What Happens in the Eye of the Storm?
News Ideology During Media Storms

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Media storms are surges of intensive story coverage for an unusual news cycle. As such they are an important phenomenon to study in democracies. News ideology is the tendency to bias media coverage based on partisan interests or ideological orientation. This research is the first to explore the causal nexus between the two phenomena. This article also proposes several hypotheses concerning the strategic partisan behavior of news outlets during media storms. It examines the use of production mechanisms to bias news coverage and conceptualizes two stages within media storms. The data come from two major erupting media storms: the Yellow Vests Movement in France and the Occupy Movement in Israel. Both storms were mass social movements that challenged the political and economic status quo and enjoyed high public approval. The findings suggest the following: Media coverage of the storms was nevertheless affected by news ideology; front page and the sizing of articles were used as emphasizing means; and news ideology crystallized during the height of the media storms.

Keywords: partisan media bias, news ideology, media storms, media hypes, media waves, media dynamics, media balance

News media is characterized by attention cycles devoted to items and stories that gain prominence for a few days. Downs (1972) has termed this phenomenon "the issue-attention cycle." Such cycles typically alternate rapidly between news items that compete for media and public attention. Yet, periodically, a story captures the media with such force that almost all news outlets devote considerable space, time, and energy to covering it for an unusual period. This phenomenon is known as "media hype" (Vasterman, 2005, 2018) or "media storm" (Boydstun, Hardy, & Walgrave, 2014). Media storms exhibit irregular characteristics compared with standard media stories and routines, and may have more effect on the public and decision makers (Walgrave, Boydstun, Vliegenthart, & Hardy, 2017). We know relatively little, however, about how the intensity and pressures of media storms become entangled with partisan media behavior or media bias, here conceptualized as *news ideology*.

The possible effects of news ideology on news coverage during media storms are timely and important, as recent partisan coverage of the Covid-19 epidemic in the United States illustrates (Stelter, 2021, pp. 290–317). Theoretically and conceptually, there is a potential causal connection between the two phenomena. Media storms often involve contentious political, economic, and social issues (Downs, 1972). The intense fixation of the media on such sensitive issues may thus turn into a challenge to political and economic elites or media organizations and their owners. Such challenges to the interests of news organizations may lead to biased coverage and other forms of news manipulations.

The purpose of this research is to broaden the knowledge about the causal nexus between media storms and news ideology. Previous studies have not considered how news ideology may affect outlets' behavior within media storms. I propose and test several possible hypotheses, that is, coverage strategies. Underlying the hypotheses is the notion that ideologically opposed outlets respond differently to a story as the storm develops. I argue that the ideological orientation and interests of news outlets shape the coverage of a major story rather than the regular professional considerations. After all, it has been long argued that news coverage could not be entirely objective despite the objectivity ethos of professional news outlets, and that the framing of social issues and news stories depends on normative and political beliefs (e.g., Entman, 2007; Gans, 1979; Tuchman, 1972). It could therefore be expected that the ideological orientation of news outlets also influences this framing process.

Moreover, I argue that outlets employ production mechanisms to highlight or downplay news items based on their content. A further theoretical contribution of this study is to conceptualize the height and decline stages of media storms and to test competing hypotheses concerning partisan behavior within these two phases. Finally, I propose a new method for measuring and quantifying the level of news ideology about a news story, based on weekly average scores on a two-point scale.

The research is based on a quantitative analysis of two major media storms: the 2011 Social Justice Protest movement in Israel and the French Yellow Vests Movement of 2018–2019. The findings lend support for several, but not all, of the proposed hypotheses.

Media Storms

A media storm is "an explosive increase in news coverage of a specific item (event or issue) constituting a substantial share of the total news agenda during a certain time" (Boydstun et al., 2014, p. 511). Media storms are characterized by a drastic increase in coverage of a certain event or topic. The storm usually peaks after a few weeks and then begins to fade (van Atteveldt, Ruigrok, Welbers, & Jacobi, 2018). The components of media storms are: The amount of media attention they receive compared with that received by other news stories, the sudden rise of attention over a certain key event, the unusual period of media attention to the issue, and the coverage of the issue by most, or nearly all, news outlets—what Boydstun and colleagues (2014) term as "multi-media phenomenon" (p. 513).

An early precursor to the media storms concept is the work of Katz and Dayan (1985) on "media events," which they define as "live broadcasts of ceremonial occasions that are preplanned and well-advertised" (p. 305). In the 1990s, a new conceptualization of media events was introduced under the term

"key events." Brosius and Eps (1995) argue that key events are characterized by "their high coverage and their stimulating and shaping function for subsequent coverage," and that they occur around "severe catastrophes and accidents" (p. 393). Key events propel extensive coverage by placing a new issue on the public agenda, adding a new dimension to a familiar issue, and by leading to frequent reporting of events (e.g., accidents, crimes) regardless of the actual frequency of those events in the real world (Brosius & Eps, 1995, p. 407).

Kepplinger and Habermeier (1995) broadened the category of key events, finding no necessary condition for a key event to arise, and argued that key events are not based on objectively extreme or violent events. Kepplinger and Habermeier (1995) find that key events focus public attention on and raise interest in obtaining more information on the issue, that journalists also seek more information on the story, that pressure groups, including protest groups, tend to organize more activity to gain media attention, and that key events also pressure politicians and other decision makers.

An important step in the scholarship was made by Vasterman (2005, 2018), who terms the phenomenon as "media hypes," and argues that media hypes do not correspond to real-life events and are essentially "media-generated" events involving "amplification, magnification, exaggeration and distortion" (2005, p. 511). Vasterman (2005) also contends that media hypes develop when an initial event is reported and assumes "a life of its own" mainly due to lower news thresholds for similar news. Competition among news outlets then forces them to "join the pack" in covering the story, which in turn creates reinforcing feedback loops (Vasterman, 2005, pp. 509, 514, 526). Vasterman (2005) argues that the "media themselves play a central role in the development of the event, the issue, the social problem or the scandal, because they create this massive news wave" (p. 510).

Research on media storms also focuses on the impact of such events on the public and politicians. Elmelund-Præstekær and Wien (2008), for example, find little influence of media hypes on policy making on the national level in Denmark, but they find that "media hypes have some political consequences on the local level" (p. 262). They also find that politicians use media hypes as windows of opportunity to promote their agenda using new, and recycling old, policy proposals. Because the media threshold for such stories is lowered during media hypes, there is a "symbiotic relationship" between politicians and the media (Elmelund-Præstekær & Wien, 2008, p. 262; see also, Walgrave et al., 2017).

A more recent and important contribution to the scholarship is Boydstun and colleagues' (2014) research on media storms. They find that media behavior is quite different during storms and that it involves a high, yet flat, media attention, that is, media coverage does not fluctuate much in storm mode (Boydstun et al., 2014). Media storms develop after dramatic events and are enabled by lower gatekeeping thresholds, dynamics among the actors involved, and outlets' reinforcing effects to observe and imitate their competitors' news decisions (Boydstun et al., 2014; see also Hardy, 2018). Boydstun and associates also find that media storms affect public interest, as seen by citizens' searches on the Internet on the issues of the storm (Boydstun et al., 2014; see also Walgrave et al., 2017 for effects on political actors).

An understudied, yet important, aspect of media storms is the element of partisan media behavior, or media bias, during these central media events. This factor seems pertinent as many news markets in

western democracies have become politically polarized and more segmented around political identities. This article aims to contribute to the research on this issue.

Ideological Influences on News Making

The study of ideological or partisan influences on news making has been on the rise for the past 15 years (Shultziner & Stukalin, 2021b). Partisan and ideological influences are different forms of bias in news content, and in the ways that news outlets favor or criticize, emphasize or ignore, certain events, information, political actors, and policies. It is known that pressures on media organizations (including from within them) may influence news content, production characteristics, and timing considerations (Puglisi & Snyder, 2015; Shultziner & Stukalin, 2021b).

Several approaches and methods can be pursued in the study of ideological or partisan bias in news making (Groeling, 2013; Hopmann, Van Aelst, & Legnante, 2012). At the heart of the debate is the question of the golden standard of objectivity to which "media bias" refers. As Gans (1979) noted, the concepts of news bias and news distortion are valid only "in relation to a specified standard (or ideal) of nondistortion" (p. 305). The approach taken in this study is that news ideology is reflected in the ways that different news outlets cover the same event or media storm within the same timeframe *relative to one another*. This approach takes professional newsworthiness considerations and news routines as factors that normally lead market competitors to produce very similar news about similar stories (Gans, 1979). For example, the reporting of accidents, natural disasters, and senseless violence often results in identical news content, framing, and even headlines.

Precisely because professional considerations regarding news coverage are assumed to be similar from journalists' perspectives and self-expectations, unbiased coverage is expected to yield roughly similar coverage among market competitors. When competing outlets exhibit very different lines of coverage on the same story, it can be assumed that professional considerations were overcome by news ideology (see more details below).

The literature shows that news ideology involves *production mechanisms* (Shultziner & Stukalin, 2021a). These mechanisms include various emphasizing means that can enhance the exposure of certain news products, and vice versa. Among the prevalent means in newspaper production are the following: The choice of front-page articles and headlines; the placement of articles in the news issue's hierarchy, such as page number; the sizing of articles on the page; and the use of pictures. Where news ideology is involved, editors strategically use production mechanisms to highlight and downplay news products according to the article content.

In protest coverage, description bias is captured in the framing of protest events: "Inherent in this term is the assumption that the media construct interpretations of protest events that differ from both the objectives of protesters and interpretations of other observers" (Smith, McCarthy, McPhail, & Augustyn, 2001, p. 1401). An influential line of research known as the "protest paradigm" found that media reports of protests tend to be negative, emphasizing radical tactics, and that journalists tend to uphold the statements and positions of state representatives over those of protesters (Detenber, Gotlieb, McLeod, & Malinkina,

2007; Lee, 2014). This study explores to what extent ideologically opposed outlets employ the protest paradigm in their coverage of protest movements.

Two Storms: The Yellow Vests Movement and the Social Justice Movement

This study considers two media storms: France's Yellow Vests Movement, which began in November 2018, and the Israel Social Justice Protest Movement of 2011 (also known as the 2011 Occupy Movement). These storms are of the high-intensity and event-centered (bursting issues) storm type that, according to Geiß (2018), tend to last longer and reach a higher maximum intensity of coverage than other media events.

The French Yellow Vests Movement grew out of anger over a new fuel tax and from a general sentiment that President Macron was benefitting the rich while remaining estranged from the lower working classes. The aggrieved sectors, who were varied in their political affiliations, wore yellow vests as their symbol of protest. The Yellow Vests Movement was formally launched on November 17, 2018. With no organized leadership, the protest movement adopted tactics such as occupying intersections and roundabouts across France and marching in major cities on Saturdays. Involving hundreds of thousands of participants, the Saturday marches (also known as "acts") peaked on December 10, 2018, when the French government halted the fuel tax and made additional concessions. The number of protesters halved the following week, and the protests gradually declined (Shultziner & Kornblit, 2020).

The Yellow Vests Movement received wide coverage for its bold and even violent tactics. At some of the Saturday protests, in Paris especially, clashes took place between protesters and police forces, leaving hundreds wounded among both officers and citizens. Protesters also carried out high-profile burglaries and acts of vandalism against both private and public property; even the Arc de Triomphe, a national monument to fallen soldiers, was vandalized. However, despite its radical flanks, the movement enjoyed public support between November 17 and December 22 in 2018, averaging 72% approval then and 63% approval in January 2019 (Shultziner & Kornblit, 2020).

News of the Yellow Vests Movement captured national and international headlines. The protests were covered by all French media outlets and received a major share of news, analysis, and op-eds. Figure 1 illustrates the chronology of the Yellow Vests media storm by the total number of articles, total articles by ideology, and the height and decline stages of the storm based on the peak of media attention. Media attention began on November 13, 2018 (four days before the official launch date) and quickly intensified in the following weeks. It reached a peak in week 4 (December 2–8), with 198 news items about the movement. Weeks 1–4 were thus the height stage of the media storm. The decline stage began in week 5 (December 9–15), with a 43% decline in the number of articles compared with week 4. Week 6 (December 16–22) showed a further decline in media coverage, with a 52% decrease in total newspaper coverage relative to week 5, which continued to decline until week 9. The media attention then zig-zagged between weeks 9 and 11 but the story no longer dominated the news, and faded away from February 2019 onward (Shultziner & Kornblit, 2020). The decline stage was thus between weeks 5 and 11.
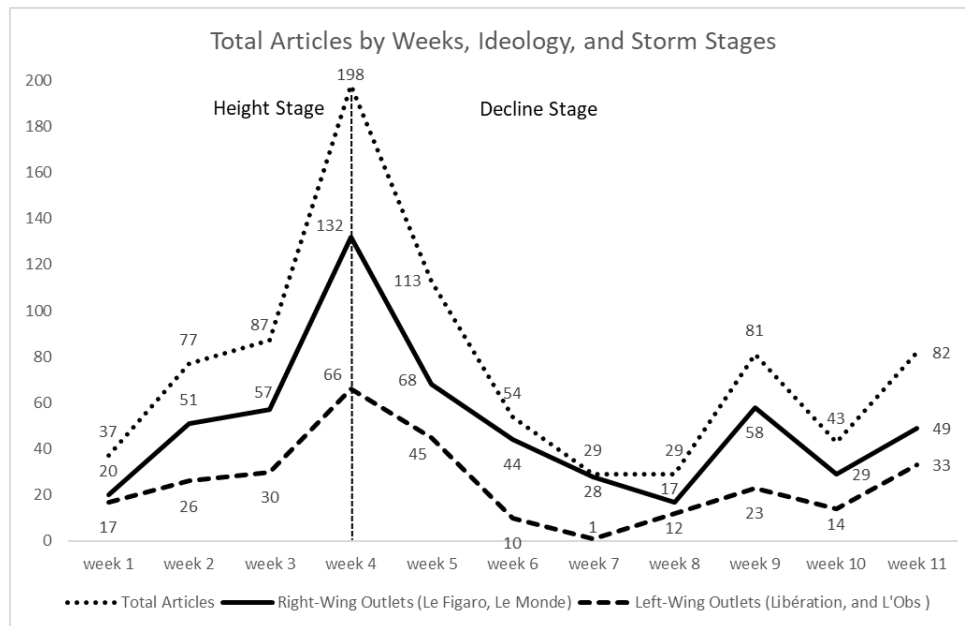
Figure 1. France's Yellow Vests Movement, chronology of the media storm.

The Israel Social Justice Protest Movement of 2011 was one of the largest movements in the country's history. It began with an online call to action by Daphni Leaf, who used Facebook to call for a public sleepover in a central Tel Aviv boulevard on July 14, 2011, to protest the rising costs of rents in the city. The protest soon spread to other cities in Israel and began touching on other social and economic issues and social justice more broadly. The protest's slogan was "The people demand social justice!" Protesters held mass rallies on Saturday evenings, involving hundreds of thousands of participants. Alongside staging weekly rallies, protesters adopted occupy tactics in public spaces all over Israel. The protests received wide public approval, reaching up to 90% support in July and maintaining 80% agreement between August and September (Shultziner & Shoshan, 2018). The organizers eventually called off the movement at a mass rally on September 3, 2011, saying the protests would continue by other means.

Media attention to the Social Justice Protest Movement was massive. Figure 2 illustrates the chronology of this media storm by the total number of articles, total articles by ideology, and the height and decline stages of the storm, based on the peak of media attention. Media coverage began several days before the launch date of July 14 and grew over the following three weeks, reaching a maximum of 422 news items in week 3 (ending August 5, 2011). Weeks 1–3 are thus defined as the height stage of the movement. The decline stage began in week 4 with a 23% decrease in the number of articles compared with week 3. The decline continued in weeks 5 (−33%) and 6 (−56%) compared with the previous week. Attention rose again slightly in weeks 7–8 in anticipation of the closing event and mass rally of September 3, and then diminished by September 9, 2011, six days after the organizers called off the Occupy Movement. The final two weeks were more of a prologue of the movement, and media coverage mostly focused on the final mass event, with conclusions about the movement's achievements and demise.
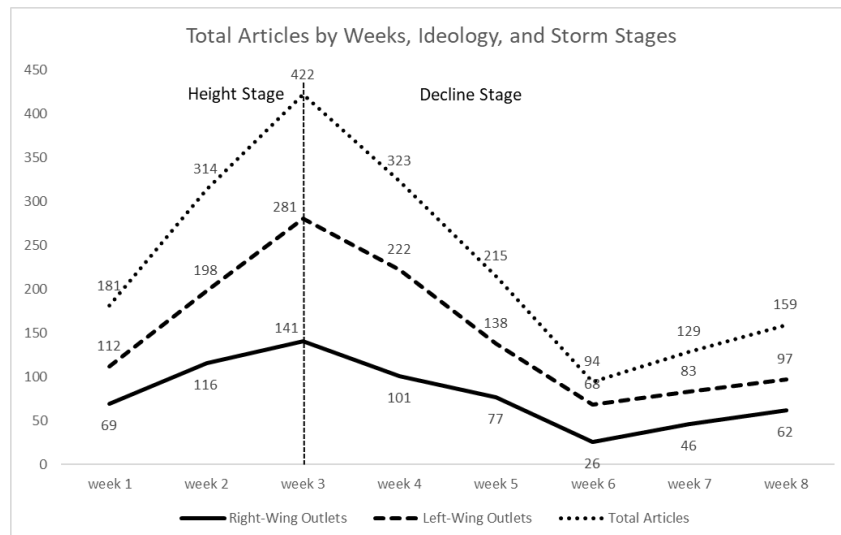
Total Articles by Weeks, Ideology, and Storm Stages

Figure 2. Israel's Social Justice Movement, chronology of the media storm.

The French and the Israeli movements are hard test-cases for the nexus of news ideology and media storms because they both received high levels of public approval and were considered largely nonpartisan protests. Both President Macron and Prime Minister Netanyahu acknowledged the economic hardships early in the respective protests. Therefore, if media bias can be demonstrated in these cases, it is likely widespread in the coverage of political stories and media storms more generally.

The exploration of two storms obviously limits the robustness of possible general conclusions. For instance, public opinion may have been different in other Occupy movements, let alone in more "political" events, and such factors may have different effects on storm coverage elsewhere. Yet while there are similarities in the two cases, they also include some important dissimilarities. The French Yellow Vests Movement included violent clashes with police forces, a factor that normally draws negative news coverage according to the protest paradigm (Detenber et al., 2007; Lee, 2014). The Israeli Movement, on the other hand, was very peaceful and there were no violent clashes with the police. Moreover, the major elements within the French Yellow Vests Movement targeted President Macron and demanded his resignation while in Israel the movement leaders took caution not to directly attack Prime Minister Netanyahu so as not to alienate right-wing participants and sectors. These differences add to the comparison's reliability and allow drawing initial conclusions regarding an understudied phenomenon.

News Ideology and Media Storms: Hypotheses

Media storms can be high-risk events for politicians, news organizations, and their owners. For instance, media storms may encourage civic action and lobby groups to shape policy making and political fortunes. Walgrave and colleagues (2017) posit that politicians are highly sensitive to media storms and shift into higher gear when they occur: "Their reputation, electoral fate, and even their political future may depend on whether and how they deal with the media" (p. 5). This logic applies to news organizations that might also

be positively or negatively affected by certain news stories and political outcomes. As Gitlin (1980) puts it, "the closer to home the affected interest, the greater the strictures on news coverage" (p. 268).

News organizations may be affected by media storms either directly (e.g., advertising revenue) or indirectly (e.g., interests concerning elected officials). There is ample evidence of various interventions in the news-making process when news organizations are jeopardized by the stories they cover (e.g., Barrett & Barington, 2005; Groseclose & Milyo, 2005; Shoemaker & Reese, 2014).

The commercial and political dependency of media outlets may be jeopardized because the stakes of a media storm seem very high, and the outlet is caught up in dynamics that it does not fully control. Commercial competition, imitation effects, and newsworthiness considerations lead media outlets to cover the story. However, if the story itself is perceived as a risk to the ideological line or political interests of a news outlet, this may lead to biased coverage. As Vasterman (2005) suggested, there appears to be a built-in conflict between professional standards of reporting and the actual behavior of media outlets during a media storm in terms of reliability, fairness, balance, independence, distance, relevance, and social responsibility.

This theoretical understanding of the possible causal linkage between media storms and media ideology leads to the following possible hypotheses, which are also depicted in Figure 3 below as simulated expectations.

Hypothesis 1 concerns the assumed link between news ideology and news coverage, and postulates that ideologically opposed outlets behave differently from each other in a media storm (see H1.1 in Figure 3). The main test is whether the behaviors of competing media outlets are similarly shaped by newsworthy events and professional considerations, which normally lead to the same coverage of events such as accidents (Vasterman, 2005) and scandals (Wien & Elmelund-Præstekær, 2009) or by news ideology, which may lead to diverged coverage. This leads to the first part of Hypothesis 1:

H1.1:   Description bias differs between ideologically opposed media outlets during the storm.

The effect of news ideology on description bias may take two forms. First, outlets may maintain a constant gap in description bias, regardless of weekly events and the development of a news story. Second, outlets may respond differently to the development of the story. For example, as they realize the political nature of the developing story or the threats it poses to their interests, outlets may move on opposite lines of coverage. In the latter case, there is a causal interaction between news ideology and weekly events.

The null hypothesis is H1.2.

H1.2:   Media storms do not affect professional considerations and hence outlets will resemble one another according to the weekly events. (See H1.2 in Figure 3.)

It should be emphasized that positive or negative coverage is not proof of ideological bias nor is neutral coverage a benchmark of unbiased coverage. Outlets may change their lines of coverage from positive to neutral or negative, and vice versa. If they respond similarly to the story and its occurrences

based on the same journalistic routines, the differences and changes can be explained solely by the weekly events—that is, weeks as a factor—and the null hypothesis is confirmed.

Hypothesis 2 predicts that news ideology also affects the use of *production mechanisms* during media storms. Based on prior studies (Shultziner & Stukalin, 2021a, 2021b), it is assumed that top editors emphasize and deemphasize articles according to the outlets' news ideology. The common production means are front-page articles, the size of articles on pages, the use of pictures, and the page number of the articles in the hierarchy of the day's edition. This can be stated as:

H2:   If there are ideological influences on coverage, ideologically opposed outlets strategically employ production mechanisms to highlight and downplay articles according to their content during media storms.

The media behavior concerning production mechanisms is similar to the depiction in H1.1.

Hypothesis 3 concerns the "height stage" of media storms, which covers the period from the sudden rising of attention until it reaches the peak of media coverage in terms of the number of news items (i.e., numeric size) devoted to the story (Geiß, 2018; van Atteveldt et al., 2018; Wien & Elmelund-Præstekær, 2009). It is possible that ideological influences on coverage increase during this intensive phase in which politicians are forced to respond and the risks for media outlets are higher (Boydstun et al., 2014; Elmelund-Præstekær & Wien, 2008; Vasterman, 2005). For instance, outlets may begin covering the story similarly, but as politicians begin taking sides on the issue, and civic groups begin protesting, outlets may stand to win or lose from these battles, and media owners or senior editors may intervene to bias coverage. This leads to the next hypothesis:

H3.1:   Ideological influences increase during the height stage.

A possible alternative model and strategy concerning the height stage is that the line of coverage of the news story will not significantly change and would remain stable or constant. For example, news outlets may take sides early on as the story emerges and not change their line of coverage afterward. This can be presented as:

H3.2:   Ideological influences remain stable during the height stage.

Hypothesis 4 concerns ideological influences on coverage during the "decline stage." In media storms, a story remains at the top of the news agenda even after reaching peak attention for at least a few more weeks (Vasterman, 2005; Wien & Elmelund-Præstekær, 2009). As public and media interest begins to decline, the topic supposedly becomes less threatening and poses fewer risks to media outlets. There are therefore two possible hypotheses. First, the decline of the storm does not diminish ideological influences. This can be put as:

H4.1:   Ideological influences remain stable as media storms decline.

Second, the decline of the storm possibly diminishes ideological influences on media coverage. As the topic becomes less threatening, media outlets may return to professional journalistic standards, and their coverage will become more similar and possibly even converge. This can be put as:

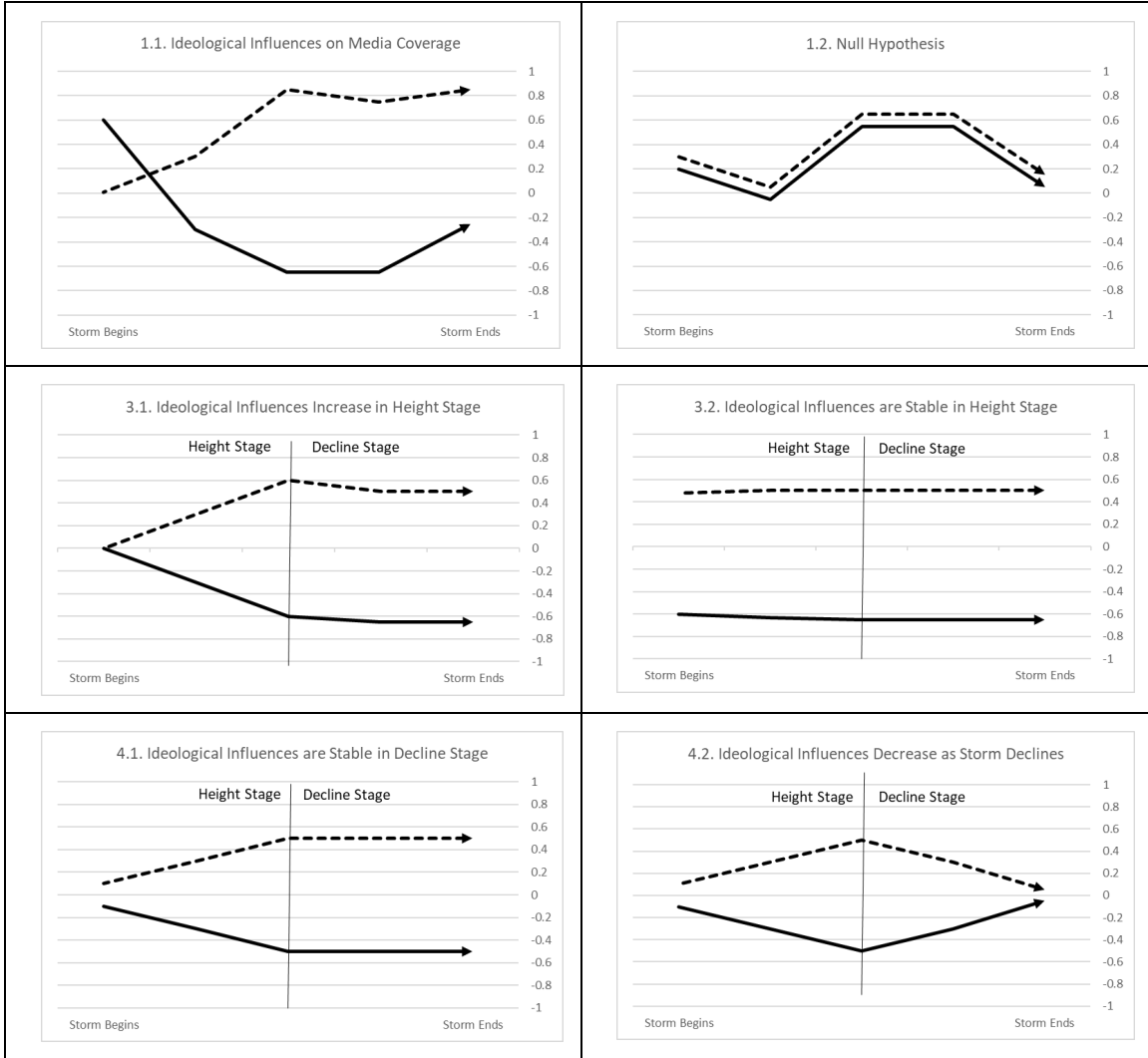*H4.2:*   *Ideological influences decrease as a media storm declines.*

Figure 3. Simulated expectations, models, and hypotheses of ideological influences during media storms.

Data Sources and Methods

The data set for the Israel Social Justice Protest movement (available at ResearchGate.com https://www.researchgate.net/publication/343879543_Israel_Social_Justice_Movement_Full_Media_Cover age_Database_Mass_Communication_and_Society) includes coverage of the Social Justice Protest Movement in the Hebrew daily newspapers *Yedioth Ahronoth*, *Israel Hayom*, *Maariv*, *Haaretz*, *Makor Rishon* (a national-religious newspaper), and *Yated Neeman* (an ultra-religious newspaper). The media storm dates are from July 13 to September 9, 2011. These outlets have similar production characteristics and restraints, such as news item length, news supplements, and printing constraints (the newspapers are discussed in Appendix A, available online: https://www.dropbox.com/s/o33yvoc6dwniq08/Appendix%20A%20-%20newspapers%20political%20orientation.docx?dl=0).

Three coders were trained and tested for uniformity (Krippendorff's α =.78–.81; see also Appendix B: https://www.dropbox.com/s/8febic00p5blx04/Appendix%20B%20-%20Coding%20details.docx?dl=0) for the Israel media storm. The coders analyzed each daily edition and its supplements for the entire period. In both cases, the data sets were *not sample*s, to avoid sampling and selection errors (Earl, Martin, McCarthy, & Soule, 2004). That is, the data sets include *every article* about the two media storms that appeared in the studied newspapers. In Israel, the data set consists of 1,837 news products. The data set for the French media storm (https://www.researchgate.net/publication/361094014_French_Yellow_Vests_Movement_Media_Coverage_Da tabase) involves coverage of the Yellow Vests Movement in the three leading French daily newspapers *Le Figaro*, *Le Monde*, and *Libération*, and *L'Obs* (a left-wing weekly magazine). The data set includes every single article written about the Yellow Vests in these outlets, totaling 830 news products.

News ideology (or "ideology" for short) is operationalized into two parameters, right-wing and left-wing newspapers. In Israel, the right-wing newspapers include *Israel Hayom*, *Makor Rishon*, and *Yated Neeman.* The left-wing newspapers include *Yedioth Ahronoth*, *Maariv*, and *Haaretz*. In France, the ideological alignment of the newspapers from right to left is *Le Figaro*, *Le Monde*, *Libération*, and *L'Obs*. The former two were grouped as right-wing and the latter two as left-wing (see more details in Appendix A: https://www.dropbox.com/s/o33yvoc6dwniq08/Appendix%20A%20-%20newspapers%20political%20orientation.docx?dl=0).

The parameter "Weeks" refers to periods spanning the working days of the week on which newspapers are published: Monday–Saturday in France, and Sunday–Friday in Israel. This parameter captures the coverage reaction to story development and its occurrences in cycles of six days and follows the one-week attention cycle adopted by Boydstun and associates (2014). Moreover, measures of bias based on days are less accurate because there are generally smaller numbers of articles published each day, particularly in each category of analysis (e.g., front page), and especially in the final weeks. The weekly analysis gives a more reliable measure, which is consistent with the media-storms literature (see also Vasterman, 2005; Wien & Elmelund-Præstekær, 2009). If the occurrences of the week are the prominent factor that determines the coverage of the story, news outlets will have similar weekly description bias scores concerning the story and will have comparable lines (i.e., direction) of coverage from week to week. Put differently, if weekly occurrences are the determining factor of description bias, the null hypothesis is confirmed.

The delineation of the *height and decline periods* in each storm was determined by the peak of attention. The height stage begins with the sudden rise of attention until it reaches the peak of media coverage, calculated by the number of news items (i.e., numeric size) devoted to the story (Geiß, 2018; van Atteveldt et al., 2018; Wien & Elmelund-Præstekær, 2009). The peaks and the stages are illustrated in Figures 1 and 2, based on the number of news items published each week. The peak also determines the beginning of the decline stage, when media coverage gradually withers over several weeks.

In both media storms, articles were evaluated for their overall *description bias* by content analysis. Articles were coded "negative" if they were primarily characterized by one or more of the following: Presenting movement actors' claims and goals as radical or unreasonable; relying on or supporting government and state statements about movement goals over and against movement actors' statements and opinions; using negative adjectives to describe protesters as unrepresentative of the social issue they stood for, as unauthentic or unlawful acts; portraying or criticizing movement actors as irrational or as having illegitimate partisan motives; and emphasizing violence and divisions within the movement (see Appendix B: https://www.dropbox.com/s/8febic00p5blx04/Appendix B - Coding details.docx?dl=0).

Articles were coded "positive" if they were primarily characterized by one or more of the following: Presenting movement actors' claims and goals as reasonable; relying on movement actors' own words and statements; using positive adjectives such as successful, legitimate, peaceful, nonviolent, authentic to describe the protests; portraying protesters and movement leaders as rational and authentic representatives of the movement; and presenting outside support for the movement from political and nonpolitical figures. Articles were coded "neutral" if they were primarily characterized by one or more of the following: Maintaining a balance between protesters' positions and their rivals' positions; not using adjectives to describe the protesters, mainly employing quotes and facts to describe events; and conducting little news analysis. News coverage for the right-wing and left-wing outlets yielded a description bias score consisting of the positive (1), neutral (0), and negative (-1) articles (see calculation details below).

Production mechanisms were operationalized by the factors of front page, size, picture, and page number. *Front-page bias* was determined by whether an article had a front-page headline or began on the front page of the main newspaper issue or its supplement (i.e., a stand-alone edition to the main issue). *Size bias* was measured by the physical size of the article on the page (e.g., McCombs & Shaw, 1972; Niven, 2001). Articles that were less than a third of the page size were coded marginal; news products that took up a third of a page or more were coded central.

Readers are also more drawn to articles that include photos, graphics, and statistics than to those that have only text (Holsanova, Rahm, & Holmqvist, 2006). Hence, *picture bias* in Israel was recorded by whether an article was accompanied by a picture or an illustrative graphic (e.g., chart or graph). Picture bias in France was coded by whether the picture itself conveyed a negative message about the protests (i.e., violence), neutral (no clear message), or positive message (large numbers of nonviolent protesters, French flags, camaraderie; see also Barrett & Barrington, 2005). Page-number bias was determined by the average page number on which positive and negative articles appeared (McCombs & Shaw, 1972; Niven, 2001).

Statistical analysis was conducted to test the hypotheses regarding the possible effects of news ideology over description bias and the use of production bias mechanisms during the media storms. The analysis was based on weekly average scores of description bias, calculated separately for each week in the right-wing and left-wing newspapers. The scores were calculated in the following way: The total number of positive articles minus the total number of negative articles divided by the total number of positive, neutral, and negative articles, or: $N_{positive} - N_{negative} / N_{positive+neutral+negative}$. This formula gives a score between -1 (completely negative) and 1 (completely positive). This formula was used to calculate weekly scores for overall description bias in right-wing and left-wing outlets as well as the weekly scores of production mechanisms. Overall news coverage was thus operationalized by description bias scores. Production mechanisms were operationalized by front-page, size, picture, and page-number scores.

To test H1, the first model tested the effects of outlets' news ideology on description bias during the entire period of the storm. To test H2, the second model added the parameters of production mechanisms, that is, the effects of news ideology on the description bias scores of specific production mechanisms, such as front page and size. And to test H3 and H4, the former two forms of analyses were repeated independently and separately for the height and decline stages.

The analysis employed two general linear models in SAS (analysis of variance): An interaction model of ideology and weeks, and a main-effect model of weeks and ideology separately. Ideological influence was determined where its effects were $p = .05$ or lower.

Findings

The findings are discussed in two parts, each containing two sub-sections. First, the effects of news ideology over description bias are analyzed for the entire media storm (H1), and then the effects of news ideology on production mechanisms (H2). Second, I discuss H3.1 and H3.2 concerning news ideology during the height stage. I then review H4.1 and H4.2 concerning news ideology over the decline stage.

Ideological Influences Over Description Bias During Media Storms

Figure 4 presents the weekly description bias scores of the right-wing and the left-wing newspapers in the coverage of the French Yellow Vests Movement. The graph illustrates that weekly average scores of description bias were dissimilar based on ideological orientation. The average weekly difference was 0.39 on the total 2-point scale (i.e., 1 to -1). This gap constitutes an overall 19.5% coverage difference between the outlets, with a minimum disparity of 0.15 (7.5%) to a maximum of 0.64 (32%). Moreover, the graph also shows that the line of coverage was dissimilar. The right-wing outlets began with a positive line of coverage and moved to a negative line of coverage. The left-wing outlets did the opposite.

An interaction effect model tested the statistical significance of those differences. The analysis found a statistically significant interaction effect between the factors of news ideology and weeks. This two-way interaction was statistically significant at the level of $p = .0032$.
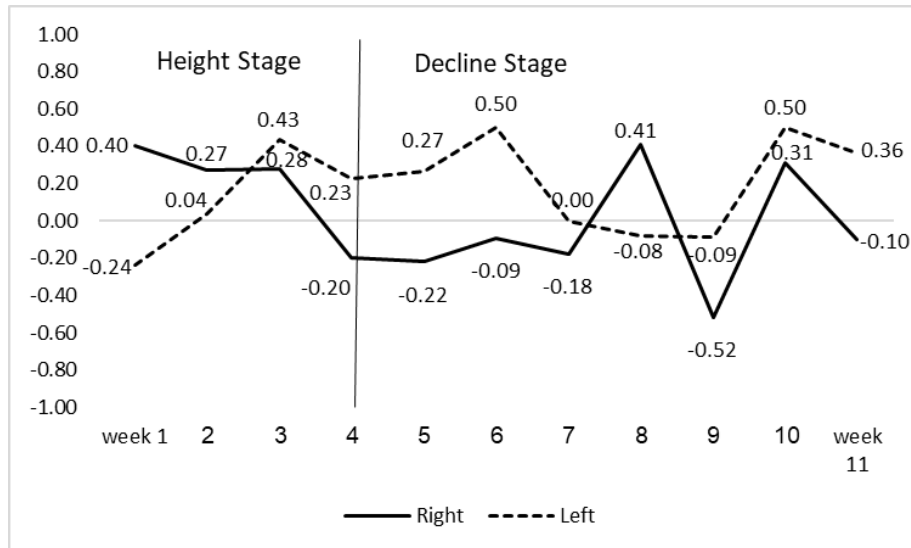
Figure 4. Description bias weekly scores in right-left newspapers in the Yellow Vests Movement.

Figure 5 presents the weekly scores of the right-wing and left-wing newspapers in the coverage of the Social Justice Movement in Israel. The graph shows that the left-leaning outlets were consistently more supportive of the movement than the right-leaning outlets. The average weekly difference was 0.53. This gap constitutes an overall 26.5% coverage difference between the outlets, with a minimum disparity of 0.24 (12%) to a maximum of 0.93 (46.5%). These differences are statistically significant ($p = .0007$) with an interaction between news ideology and weeks.
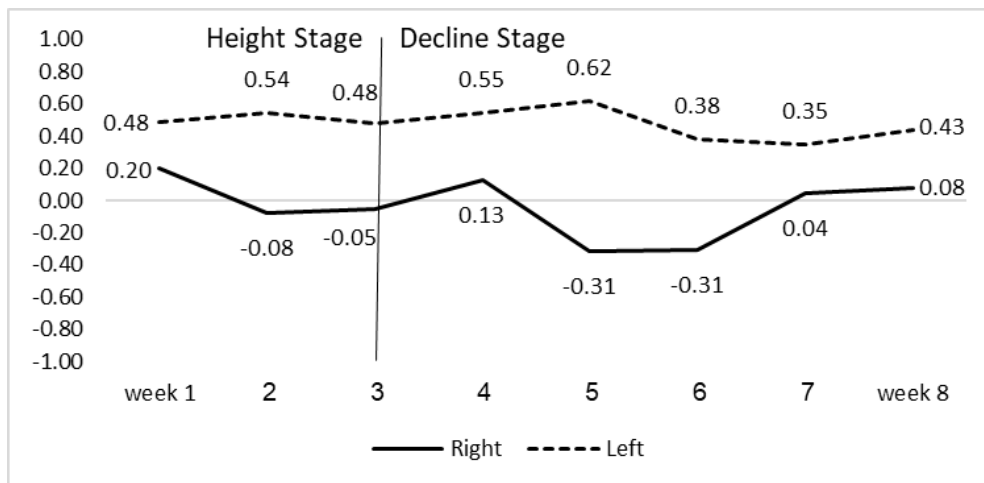

Figure 5. Description bias weekly scores in right-left newspapers in the Social Justice Protest Movement.

The findings confirm H1.1 that, *description bias differs between ideologically opposed media outlets during the storm*. News ideology affected media coverage in two important ways. First, the same weekly occurrences were expressed in overall positive scores of description bias in the left-leaning outlets compared with overall negative-neutral weekly average scores in the right-leaning outlets. Second, the lines of coverage (e.g., toward positive or negative coverage) went in opposite directions in response to the same weekly events. These differences are statistically significant.

Ideological Influences Over Production Mechanisms During Storms

H2 concerns the use of production mechanisms. The question driving the analysis is whether news ideology affects the use of production mechanisms to emphasize and deemphasize articles based on their content during media storms.

Table 1 summarizes the results for the two media storms. The results indicate that the left-leaning outlets gave more emphasis to positive articles about the protests during the storms whereas the right-leaning outlets did the opposite. This behavior was consistent in the use of the front page and the sizing of articles in France and Israel alike.

Table 1. Ideological Influences on the Use of Production Mechanisms in Media Storms.*

Country	Source	DF	Type III SS	Mean Square	*F* Value	*p* Value
France	Front-page bias	10	21.34221265	2.13422126	2.80	.0021
	Size bias	10	14.60001357	1.46000136	1.95	.0366
	Picture bias**	10	23.13239130	2.31323913	3.25	.0005
	Page-number bias negative	6	562.9826218	93.8304370	1.53	.1668
	Page-number bias positive	6	1233.968939	205.661490	3.75	.0013
Israel	Front-page bias	7	8.04956152	1.14993736	2.00	.0528
	Size bias	7	9.88017905	1.41145415	2.37	.0208
	Picture bias	7	12.41112881	1.77301840	3.24	.0021
	Page-number bias negative	4	148.4726280	37.1181570	0.47	.7591
	Page-number bias positive	4	230.061464	57.515366	0.57	.6816

* The results refer to a two-way interaction model between ideology and weeks.
** The correlation is opposite. Right-wing outlets had more favorable pictures than the left-wing outlets.

Figure 6 illustrates the ideological influences on the use of the front page to bias coverage during the two media storms. In both cases, for most of the media storm, the left-leaning outlets gave the protest movements comparatively more positive front-page coverage than the right-leaning outlets. The average weekly difference is 0.39 (19.5%) in France and 0.53 (26.5%) in Israel. There is an interaction effect of ideology and weekly events on the description bias scores of front-page articles in both cases. This interaction effect is statistically significant at $p = .0021$ in France and $p = .053$ in Israel.
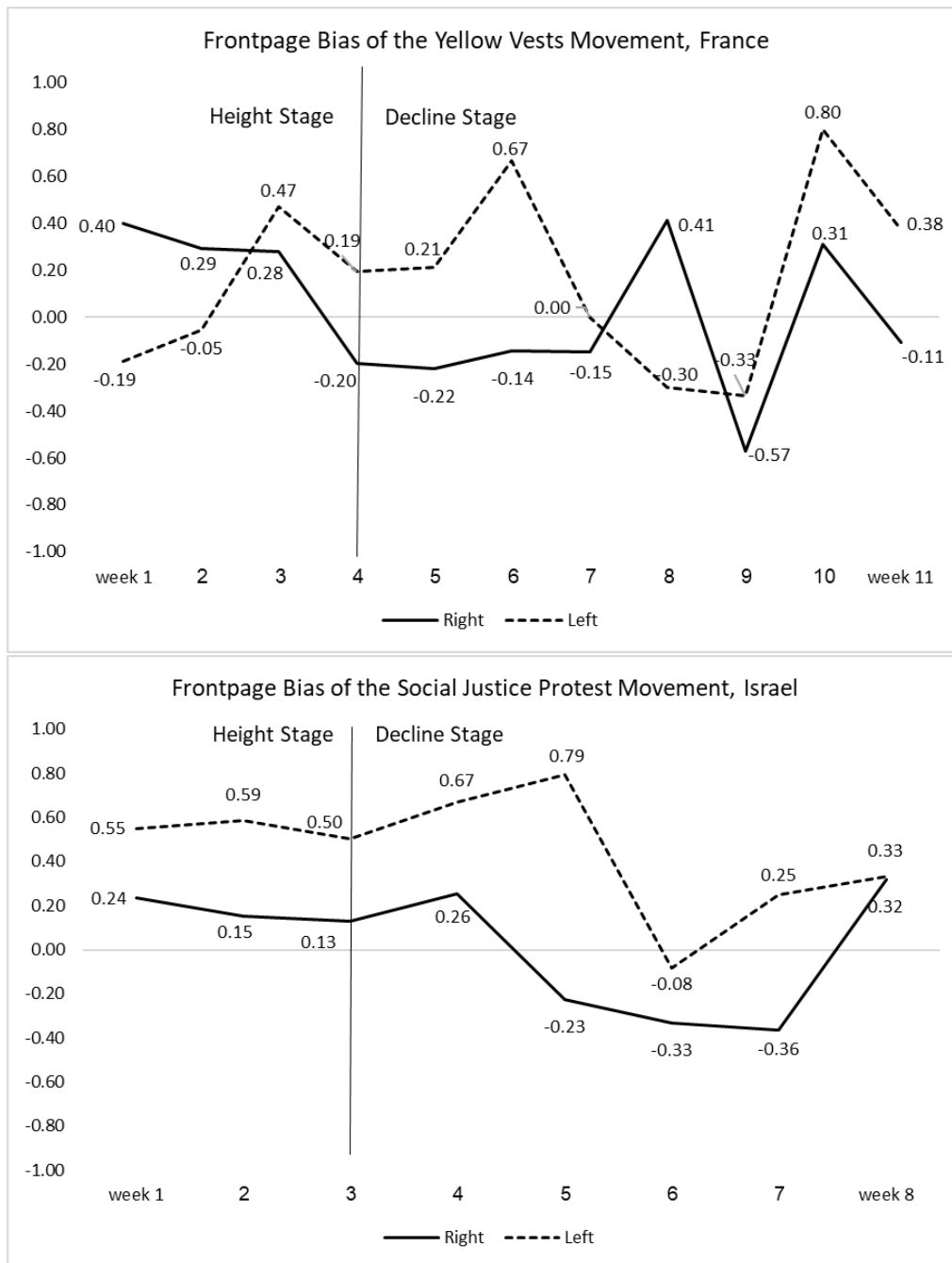
Figure 6. Ideological influences on front-page bias.

The influence of news ideology over news production can also be seen in the sizing of articles according to their content. Figure 7 illustrates how the left-wing outlets used size bias to emphasize articles that were more favorable about the protests relative to the right-wing outlets. The average weekly difference in description bias scores of central articles was 0.39 (19.5%) in France and 0.54 (27%) in Israel. This difference is statistically significant in an interaction effect of $p = .037$ in France and $p = .021$ in Israel.
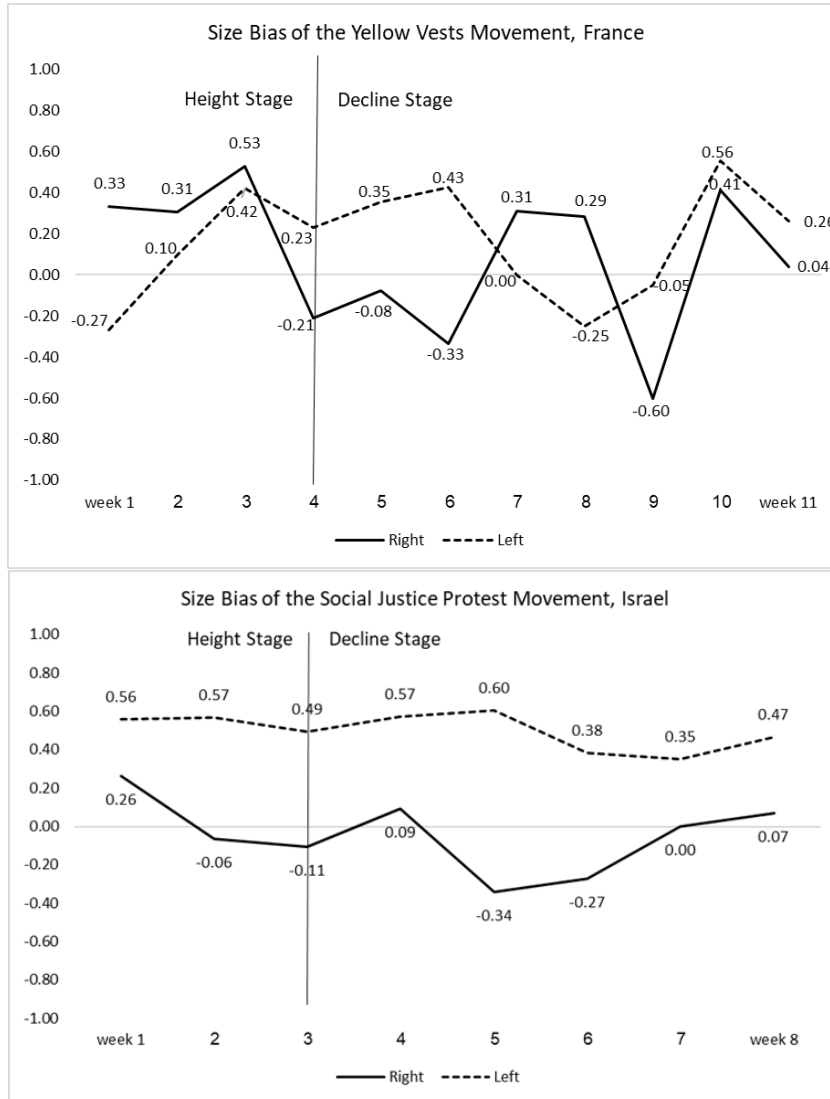

Figure 7. Ideological influences on size bias.

The other production mechanisms were not similarly used to bias coverage. The use of pictures to emphasize positive articles is statistically significant in Israel ($p = .0021$) but not in France. The

placement of negative and favorable articles on pages closer or farther away from the front page, that is, page-number bias, is inconsistent and statistically insignificant in both cases. The analysis reveals that certain production mechanisms were used to bias coverage based on news ideology. The left-leaning outlets used them more to showcase positive articles about the protests than the right-leaning outlets did, thereby lending support to H2.

<div align="center">**News Ideology in Storm Stages**</div>

To test H3 and H4, analyses of news ideology bias-scores and production mechanisms bias-scores were employed for each stage. The separate analysis allowed for both a closer look at the dynamics in each stage as well as a more robust analysis controlling for the statistical significance of both ideological influences and the use of production mechanisms in each stage separately and independently.

<div align="center">*Ideological Influences in the Height Stage*</div>

As can be seen in Figure 3, during the first four weeks of the Yellow Vests Movement, description bias scores moved in opposite directions in the left-wing versus right-wing outlets, thus illustrating a combined effect of news ideology and weekly events. This dual effect is statistically significant at a $p = .002$ level. Weekly events had a less dramatic effect on the coverage lines of Israeli outlets, and the gaps between right-left outlets were consistent throughout the storm (Figure 5). There is nevertheless a combined statistical effect ($p = .075$) of weekly events and ideology during the height period (the main effect of ideology is $p < .0001$).

The analysis of production mechanisms during the height stage also illustrates the importance of ideological influences. There was a main effect of ideology on the use of front-page coverage during the height stage in Israel ($p < .0001$) and an interaction effect of weekly events and ideology ($p = .004$) in France. Similarly, there was an interaction effect ($p = .011$) on the sizing of articles (i.e., size bias) in France, and a main effect of ideology ($p < .0001$) in Israel.

The other production mechanisms were not similarly affected by ideology in the height stage. There is no evidence that news ideology influenced the pictures used in France. In Israel, news ideology had a main effect on the use of pictures alongside articles during the height stage ($p < .0001$). The placement of articles in the hierarchy of the newspapers was not influenced by ideology in either case.

In terms of the proposed hypotheses concerning the height period, H3.1 states that ideological influences increase during the height stage. As Figure 1 illustrates, in the first four weeks of the coverage, the French outlets were moving in opposite coverage directions. The outlets gave contrary lines of coverage and very different interpretations of the weekly events, based on their left-right ideology. These trends are statistically significant ($p = .001$). The same holds regarding the use of front-page articles and the sizing of articles according to their content during the height stage.

H3.2 states that ideological influences remain stable during the height stage. As can be seen in Figure 4, the line of coverage by the Israeli left-wing newspapers was quite constant and positive. Weekly events did not change much of their overall positive coverage line during the height stage. The right-wing

outlets were more negatively affected by weekly events, but the trend changes were not drastic. These trends were generally similar in the use of front-page articles and the sizing of articles during the height stage. The differences are statistically significant, as shown earlier.

Ideological Influences in the Decline Stage

The decline phase begins after the zenith point of media attention. H4.1 and H4.2 postulate two opposite hypotheses of coverage behavior in that stage. The results are more complex than what was hypothesized.

In France, there is neither an interaction effect ($p = .18$) nor a main effect of ideology on description bias ($p = .16$) in the decline stage. The average weekly scores and the coverage lines are inconsistent in the decline phase (see Figure 4). These irregular coverage lines in the decline period may owe to the fact that the number of articles in the left-wing outlets considerably declined in weeks 6–8. The smaller numbers, even when aggregated to a weekly average, may lead to this hectic pattern.

In Israel, the left and right outlets held opposing weekly description bias scores (see Figure 5). The interaction effect of news ideology and weeks is statistically significant ($p = .0004$) in the decline stage. There is also an interaction effect of ideology with weekly events on front-page bias ($p = .009$), size bias ($p = .016$), and picture bias ($p = .0007$) during this phase. However, the line of coverage does not strongly support either H4.1 (decreased ideological influences) or H4.2 (stable ideological influences). In fact, differences in the weekly average score between right-wing and left-wing outlets *increased* during the decline stage in France (from 0.36 to 0.41) and in Israel (from 0.47 to 0.57), contrary to what was predicted. In addition, the coverage trends in the decline stages were not entirely consistent, especially in France.

Overall, media behavior according to stages appears to be important. An additional three-way interaction analysis between weekly average scores, news ideology, and the stages (as a variable) was also performed for additional robustness. The results were statistically significant in the Yellow Vests Movement coverage ($p = .0002$) and the Social Justice Protest Movement coverage ($p = .0009$). These results suggest that the context of time is important for ideological effects on news coverage, even within a single major event.

Conclusions

This research explored the causal connection between media storms and news ideology and proposed several hypotheses for this nexus. The findings illustrate that media storms are indeed a "multi-media phenomenon" involving nearly all main news outlets (Boydstun et al., 2014, pp. 511–512), but they do not necessarily result in "a constant reinforcement of a specific frame of reference, marginalizing other perspectives" (Vasterman, 2005, p. 515). Instead, this study shows that news ideology plays an important role in the description of media events and their framing during media storms.

If media coverage of the French and Israeli movements had been dictated by professional considerations and the events of the storms alone, we would see a greater resemblance between the weekly description bias scores. Moreover, the lines of coverage would be moving in similar directions, as proposed

in the null hypothesis. However, the findings show that right-wing and left-wing outlets in both cases covered the media storms quite differently. Weekly events received different description bias scores and, in several weeks, the lines of coverage moved in opposite directions regarding the same events, as proposed in H1.1.

Furthermore, the analysis shows that news ideology also operates through production bias mechanisms (H2). The ideologically opposed outlets highlighted articles according to their content, that is, their description bias. The newspapers used the front page and the sizing of articles to emphasize stories according to their content and news ideology.

The findings also show that the line of coverage regarding the media storm is crystallized and accentuated in the height stage of the media storm. The French outlets were moving in opposite coverage lines whereas the Israeli outlets chose sides early on and did not substantially change their coverage lines. This means that news ideology may operate in more than one way during the height stage of media storms. The hypotheses regarding the decline stage are hard to assess, considering the findings. The lines of coverage are unstable and hectic in France. In Israel, the lines of coverage are stable but do not support the proposed hypotheses. In fact, there is an indication that the weekly gaps in description bias were increasing in the decline stage in both storms, contrary to what was hypothesized.

The findings of this study have implications for future studies. Several studies of media storms have examined how media outlets generally react to dramatic apolitical stories such as accidents, severe catastrophes, abuse of the elderly, and senseless violence. These studies discovered important characteristics that are similar across media outlets. The current study proposes that media storms may also be high-risk events that challenge the interests and ideology of news organizations themselves. If news ideology was invoked in the coverage of the two social movements presented here, that enjoyed public support, it is likely prevalent in other big stories that have political ramifications. These stories are potentially *political storms* that may cause news ideology to trump professional considerations. Future studies of media storms may therefore benefit from adding the factor of news ideology and examining how ideologically opposed outlets react to media storms.

The study has implications for media bias studies as well. Media bias is dynamic over time and may change from positive to negative (and vice versa) on certain topics. This study suggests that these dynamics also apply to a single news event. Accordingly, measurements of media bias should be highly time-sensitive, and comparisons of outlets' news coverage should be based within the same timeframe. A comparison of news outlets' coverage of the same story but at different points in time (e.g., weeks) may lead to inaccurate results.

Finally, this study calls for a more serious consideration of news ideology as a factor in protest coverage and social movements coverage. The factor of time within each movement should also be considered. News outlets may communicate varying interpretations of protest events to their audiences, based on news ideology at a specific time. *The New York Times*, as a common source of analysis, may not represent the type of storm coverage and framing delivered by other outlets. In this age of increasing partisan segmentation of the news market, the study of protests and social movements should bring this factor into the center of study.

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