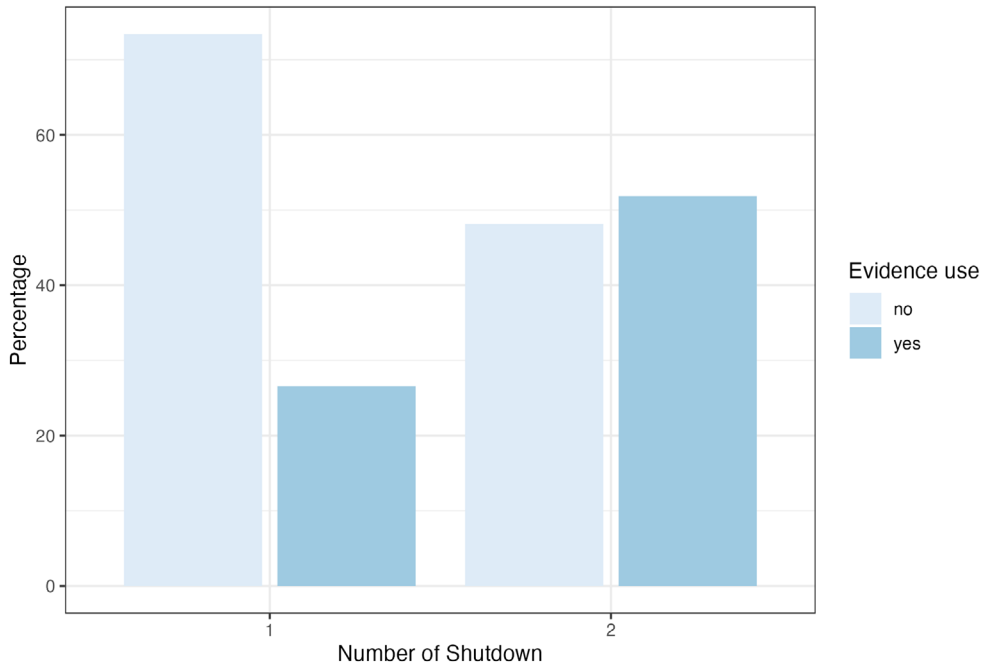

FIGURE 2 Use of evidence in the first (left) and second shutdown (right).

While the early pandemic period of March 2020 was characterized by high scientific uncertainty, the overall debates and discussions were highly centered around evidence (Boin et al., 2021), so we could also have expected a more extensive narrative use of evidence during the first shutdown. However, in our case, coming from the first to the second shutdown, there is a sharp increase in evidence use (Figure 2). Evidence is used in more than half of the narratives. Most of the six involved narrators use the element at least once. Interestingly, the two narrators that have the most narratives make different use of evidence. The coalition #KeepNYCSchoolsOpen only uses evidence in about 36% ($n = 15$) of its narratives. The narrator who uses evidence most often is the mayor by including the element in over 92% ($n = 22$) of his narratives in the second shutdown.

Our analysis sought to determine whether using scientific evidence in policy narratives was associated with the two school shutdown periods. Applying Pearson's chi-squared test to our data revealed a statistically significant relationship between the incidence of evidence use in the narratives and the number of shutdowns (chi-squared test, $p < .001$, Cramer's $V = 0.268$).

This finding underscores a notable shift in the use of scientific evidence between the two shutdowns. Specifically, the narratives about the second shutdown demonstrated a distinctly higher propensity for incorporating scientific evidence than the first. This supports our first expectation that the progression of the pandemic would lead to a higher integration of evidence into policy narratives during the second shutdown.

Expectation 2: Policy actors' use of evidence

Navigating the complex landscape of the pandemic, policy actors had to make sense of a growing body of scientific information to shape their arguments. Our second expectation suggested

that different actors might lean on evidence differently. Specifically, we predicted that during the second shutdown, the anti-shutdown coalition would lean more on scientific evidence to challenge the pro-shutdown narrative. To unpack this expectation, we first delve into the use of different story types in narratives. Subsequently, we probe deeper into the function of evidence in the narratives.

To discern patterns in the deployment of evidence by various policy actors, particularly in contrasting pro-shutdown and anti-shutdown coalitions, we first analyzed the story types of their narratives with respect to references to scientific evidence use. Generally, the first shutdown saw more stories of decline, while the second shutdown had more stories of control. This correlates with the use of victims and heroes. While in the first shutdown, most stories focused on failure, the second shutdown saw an increase in positive stories of control, which often also focus on heroes and how the policy responses are a success.

Narratives that include scientific evidence are mostly told as stories of control in the first shutdown ($n = 12$). Next, stories of decline ($n = 7$), while decline-is-only-an-illusion is only used twice. Six of the stories of decline are narrated by policy actors in favor of the shutdown, while three of the stories of control are pro-shutdown. The policy actors advocating for a school shutdown argue against the coalition in power. In their narratives, they are thus portraying the governing party as failing the challenge. The coalition in favor of keeping schools open uses more stories of control. In most stories of control, the hero also includes the city or state administration.

In the second shutdown, narratives including evidence are predominately stories of control (58%) ($n = 25$). The narrators of those stories are primarily in favor of keeping the 3% threshold; most of them are told by the mayor. Contrariwise, the stories of decline are mostly told by the #KeepNYCSchoolsOpen coalition, which favors keeping the schools open. This story type hardly uses scientific evidence but often mentions characters as villains, such as the city administration, the state government, or the Department of Education.

Given the observed patterns in story types across the two shutdowns and their association with the position of the narrator, we sought to assess this relationship quantitatively. We applied a chi-squared test to determine if there was a statistically significant association between the narrator's position and the story type they employed in their narratives. The result of this test indicated a significant relationship between the two variables (chi-squared test, $p = .0018$, Cramer's $V = 0.1864$). This suggests that the narrator's position, whether in favor of or against the shutdown, had a distinct influence on the type of narrative they told.

We found interesting differences in the patterns of evidence use across both periods. The use of evidence was analyzed in relation to the narrator's position and the moral or policy solution proposed in the narratives.

During the first shutdown, our findings revealed no significant association between the use of evidence in the narratives and the narrator's position (chi-squared test, $p = .658$, Cramer's $V = 0.07954$). The moral or policy solution proposed within the narratives also did not significantly associate with the use of evidence (chi-squared test, $p = .421$, Cramer's $V = 0.1528$). These results suggest that, within the first shutdown period, the use of evidence was independent of the narrator's position or the proposed policy solution.

In contrast, the narratives from the second shutdown exhibited a different pattern. There was a significant association between the use of evidence and the position of the narrator (chi-squared test, $p < .0001$, Cramer's $V = 0.5055$), as well as between the use of evidence and the proposed moral or policy solution (chi-squared test, $p < .0003$, Cramer's $V = 0.5229$). These findings

suggest a strong link between the use of evidence and both the position of the narrator and the type of policy solution during the second shutdown period.

In which ways was evidence used in the narratives, and which functions was it serving? As Figure 3 shows, policy narratives in both shutdowns only exhibited *some* of the different ways evidence could potentially be used (Schlaufer, 2018). Besides serving to demonstrate a policy problem, refute the policy solution of others, and in association with a character, evidence was predominantly used to support a policy solution.

In the first shutdown, evidence is most often used to support the policy solution. As an example, the NYC Parents Union tweeted on March 13:

> Listen to the experts!
> Close the schools.
> Teachers are NOT babysitters.
> Stop endangering the health and lives of students, teachers, and staff.
> @NYCMayor@NYGovCuomo.
> Scientists In New York Urge Closure Of Schools To Slow Spread Of Coronavirus via @forbes https://forbes.com/sites/victoriaforster/2020/03/12/scientists-in-new-york-city-urge-closure-of-schools-to-slow-down-spread-of-coronavirus/?subId1=xid:fr1584121544120hdi
> NYC Parents Union on Twitter on March 13
>
> (NYC Parents Union, 2020)

NYC Parents Union mentions unspecified individual experts as their scientific evidence to back up their preferred policy solution: to close the schools. Both coalitions use evidence in this way, and they do so almost equally.

Less often, scientific evidence is used to demonstrate a policy problem. In the second shutdown, the mayor uses numbers and the positivity rate to demonstrate that there is a policy problem, namely the rising number of infections in the city. The (negative) experience from spring 2020, when NYC became an epicenter of the COVID-19 pandemic, might have influenced the mayor's strict positioning in the run-up to the second shutdown.

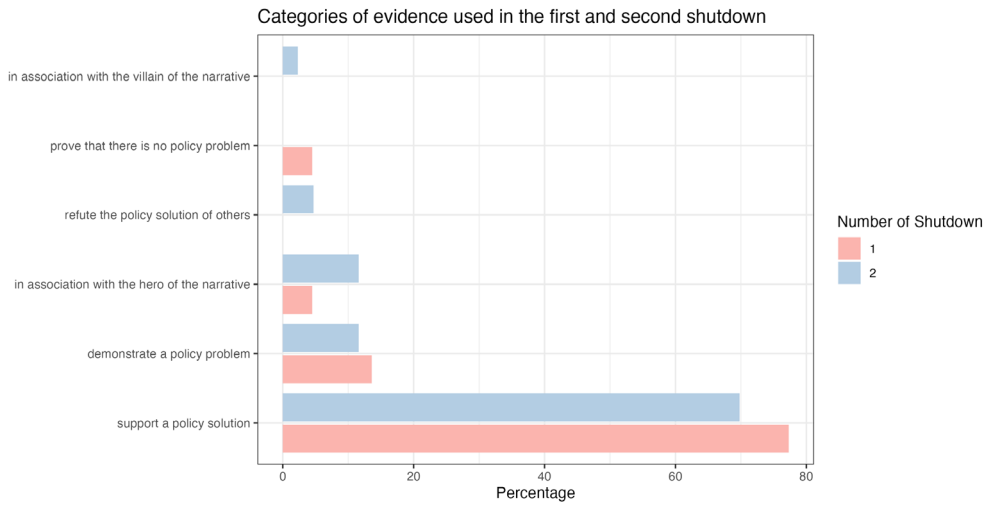

FIGURE 3 Percentage of the ways evidence is used in both shutdowns.

> Here are this morning's #COVID19 indicators:
>
> - 97 patients admitted to the hospital.
> - 926 new cases.
> - The test positivity 7-day average is 2.47%.
>
> We're still below 3%, but that could change. We MUST fight back a second wave to keep our schools open.
> Mayor Bill de Blasio on Twitter, November 14
>
> (Mayor Bill de Blasio, 2020d)

The coalition #KeepNYCSchoolsOpen also provides an example of how scientific evidence is used to refute the policy solution of others:

> Since schools have reopened, the DOE has conducted 123,585 COVID-19 tests across 3410 of our schools. Only 228 were positive — 0.19%. 77,549 staff tests were conducted (for comparison, NYC has ~75,000 teachers). This data clearly shows we are taking appropriate precautions to keep COVID out of schools. #KeepNYCSchoolsOpen, Press Briefing from November 15
>
> (#KeepNYCSchoolsOpen, 2020b).

Interestingly, the policy narratives of the first shutdown do not use evidence at the center of the document or in association with a character. In contrast, in the second shutdown, it is used both for the hero and villain. For instance, one day before the shutdown, the mayor uses evidence while praising a hero, namely everyday New Yorkers:

> [...] not only are schools open today in New York City, schools will also be open tomorrow in New York City. So, another day where we've stayed below that threshold because of everything that you have done [...] because of the huge levels of participation of everyday New Yorkers, because we put in place the things that would make a difference.
> Mayor Bill de Blasio in a press conference, November 17
>
> (Mayor Bill de Blasio, 2020e)

On the same day, the #KeepNYCSchoolsOpen coalition tweets a narrative about the villains (mayor, governor, and UFT) and questions their uses of "evidence":

> @NYCMayor @NYGovCuomo @UFT.
> Are We Seriously Talking About Closing Schools Again?
> @NYTimesOpEd highlights unclear, arbitrary 3% threshold: "None of this is based on statistical modeling or science." #KeepNYCSchoolsOpen.
> #KeepNYCSchoolsOpen on Twitter, November 17
>
> (#KeepNYCSchoolsOpen, 2020c).

To further understand the underlying relationships of evidence uses, we employed chi-squared tests. When examining the association between the function of evidence use and the narrator's position, we did not find a statistically significant relationship (chi-squared test, $p = .5378$, Cramer's $V = 0.1357$). Similarly, when assessing the relationship between the number of shutdowns and the

function of evidence use, the association was not statistically significant (chi-squared test, $p = .4957$, Cramer's $V = 0.1651$). These results suggest that the function of evidence use in the narratives was consistent across different narrator positions and between the two shutdown periods.

In reflecting on the data in relation to our second expectation, the landscape proves more intricate than initially hypothesized. We anticipated that the anti-shutdown coalition, in the face of the second shutdown, would strategically employ scientific evidence to counteract the narratives of the pro-shutdown coalition. While our findings did exhibit an amplified use of evidence across narratives during the second shutdown, this increase was not exclusive to the anti-shutdown coalition. Both coalitions integrated evidence into their narratives, albeit in different manners and with varying emphases. Furthermore, the function of evidence use remained consistent irrespective of the narrator's stance and across both shutdown periods. This suggests that while the role of evidence in shaping the narratives became more pronounced as the pandemic progressed, its strategic use by the anti-shutdown coalition as a tool of opposition could have been more clear-cut.

Expectation 3: Categories of evidence used

Which kinds of evidence were used in the narratives? Turning to the third expectation, we explore the diverse categories of evidence (strategically) employed within policy narratives.

The broad conceptual approach by Smith-Walter et al. (2016), which differentiates between five categories of evidence within policy narratives, was expanded in this article by two new categories, namely individual experts and (national/international) institutions – both important for the COVID-19 context. Especially individual experts played a dominant role in the pandemic, including medical doctors, infectiologists, immunologists, psychologists, and other scientists. National institutions like the CDC or international organizations such as WHO also featured prominently in the overall debates and were cited regarding pandemic responses and policies, such as mask-wearing and social distancing, for which they formulated science-based recommendations.

The categories of evidence found in the narratives differ between the two shutdowns (Figure 4). The first shutdown referred to individual experts most often (35%, $n = 9$) and less to institutions ($n = 6$). The second shutdown, by contrast, saw an increase in the use of statistics. This means that mainly more numbers were used in the narratives. The category of national and international institutions dropped out. Instead, the positivity rate was used extensively (in over 30 narratives). As an indicator of the virus transmission, the positivity rate served as scientific evidence, particularly in the narratives of the mayor, who introduced this element into the discussion about schools' opening/closing conditions.

The type of evidence utilized by policy actors varied significantly based on their policy solution preference during the two shutdown periods (see Table 3). During the first shutdown, scientific evidence from individual experts and institutions played a significant role. Narratives for "keeping schools open" almost equally used individual experts, institutions, scientific studies, and statistics. Narratives for a "temporary shutdown of individual schools" used all evidence types evenly. However, supporters of a "total shutdown" only cited individual experts and institutions, neglecting scientific studies and statistics.

This trend changed in the second shutdown when statistics and numbers were used predominantly. Supporters of "Keeping schools open" mostly used statistics and gave equal emphasis to individual experts and scientific studies. Those favoring a "shutdown at 3% positivity rate" predominantly cited statistics and sparingly referred to experts and studies. Advocates for a "Total shutdown" relied on statistics, avoiding mentioning experts or studies.

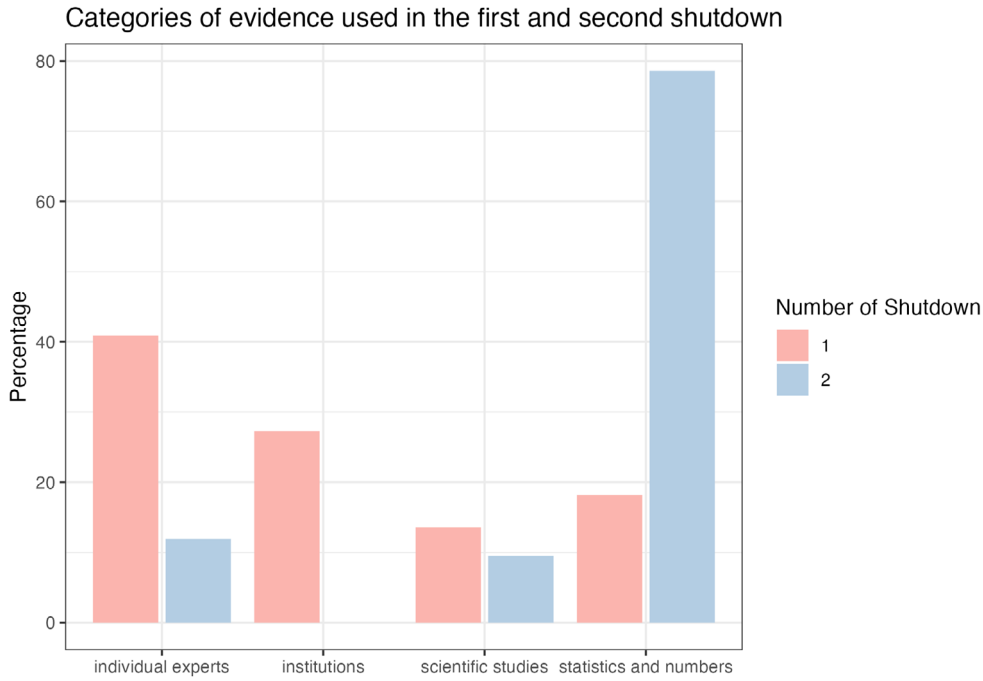

FIGURE 4 Percentage of categories of evidence in both shutdowns.

TABLE 3 Distribution of evidence categories for various policy solutions.

Moral/policy solution	Individual experts (%)	Institutions (%)	Scientific studies (%)	Statistics and numbers (%)
Keep schools open	33.3	22.2	22.2	22.2
Temporary shutdown of individual schools	25.0	25.0	25.0	25.0
Total shutdown of school system	57.1	42.9	0.0	0.0

Moral/policy solution	Individual experts (%)	Scientific studies (%)	Statistics and numbers (%)
Keep schools open	16.7	16.7	66.7
Shutdown if 3% positivity rates	5.0	5.0	90.0
Total shutdown of school system	0.0	0.0	100.0

Chi-squared tests reveal a statistically significant relationship between the type of evidence used in the narratives and the narrator's position (chi-squared test, $p < .0009182$, Cramer's $V = 0.2144$). This indicates that the preference for certain categories of evidence varies depending on the narrator's position. Furthermore, there was a significant association between the type of evidence used and the number of shutdowns (chi-squared test, $p < .000002927$, Cramer's $V = 0.402$). This suggests a discernible shift in the categories of evidence preferred between the two shutdown periods. In essence, these findings emphasize the evolving nature of evidence use and its relationship with both policy narratives and the progression of the pandemic.

Reflecting upon our findings in relation to Expectation 3, it is evident that the strategic deployment of different categories of evidence was both nuanced and deliberate. Our initial premise

was that policy actors exhibit discernible preferences in using evidence based on their strategic objectives. The results support this expectation. The emphasis transitioned from reliance on individual experts during the initial shutdown to a marked preference for statistics in the subsequent one. Such a shift emphasizes the changing contours of the policy debate. It underscores how policy actors adapt their narrative strategies in response to evolving circumstances. However, it does not reflect a more broadened and ascertained scientific knowledge base, as we will further discuss below.

The following final section summarizes the findings in relation to the expectations formulated in Section 2.3 and discusses them in a broader context.

DISCUSSION

The narrative setting of the COVID-19 pandemic school shutdowns was characterized by exhibiting several policy problems. Besides the containment of the pandemic, the health and safety of the students, as well as the school shutdown itself, were framed as problems. Comparative studies have systematized country-specific prioritizations between these problems and respective goals, e.g., pandemic containment versus educational concerns in decisions on school closures (Dobrotić & Blum, 2023). Meanwhile, empirical studies found no direct link between "epidemiological indicators such as the rate of cases [...] to school closure decisions" (Boothe et al., 2022, p. 740). While this confirms the absence of a direct link of available "evidence" to "policy," it foregrounds the question of which evidence was presented in the narratives surrounding the school closures and how its narrative uses developed, e.g., in the face of growing levels of certainty. The case of NYC's pandemic school shutdowns thus offers an opportunity to investigate how evidence use in policy narratives—which has received increasing attention in the NPF literature (e.g., Schlaufer, 2018; Smith-Walter et al., 2016)—changes throughout crises in a comparative perspective over time.

Our first expectation—that the use of evidence would increase in the second shutdown as compared to the first pandemic school shutdown—could partly be confirmed. There was indeed a sharp increase in evidence use in the later crisis stage, yet the results need to be qualified when looking at the different policy actors as well as the *functions* of evidence use. The third expectation posited that different policy actors would also lean on specific categories of evidence, reflecting their strategic goals and can be confirmed. The mayor based the second school closure decision on the city's transmission activity and the overall positivity rate. This placed scientific evidence at the center of decision-making. Thus, the mayor's narratives almost always referenced evidence as he used the rate in his argumentation. The mayor chose the 3% threshold instead of 5% (a reference given by the WHO) or 9% (the state-wide threshold by the New York Assembly). This means he chose an even stricter measure, which he argued would place trust in parents, families, teachers, and everyone involved in the school system. This behavior corresponds to the finding of Boin et al. (2021, p. 34) that during the pandemic: "Government leaders sometimes opted for harder measures (e.g., school closures) than their experts advised, following high-profile interest groups (e.g., teachers unions, medical bodies) that made their voices heard."

For the second shutdown, the mayor thus strategically employed the positivity rate to ensure meeting less resistance from the unions,[16] but the trade-off was a very low threshold to close down schools. The various thresholds of 3%, 5%, and 9% positivity rates also indicate uncertainties about tackling the pandemic within the scientific community (cf. Boin

et al., 2021). However, the anti-shutdown coalition challenged the scientific evidence put forward by the pro-shutdown coalition (the mayor, in particular) in the second shutdown less than we predicted in our second expectation—and "scientific uncertainty" as such was hardly reflected within the policy narratives. Overall, it is striking that the opposing coalition in the second shutdown did not use evidence more. A lack of scientific literacy and access to knowledge could explain this. As a novel civil society coalition, the opposing coalition #KeepNYCSchoolsOpen might depend on the media for information about the pandemic, in contrast to the mayor and the government, who have access to scientific advisers to explain complex scientific correlations. In the future, the research line focusing on differences in evidence use of different policy actors (e.g., Tosun & Schaub, 2021) could investigate their policy-advisory capacity and power constellations.

While the mere quantitative use of evidence in narratives surrounding the second lockdown was higher, a deeper look questioned a more "informed" use at this later stage. Mostly, evidence served important strategic purposes in the policy process—and a measure was put to the forefront (the positivity rate), which itself remained uncertain, while, e.g., the reference to individual scientists even decreased vis-à-vis the first shutdown stage. Policy actors used evidence mainly to support their preferred policy solution and to avoid blame. New York's mayor deliberately chose a piece of scientific evidence and built a policy around it, namely by tying the decision on school closures to the 3% positivity-rate threshold. By setting up this condition during the summer break, he aimed to avoid being placed in a position like in March 2020, when he was personally blamed for keeping schools open too long (whereas others might have blamed him if he closed them too early). Evidence was used to place the decision away from him within a blame-avoidance strategy (cf. Boin et al., 2021).[17] Vice versa, the low use of evidence in the narratives of the civil society coalition could indicate unequal resources for accessing new information, even if availability and certainty levels increase.

CONCLUSIONS

Whereas there had been broad scientific consensus that a global pandemic was amongst the main threats to be prepared for, there was still massive uncertainty in COVID-19's early stage, e.g., related to the nature of the novel virus and the implications of state reactions. The case of NYC's pandemic school closures thus offers us a valuable opportunity to investigate how evidence use in policy narratives changes throughout crises. In a recent study on implementing scientific policy recommendations during COVID-19 in Switzerland, Eichenberger et al. (2023) found that governments "listening to science" was much higher during the early pandemic stage of spring 2020 than during later stages. In a paradox, referral to scientific evidence would not increase with certainty or even be higher in case of more uncertain evidence. Also, our findings show that a broadened and more ascertained evidence base was *not* reflected in the narratives surrounding the pandemic shutdowns of public schools in NYC, yet that strategic uses of evidence evolve over time.

Research on scientific evidence and the NPF should be expanded further by other case studies, including those from the pandemic, where the role of science is extremely dominant. For example, our findings could be tested by comparing narratives related to mask-wearing mandates or by gaining additional insights by going beyond a manifest approach in collecting and coding narratives.[18] Our research is limited to investigating two time points in a restricted geographical setting. However, we hope to contribute to moving forward an agenda also indicated in recent

NPF overviews (Schlaufer et al., 2022; Stauffer & Kuenzler, 2021): systematic comparative analyses of policy narratives over time, in different policy processes and settings.

ACKNOWLEDGMENTS

For helpful comments on earlier versions of this manuscript, we are grateful to the anonymous reviewers, and to all participants from the NPF panel at the ECPR 2022 General Conference in Innsbruck, in particular Caroline Schlaufer for acting as discussant of our paper. We would also like to thank the participants who attended a presentation of a preliminary version of this paper at the seminar series of the Transformations of Democracy unit at the WZB. Open Access funding enabled and organized by Projekt DEAL.

FUNDING INFORMATION

The research presented in this article has received no external funding.

CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

A full list of coded data is available from the authors upon request.

ORCID

Nikolina Klatt https://orcid.org/0000-0002-7835-885X
Sonja Blum https://orcid.org/0000-0001-7989-7217

ENDNOTES

[1] Accordingly, several studies have already applied the NPF to COVID-19 decision-making and political communication (e.g., Biswas Mellamphy et al., 2022; Kuhlmann & Blum, 2021).

[2] Belief systems are defined as a set of values or collective understanding (e.g., on equality, liberty, or security) that societies follow. They are subsystems created through characters and other symbolic, metaphorical, or contextual means (Shanahan et al., 2017).

[3] There are several established narrative strategies, including the scope of conflict as a strategic construction to expand or contain policy issues (Shanahan, Jones, et al., 2018) and the devil-angel shift (Shanahan et al., 2017).

[4] We do thus not include the categories "public opinion polls'," "laws and legal rulings," as well as "ipso dictum," i.e., "prestige of a celebrity or noted cultural figure" (Smith-Walter et al., 2016, p. 1062).

[5] *Ipso dictum* (see Fn. 4) of persons with scientific expertise may fall under "individual experts".

[6] Williams and Kuzma's (2022) study, examining policy narratives in debates about genetically modified salmon in Canada, revealed that the cultural dispositions of the groups involved influence the narrative use of science. Wolton and Crow (2022) showed that the use of evidence in congressional campaign narratives varies strategically and systematically depending on the policy issue.

[7] Depending on the accusation, evidence as an instrument of the villain can play several roles. For example, the villain can be "accused of intentionally using evidence to create an illusion of decline," suggesting that there was no policy problem in the first place (Schlaufer et al., 2021, p. 101).

[8] The terminology of "winning" and "losing" coalitions in NPF literature has been criticized for oversimplifying the complex dynamics of policy debates (Chang & Koebele, 2020; Gottlieb et al., 2018). Gottlieb et al. found that narrators use strategies consistent with their position on an issue, irrespective of whether they are "winning" or "losing" the policy debate. Chang and Koebele built upon this and found that the use of the "devil-angel shift" strategy is better predicted by a coalition's policy position than by their perceived status as

"winners" or "losers." We adopt the "anti-shutdown" and "pro-shutdown" terminology to reflect the specific stances of coalitions.

[9] This positivity rate refers to the percentage of all coronavirus tests that show someone tested positive for COVID-19. The city was below 3% since June 10 (Mayor Bill de Blasio, 2020c). However, it was anticipated that the infection rate would increase once colder fall temperatures set in (NYT, 2020d).

[10] The (time between) reopenings will be briefly discussed to contextualize overall developments.

[11] As non-state actors, the teachers' unions represent the teachers who work in public schools, 1199 SEIU represents healthcare workers who often are also parents of school-aged children, and the NYC Parents Union and the #KeepNYCSchoolsOpen coalition represent the students' parents.

[12] Keywords: *Coronavirus, schools, students, closure, closing, shutdown*. For filtering those narratives in which scientific evidence is used, another keyword search was applied (*evidence, science, scientist(s), scientifically, facts, studies, trust, expert(s), knowledge, positivity rate*).

[13] This also goes along with different document types used for narratives of the various actors. As a small, non-state coalition that only emerged shortly before the second school shutdown, #KeepNYCSchoolsOpen primarily used tweets (e.g., they might not have possessed strong media connections). In contrast, the mayor most often uses press conferences and media interviews in both shutdowns.

[14] In the analysis, this is counted as the position of keeping schools open as the focus of the solution is on the temporary and restricted nature of the shutdown.

[15] For an overview of what side the policy actors are on, see Table S2A for both shutdowns combined. Some policy actors changed their positions during the shutdown.

[16] In the first shutdown, the teachers' union pushed for the school closure while the healthcare workers' union insisted on keeping them open until a sustainable solution for the parent workers was found.

[17] "Should any far-reaching decision (close or not close the schools?) eventually turn out to have negative effects, having the fingerprints of principal science advisers all over them might also prove useful to diffuse and deflect blame" (Boin et al., 2021, p. 36).

[18] Here, only narratives that explicitly mention state school closures were chosen. However, in some cases, the narratives implied a school closure without explicitly mentioning it, e.g., in a tweet by the Chancellor of the Department of Education: "I want to be clear that we take #COVID19 precautions very seriously. The health and safety of our students and staff members is our highest priority. It's up to all of us to lead and model for our communities the importance of listening to facts and not responding to fear" (Chancellor Department of Education, 2020). Including such narratives could provide additional insights.

REFERENCES

#KeepNYCSchoolsOpen. (2020a). About – #KeepNYCSchoolsOpen. Medium https://medium.com/@keepnycschoolsopen/about

#KeepNYCSchoolsOpen. (2020b). Emergency action to keep NYC schools open. Medium https://medium.com/@keepnycschoolsopen/emergency-action-to-keep-nyc-schools-open-3c36dbcbfd55

#KeepNYCSchoolsOpen. (2020c). #KeepNYCSchoolsOpen on twitter. Twitter https://twitter.com/KeepNYCSchools1/status/1328746552588980225?s=20

Advocates for Children of New York. (2020). New data show number of NYC students who are homeless topped 100,000 for fifth consecutive year. https://advocatesforchildren.org/node/1675

Baekkeskov, E. (2016). Explaining science-led policymaking: Pandemic deaths, epistemic deliberation and ideational trajectories. *Policy Sciences*, *49*(4), 395–419. https://doi.org/10.1007/s11077-016-9264-y

Bin Nafisah, S., Alamery, A. H., Al Nafesa, A., Aleid, B., & Brazanji, N. A. (2018). School closure during novel influenza: A systematic review. *Journal of Infection and Public Health*, *11*(5), 657–661. https://doi.org/10.1016/j.jiph.2018.01.003

Biswas Mellamphy, N., Girard, T., & Campbell, A. (2022). Interpreting crises through narratives: The construction of a COVID-19 policy narrative by Canada's political parties, *17*, 142–161. https://doi.org/10.1080/19460171.2022.2067070

Blazer, C. (2011). Summer learning loss: Why its effect is strongest among low-income students and how it can Be combated. *Information Capsule*, *1011*, 1–12. https://eric.ed.gov/?id=ED536514

Böcher, M., Krott, M., & Zeigermann, U. (2021). Wissenschaftsbasierte Politikberatung in der Corona-Krise: Die Ressortforschung des Robert-Koch-Instituts zwischen wissenschaftlichem standard und politischem Handlungsdruck / scientific policy advice in the Corona crisis: The Robert Koch Institute's (German Health Agency) departmental research between scientific standards and political pressure. *Dms—der Moderne Staat—Zeitschrift für Public Policy, Recht Und Management*, *14*(2), 351–372. https://www.budrich-journals.de/index.php/dms/article/view/38522

Boin, A., McConnell, A., & 't Hart, P. (2021). Governing the pandemic. In *The politics of navigating a mega-crisis*. Palgrave Pivot. https://doi.org/10.1007/978-3-030-72680-5

Boin, A., t Hart, P., Stern, E., & Sundelius, B. (2016). Meaning making: Constructing a crisis narrative. In *The politics of crisis management* (pp. 78–101). Cambridge University Press. https://doi.org/10.1017/9781316339756.005

Boothe, K., Fiorillo, N., Just, D., Alvarez, E., & Davidson, A. (2022). School closure decisions in Alberta and Ontario during COVID-19: Discourse and data. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, *55*(3), 740–746. https://doi.org/10.1017/S000842392200049X

Cairney, P. (2021). The UK government's COVID-19 policy: Assessing evidence-informed policy analysis in real time. *British Politics*, *16*(1), 90–116. https://doi.org/10.1057/S41293-020-00150-8

Cairney, P., & Wellstead, A. (2021). COVID-19: Effective policymaking depends on trust in experts, politicians, and the public. *Policy Design and Practice*, *4*(1), 1–14. https://doi.org/10.1080/25741292.2020.1837466

Chalkbeat. (2020a). *NYC schools to close Monday for at least 4 weeks amid coronavirus pandemic*. Chalkbeat. https://ny.chalkbeat.org/2020/3/15/21196039/nyc-schools-to-close-monday-for-at-least-4-weeks-amid-coronavirus-pandemic

Chalkbeat. (2020b). *Should schools close due to coronavirus? Here's what research says*. Chalkbeat. https://www.chalkbeat.org/2020/3/9/21178727/to-close-or-not-to-close-as-schools-weigh-tradeoffs-in-light-of-coronavirus-here-s-what-research-say

Chalkbeat. (2020c). *New York City schools' reopening delayed after mayor, unions reach deal*. Chalkbeat. https://ny.chalkbeat.org/2020/9/1/21410262/new-york-city-schools-reopening-delayed-after-mayor-unions-reach-deal

Chancellor Department of Education. (2020). Chancellor on twitter. Twitter. https://twitter.com/DOEChancellor/status/1235600462155517954?s=20

Chang, K. T., & Koebele, E. A. (2020). What drives coalitions' narrative strategy? Exploring policy narratives around school choice. *Politics & Policy*, *48*(4), 618–657. https://doi.org/10.1111/polp.12367

Comptroller, N. Y. C. (2019). *Census and the city: Overcoming NYC's digital divide in the 2020 census*. www.comptroller.nyc.gov

Crow, D. A., & Berggren, J. (2014). Using the narrative policy framework to understand stakeholder strategy and effectiveness: A multi-case analysis. In M. D. Jones, E. A. Shanahan, & M. K. McBeth (Eds.), *The science of stories: Applications of the narrative policy framework in public policy analysis* (pp. 131–156). Palgrave Macmillan US. https://doi.org/10.1057/9781137485861_7

Crow, D. A., Lawhon, L. A., Berggren, J., Huda, J., Koebele, E., & Kroepsch, A. (2017). A narrative policy framework analysis of wildfire policy discussions in two Colorado communities. *Politics & Policy*, *45*(4), 626–656. https://doi.org/10.1111/polp.12207

Dobrotić, I., & Blum, S. (2023). "Sorry, we're closed": A fuzzy-set ideal-type analysis of pandemic childcare-policy responses in 28 European countries. *European Journal of Politics and Gender*, *6*(2), 258–294.

Eichenberger, S., Varone, F., Sciarini, P., Stähli, R., & Proulx, J. (2023). When do decision-makers listen (less) to experts? The Swiss government's implementation of scientific advice during the COVID -19 crisis. *Policy Studies Journal*, *51*, psj.12494. https://doi.org/10.1111/psj.12494

Forbes. (2020). *Scientists in New York urge closure of schools to slow spread of coronavirus*. Forbes. https://www.forbes.com/sites/victoriaforster/2020/03/12/scientists-in-new-york-city-urge-closure-of-schools-to-slow-down-spread-of-coronavirus/?sh=77d419eb7f3b

Gottlieb, M., Bertone Oehninger, E., & Arnold, G. (2018). "No fracking way" vs. "drill baby drill": A restructuring of who is pitted against whom in the narrative policy framework. *Policy Studies Journal*, *46*(4), 798–827. https://doi.org/10.1111/psj.12291

Gupta, K., Ripberger, J. T., & Collins, S. (2014). The strategic use of policy narratives: Jaitapur and the politics of siting a nuclear power plant in India. In M. D. Jones, E. A. Shanahan, & M. K. McBeth (Eds.), *The science of stories: Applications of the narrative policy framework in public policy analysis* (pp. 89–106). Palgrave Macmillan US. https://doi.org/10.1057/9781137485861_5

Gupta, K., Ripberger, J., & Wehde, W. (2018). Advocacy group messaging on social media: Using the narrative policy framework to study twitter messages about nuclear energy policy in the United States. *Policy Studies Journal*, *46*(1), 119–136. https://doi.org/10.1111/psj.12176

Huda, J. (2021). Sources of evidence for risks and benefits in agricultural biotechnology policy in India: Exploring links to setting and plot in policy narratives. *Politics & Policy*, *49*(1), 205–247. https://doi.org/10.1111/polp.12391

Jones, M. D., Shanahan, E. A., & McBeth, M. K. (2014). The science of stories: Applications of the narrative policy framework in public policy analysis. In *The science of stories: Applications of the narrative policy framework in public policy analysis*. Palgrave Macmillan. https://doi.org/10.1057/9781137485861

Koelle, K., Martin, M. A., Antia, R., Lopman, B., & Dean, N. E. (2022). The changing epidemiology of SARS-CoV-2. *Science*, *375*(6585), 1116–1121. https://doi.org/10.1126/science.abm4915

Kuhlmann, J., & Blum, S. (2021). Narrative plots for regulatory, distributive, and redistributive policies. *European Policy Analysis*, *7*(S2), 276–302. https://doi.org/10.1002/epa2.1127

Mayor Bill de Blasio. (2020a). Mayor de Blasio appears live on CNN newsroom, City of New York. https://www1.nyc.gov/office-of-the-mayor/news/127-20/transcript-mayor-de-blasio-appears-live-cnn-newsroom

Mayor Bill de Blasio. (2020b). New York City to close all school buildings and transition to remote learning. https://www1.nyc.gov/office-of-the-mayor/news/151-20/new-york-city-close-all-school-buildings-transition-remote-learning

Mayor Bill de Blasio. (2020c). Mayor de Blasio holds media availability July 31. https://www1.nyc.gov/office-of-the-mayor/news/561-20/transcript-mayor-de-blasio-holds-media-availability

Mayor Bill de Blasio. (2020d). Mayor Bill de Blasio on Twitter: "Here are this morning's #COVID19 indicators." Twitter. https://twitter.com/NYCMayor/status/1327635359044456710?s=20

Mayor Bill de Blasio. (2020e). Mayor de Blasio Holds Media Availability Nov 17. https://www1.nyc.gov/office-of-the-mayor/news/788-20/transcript-mayor-de-blasio-holds-media-availability

McBeth, M. K., Shanahan, E. A., Arnell, R. J., & Hathaway, P. L. (2007). The intersection of narrative policy analysis and policy change theory. *Policy Studies Journal*, *35*(1), 87–108. https://doi.org/10.1111/J.1541-0072.2007.00208.X

McKinsey. (2020). *Achievement gap and Coronavirus*. https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime

Merry, M. K. (2016). Constructing policy narratives in 140 characters or less: The case of gun policy organizations. *Policy Studies Journal*, *44*(4), 373–395. https://doi.org/10.1111/psj.12142

Mosley, J. E., & Gibson, K. (2017). Strategic use of evidence in state-level policymaking: Matching evidence type to legislative stage. *Policy Sciences*, *50*(4), 697–719. https://doi.org/10.1007/s11077-017-9289-x

New York State Assembly. (2020). *Coronavirus updates*. New York State Assembly. https://nyassembly.gov/coronavirus/?sec=updates_nys

NYC Parents Union. (2020). NYC parents union on twitter. Twitter. https://twitter.com/NYCParentsUnion/status/1238523684593315840?s=20

NYT. (2020a). New York City public schools to close due to coronavirus. *The New York Times*. p. A4. https://www.nytimes.com/2020/03/15/nyregion/nyc-schools-closed.html. November 16, 2020.

NYT. (2020b). *Can NYC reopen schools? The whole country is watching*. The New York Times. https://www.nytimes.com/2020/08/05/nyregion/nyc-schools-reopening.html

NYT. (2020c). New York City to close public schools again as virus cases rise. *The New York Times*. https://www.nytimes.com/2020/11/18/nyregion/nyc-schools-covid.html. November 18, 2020.

NYT. (2020d). Coronavirus in N.Y.C: Pressure to close school system, Nation's largest. *The New York Times*. https://www.nytimes.com/2020/03/13/nyregion/coronavirus-nyc-schools.html. March 14, 2020.

NYT. (2020e). Did it hit 3%? Why parents and teachers are fixated on one number. *The New York Times*, p. A4. https://www.nytimes.com/2020/11/15/nyregion/coronavirus-nyc-schools-shutdown.html. November 16, 2020.

Parkhurst, J. (2016). The politics of evidence: From evidence-based policy to the good governance of evidence. In *The politics of evidence: From evidence-based policy to the good governance of evidence*. Taylor and Francis. https://doi.org/10.4324/9781315675008

Peci, A., González, C. I., & Dussauge-Laguna, M. I. (2023). Presidential policy narratives and the (mis)use of scientific expertise: Covid-19 policy responses in Brazil, Colombia, and Mexico. *Policy Studies*, *44*(1), 68–89. https://doi.org/10.1080/01442872.2022.2044021

Schippers, M. C., & Rus, D. C. (2021). Optimizing decision-making processes in times of COVID-19: Using reflexivity to counteract information-processing failures. *Frontiers in Psychology*, *12*, 1–14. https://doi.org/10.3389/fpsyg.2021.650525

Schlaufer, C. (2018). The narrative uses of evidence. *Policy Studies Journal*, *46*(1), 90–118. https://doi.org/10.1111/psj.12174

Schlaufer, C., Khaynatskaya, T., Pilkina, M., Loseva, V., & Rajhans, S. K. (2021). Problem complexity and narratives in Moscow's waste controversy. *European Policy Analysis*, *7*(S2), 303–323. https://doi.org/10.1002/epa2.1115

Schlaufer, C., Kuenzler, J., Jones, M. D., & Shanahan, E. A. (2022). The narrative policy framework: A Traveler's guide to policy stories. *Politische Vierteljahresschrift*, *63*(2), 249–273. https://doi.org/10.1007/S11615-022-00379-6/TABLES/9

Shanahan, E. A., Jones, M. D., & McBeth, M. K. (2018). How to conduct a narrative policy framework study. *The Social Science Journal*, *55*(3), 332–345. https://doi.org/10.1016/j.soscij.2017.12.002

Shanahan, E. A., Jones, M. D., Mcbeth, M. K., & Lane, R. R. (2013). An angel on the wind: How heroic policy narratives shape policy realities. *The Policy Studies Journal*, *41*(3), 453–483.

Shanahan, E. A., Jones, M. D., McBeth, M. K., & Radaelli, C. M. (2017). The narrative policy framework. In C. Weible & P. Sabatier (Eds.), *Theories of the policy process* (4th ed., pp. 173–213). Westview Press.

Shanahan, E. A., Raile, E. D., French, K. A., & McEvoy, J. (2018). Bounded stories. *Policy Studies Journal*, *46*(4), 922–948. https://doi.org/10.1111/psj.12269

Smith-Walter, A., Peterson, H. L., Jones, M. D., & Marshall, A. N. R. (2016). Gun stories: How evidence shapes firearm policy in the United States. *Politics & Policy*, *44*(6), 1053–1088. https://doi.org/10.1111/polp.12187

State of New York. (2020). Executive Order 202.4. https://www.governor.ny.gov/sites/default/files/atoms/files/EO%20202.4.pdf

Statista. (2021). Top 25 cities in the US with the highest resident population in 2019. https://www.statista.com/statistics/205589/top-20-cities-in-the-us-with-the-highest-resident-population/

Stauffer, B., & Kuenzler, J. (2021). Introduction—Stories of the old world: The narrative policy framework in the European context. *European Policy Analysis*, *7*, 268–275.

Stephan, H. R. (2020). Shaping the scope of conflict in Scotland's fracking debate: Conflict management and the narrative policy framework. *Policy*, *37*(1), 64–91. https://doi.org/10.1111/ropr.12365

Stier, S. (2016). Studying the role of elites in US political twitter debates. 6th Workshop on Making Sense of Microposts https://doi.org/10.7802/1178

Stone, D. (2012). Policy Paradox. In *The art of political decision making*. W. W. Norton & Company.

Thompson, C. N., Baumgartner, J., Pichardo, C., Toro, B., Li, L., Arciuolo, R., Chan, P. Y., Chen, J., Culp, G., Davidson, A., Devinney, K., Dorsinville, A., Eddy, M., English, M., Fireteanu, A. M., Graf, L., Geevarughese, A., Greene, S. K., Guerra, K., … Fine, A. (2020). COVID-19 outbreak—New York City, February 29–June 1, 2020. *Morbidity and Mortality Weekly Report*, *69*(46), 1725–1729. https://doi.org/10.15585/mmwr.mm6946a2

Tosun, J., & Schaub, S. (2021). Constructing policy narratives for transnational mobilization: Insights from European Citizens' initiatives. *European Policy Analysis*, *7*(S2), 344–364. https://doi.org/10.1002/epa2.1125

UNESCO. (2020). *Covid-19 Impact on Education data: COVID-19 education disruption and response*. United Nations Educational, Scientific and Cultural Organization. https://en.unesco.org/covid19/educationresponse

Vicentini, G., & Galanti, M. T. (2021). Italy, the sick man of Europe: Policy response, experts and public opinion in the first phase of Covid-19. https://doi.org/10.1080/13608746.2021.1940582

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonell, C., & Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. *The Lancet Child & Adolescent Health*, *4*(5), 397–404. https://doi.org/10.1016/S2352-4642(20)30095-X

WHO. (2020). *Public health criteria to adjust public health and social measures in the context of COVID-19*. https://apps.who.int/iris/bitstream/handle/10665/332073/WHO-2019-nCoV-Adjusting_PH_measures-Criteria-2020.1-eng.pdf?sequence=1&isAllow

Williams, T. T., & Kuzma, J. (2022). Narrative policy framework at the macro level—Cultural theory-based beliefs, science-based narrative strategies, and their uptake in the Canadian policy process for genetically modified salmon. *Public Policy and Administration*, *37*(4), 480–515. https://doi.org/10.1177/09520767211065609

Wolton, L., & Crow, D. A. (2022). Politicking with evidence: Examining evidence-based issues in electoral policy narratives. *Policy Sciences*, *55*(4), 661–691. https://doi.org/10.1007/s11077-022-09478-y

AUTHOR BIOGRAPHIES

Nikolina Klatt is a researcher in the Transformations of Democracy unit at the Wissenschaftszentrum Berlin Social Science Center.

Sonja Blum is a professor of Comparative Politics and Public Policy at Bielefeld University, Germany.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Klatt, N., & Blum, S. (2025). How does the use of evidence in policy narratives change during crises? A comparative study of New York City's pandemic school shutdowns. *Review of Policy Research*, *42*, 1322–1349. https://doi.org/10.1111/ropr.12589