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The Nonlinear Effect of Information on Political Attention: Media Storms and U.S. Congressional Hearings

STEFAAN WALGRAVE, AMBER E. BOYDSTUN, RENS VLIEGENTHART, and ANNE HARDY

Agenda-setting scholars have claimed that the typical punctuated pattern of governmental attention is a consequence of disproportionate information processing. Yet these claims remain unsubstantiated. We tackle this challenge by considering mass media coverage as a source of information for political actors and by examining the relationship between preceding media information and subsequent governmental attention. Employing data capturing U.S. media attention and congressional hearings (1996–2006), we find that the effects of media attention on congressional attention are conditioned by the presence of "media storms"—sudden and large surges in media attention to a given topic. A one-story increase in media attention has a greater effect on congressional attention in the context of a media storm, since media storms surpass a key threshold for catching policymakers' attention. We find evidence that the influence of media attention on political attention is nonlinear; agenda-setting operates differently when the media are in storm mode.

Keywords news, media storms, Congress, information processing, attention dynamics

Political attention is a precondition for political decision making. If a topic or problem does not appear on the political agenda—meaning that political elites are not treating it as one of their priorities—then chances are slim that political decisions will be taken, let alone that standing policies will be changed (Baumgartner & Jones, 1993). The role of attention as a necessary condition for political action makes the question of where political attention comes from a key political science issue. Understanding policy decisions requires understanding how the problem at hand came on the agenda in the first place. The prevailing answer in the broad literature on political agenda-setting is that political attention is a matter of *information processing* by political elites and institutions (Jones & Baumgartner, 2005). Signals from society indicate social problems, and their urgency and importance, and point to solutions to those problems. Some societal signals are

Stefaan Walgrave is Professor, Department of Political Science, University of Antwerp. Amber E. Boydstun is Associate Professor, Department of Political Science, University of California, Davis. Rens Vliegenthart is Professor of Media and Society, Department of Communication Science and Amsterdam School of Communication Research (ASCoR), University of Amsterdam. Anne Hardy is a researcher at the Department of Political Science, University of Antwerp.

Address correspondence to Amber E. Boydstun. E-mail: aboydstun@ucdavis.edu; Stefaan Walgrave, Department of Political Science, University of Antwerp, Sint-Jacobsstraat 2, 2000, Antwerpen, Belgium. E-mail: stefaan.walgrave@uantwerpen.be

ignored while others are adopted, which leads to a prioritization of issues on the political agenda. The information-processing perspective on agenda-setting, with signals about problems driving the process, has produced a wealth of evidence invariably revealing that political attention is spiked: long periods of stable attention to issues alternate with short bursts of exploding attention, after which attention regains its routine, pre-spike level (see, for comparative evidence, Baumgartner et al., 2009).

Students of agenda-setting have claimed that the cause of this punctuated pattern of attention allocation is *disproportional* information processing by institutions and elites—the fact that the strength of the incoming signal does not translate linearly in more (or less) attention. However, as far as we know, no extant work has directly empirically tested this key assumption. Indeed, the bulk of extant agenda-setting work does not empirically assess incoming information at all but rather draws on the theoretical idea that, by definition (central limit theorem), the real world and its raw informational signals are normally distributed. That political attention dynamics are punctuated and not normally distributed, the literature contends, can only be the consequence of disproportional information processing. In other words, by just looking at attention allocation patterns—government outputs—agenda-setting scholars claim that, on the input side, information *must have been* processed disproportionally. So, the disproportionality argument is theoretical and not empirical—or, at least, it is not empirical when it comes to measuring the informational input.

This study sets out to empirically verify the key claim that punctuated attention patterns are due to disproportional information processing. To accomplish this task, we need a measurement of incoming information that we can gauge independently from government reaction. Politics is an information-rich environment and signals from society pour in from many sides. Interest groups, lobbies, staffers, polls, personal contacts, constituents, etc., all provide information to political elites. The study zooms in on one very specific source of information for elites, namely *mass media* coverage. Media offer heuristic cues, continuously providing policymakers with signals about societal problems and things they, maybe, should care about and take action on (Herbst, 1998; Vliegenthart, Walgrave, & Zicha, 2013). In contrast to most signals directed toward elites that are often private or even concealed, media information is publicly available and can be measured in a straightforward fashion. In addition, studies have showed that media coverage forms an important source of information for political elites (see, for example, Herbst, 1998).

This article examines *whether information encapsulated in media coverage is processed disproportionally by political institutions*. We operationalize this question by testing whether there is a non-linear relationship between preceding media attention to an issue and subsequent political attention to the same issue.

Media coverage is a recognized source of information for politicians, and the effect of media on politics has been documented in many studies. The so-called political agenda-setting effect of the mass media applies to several political agenda types, many different issues, and in many different countries (for an overview, see Walgrave & Van Aelst, 2006). When news coverage of a topic goes up, attention to that topic among politicians tends to follow. Yet, none of these many studies examining the link between media coverage and subsequent political attention have modeled the relationship as being nonlinear. In line with the information-processing account, however, we expect agenda-setting by the media to be a stochastic process, with politics underreacting (or not reacting at all) to a gradual and moderate increase in media attention but then suddenly overreacting when media attention abruptly surges to high attention levels. More precisely, we argue that the size of the media effect becomes greater once media coverage passes a certain threshold of sudden attention. The weight of a single news story depends on whether it appears in the context of a strong,

sudden increase in related stories appearing around the same time. Following recent work by Boydstun, Hardy, and Walgrave (2014), we refer to these instances of precipitously spiking media attention to a topic as being "media storms." We treat media storms as constituting surges in news coverage over the theoretical threshold needed to heighten the effect of media attention on political attention. Based on the disproportionality argument, we expect that when media storms break loose, politics does not react proportionally.

Our case is the United States. We analyze the effects of front-page news coverage in *The New York Times* on hearings held in the U.S. Congress, 1996–2006. Our findings first replicate previous work establishing that, when the media operate in routine mode with no sudden spikes of attention, media coverage linearly affects the political priorities in the United States as captured by congressional hearings. But then our findings go further by showing that, when media storms (again, marked by explosive increases of media attention to very high levels) occur, the influence of the news on the political agenda kicks into a higher gear. Media storms reinforce the positive effects of media coverage on the political agenda: when the news suddenly devotes a lot of attention to a topic, Congress goes into overdrive as well, increasing its hearings about the topic at a much higher rate. In storm mode, the media agenda matters more for the governmental agenda. Our study thus provides proof of the fact that government processes media information disproportionally and, what is more, that the aggregate patterns of punctuated change in government outputs are indeed associated with how political actors deal with incoming information on the input side and over-attend to signals.

Note that our claim is *not* that mass media coverage exerts a genuine autonomous "effect" on political attention. Rather, mass media are merely one source of information about real-world events available to political actors. And although the media do not form a perfect mirror of reality—far from it—the media do reflect to some extent the importance of real-world events and problems. Thus, when we talk about media "effects" in the rest of this article, we simply refer to this information provision function of the mass media. Beyond the scope of this article are at least two important tasks for future research: first, considering the biasing and disproportionate information processing by the media themselves and, second, fully focusing our examination on whether political attention reacts proportionally to media attention, controlling for the objective severity of policy problems.

The Nonlinear Processing of Media Information by Political Actors

There is a good deal of work claiming, and finding, that issue information encapsulated in media coverage spills over to the political agenda. Over the past several years, a steady stream of work has examined to what extent, and how, mass media coverage affects political attention. Initially, studies, mainly conducted in the United States, led to mixed results (for example, Baumgartner, Jones, & Leech, 1997; Cook et al., 1983; Edwards & Wood, 1999; Kleinnijenhuis & Rietberg, 1995; Pritchard, 1992; Protess, Cook, & Doppelt, 1991; Protess et al., 1987; Soroka, 2002a; Trumbo, 1995; Walker, 1977; Wanta & Foote, 1994; Wood & Peake, 1998). More recent studies, though, now extending to different countries beyond the United States, all find the media to exert influence on which topics are dealt with politically (see, for example, Green-Pedersen & Stubager, 2010; Thesen, 2010; Van Noije, 2007; Van Noije, Kleinnijenhuis, & Oegema, 2008; Vliegenthart & Walgrave, 2011; Vliegenthart et al., 2013; Walgrave, Soroka, & Nuytemans, 2008). The few studies that tested both the effect of media on politics and the effect of politics on media found the former effect to be larger than the latter. Although political elites are newsmakers as well, in their issue attention they seem to follow the media more than lead the media. Therefore, as a point of departure, we aim to replicate the classic media and

political agenda-setting studies for U.S. congressional hearings (1996–2006) and formulate the following hypothesis.

H1: An increase in news coverage of a topic leads to an increase in congressional hearings on that topic.

Yet despite the importance of understanding exactly *how* media influence politics, none of the mentioned media-and-politics studies question the implicit assumption that the effect is a linear one. Indeed, *all* this past research has supposed that a one-unit increase on a current low level of media attention has the same effect as a one-unit increase on an already high level. We question this assumption, arguing that the disproportionate nature of politicians' information processing should lead us to expect a nonlinear influence of media attention on governmental attention.

The agenda-setting literature suggests that political actors generally process information disproportionally, leading to punctuated political outputs. There are two reasons for political priorities to react nonlinearly to information in general and media cues in particular: politicians are humans and politicians are politicians (for a similar distinction, see Jones & Baumgartner, 2005). Political elites are humans just like the rest of us, and they respond to media coverage as such. Having inherent cognitive limitations and experiencing social pressure, they deal with incoming information in a disproportional and irregular fashion, ignoring and then overreacting to pieces of information. But politicians are a special kind of human being. Compared to ordinary citizens, encapsulated in political institutions, they are much more conscious spenders of attention, knowing that attention is scarce and consequential and should be consumed judiciously.

The Nonlinear Influence of Media Attention on People's Attention, Generally

The memory and computing deficiencies people face, especially when dealing with many bits of information coming in at the same time, mean that human attention is basically nonlinear (Jones, 1994). As a wealth of cognitive psychology studies show, it takes a certain amount and type of signals in order to capture a person's attention (Pashler, 1999). Switching attention also entails certain costs, and therefore not every incoming stimulus leads to a shift in attention. In fact, the very definition of attention used in cognitive psychology—attention is the cognitive process of selectively concentrating on one aspect of the environment while ignoring other things (Anderson, 2004, p. 519)—means that some signals do not get through while others do. For political actors to undertake an action, like setting up a hearing, the topic at hand must be at the top of their mind; they must think about it. In cognitive psychology terms, the "construct" must be "accessible" (Higgins & King, 1981). The more accessible a topic (construct), the more likely that hearings on it will be organized. Constructs become accessible when they are activated. More *recent* activation, more *frequent* activation, and more *salient* activation—a function of prominence and distinctiveness—leads to more accessibility (Higgins & King, 1981, pp. 78–82). In the next section we define and model media storms in such a way that they capture these exact three features of external stimuli (in this case: media stories) as being recent, frequent, and salient.

Beyond individuals' natural cognitive limitations, social perceptions also drive individuals to react disproportionally to incoming information. Wood and Doan (1998) propose a model in which people may hold private beliefs about a condition and consider the condition to be non-acceptable (e.g., in the case of sexual harassment). Still,

individuals typically have a certain threshold to make their non-acceptance preferences public and to engage in collective behavior. This personal threshold is a function of their perception of others' degree of non-acceptance and, most importantly, of others' willingness to make their non-acceptance public. So, even if objective conditions worsen (and information documenting it comes in and is processed), no reaction follows as long as the threshold is not passed. If the situation worsens further and, as a consequence or as the consequence of other factors, the threshold is overcome, people start explosively cascading toward expressing their non-acceptance. The result is not a gradual response but a spike of public attention or action toward the underlying issue. The literature abounds with similar examples of herd behavior leading to disproportionate (public) reaction to incoming information, such as in social movement participation (Granovetter, 1978; Lohmann, 1994) and stock market dynamics (Schelling, 1978). In short, citizens' disproportionate reaction to information is due to inherent cognitive limitations as well as to their perceptions of what others think and will do.

More specifically with regard to reactions to incoming *media* information, we can illustrate the disproportionate reaction people's attention patterns face by referring to three public agenda-setting studies—not dealing with elites but with the general public—tackling how citizens process (media) information in a nonlinear fashion. First, Iyengar and Kinder (1987) show that media attention more strongly affects public attention to topics that were previously low on the agenda. They suggest that when events, accidents, blunders, scandals, disasters, and the like suddenly draw ample media attention to an underlying topic and hit the media, this is when media attention matters most. Second, in his study of 10 topics in the U.S. media and public opinion in the 1960s–1980s, Neumann (1990) found proof of nonlinearity in public agenda-setting. He described that when topics get slight and novel coverage "... nobody has heard of you or understands what you are talking about…. But if you keep at it, it might catch on. People may begin to recognize the message, put it in context, and perhaps even talk about it among themselves somewhat…" (Neumann, 1990, pp. 163–164). Third, Brosius and Kepplinger (1992) investigated the media's effect on public priorities in Germany and found for a number of topics that nonlinear models perform better and exhibit more explanatory power than traditional linear models. For select topics the effect of an additional news story is larger on high levels of coverage than on low levels of coverage, "Especially for topics with a lot of public concern and topics with dramatic changes in coverage, agenda setting follows the acceleration rather than the linear model" (Brosius & Kepplinger, 1992, p. 19). In other words, there is good reason to think—and existing evidence to show—that media attention has a nonlinear influence on people's attention, generally.

The Nonlinear Influence of Media Attention on Politicians' Attention, Specifically

Politicians are humans, but they are politicians as well. They operate in a strongly regulated and constrained institutional environment. As a consequence, compared to human attention in general, media signals have to overcome even higher thresholds to elicit political attention. But past this threshold we expect political attention to respond in spades. In fact, we would argue (although we do not test it here) that political actors react even more nonlinearly to incoming signals than humans in general. With regard to media information in particular, it stands to reason that politicians are much more sensitive to media signals than are citizens. Their reputation, electoral fate, and even their political future may depend on whether and how they deal with the media. There is evidence, for example, that elites are more influenced by media scandals than other people (Protess

et al., 1987) and that they are more intense media consumers (Herbst, 1998; for an account of how media differently affect different groups, see Kepplinger & Zerback, 2007). In this study, we do not compare politicians' and citizens' reactions. We simply argue that there are two additional mechanisms, typical for political institutions, that may produce even stronger disproportionate political reactions. Jones and Baumgartner (2005) call these mechanisms "institutional friction" and "cascades."

In terms of the first mechanism, *friction*, meaningful political attention is institutional political attention. It comes in the form of bills, hearings, executive orders, oral questions, legislation, and so on. As the carrying capacity of institutions is limited and as their attention can only be spent in meaningful and undividable "chunks"—a hearing is a hearing and cannot endlessly be divided into more, smaller hearings—attention to information in general and media in particular is discontinuous. Only a given amount of institutional attention chunks are available, and the fight for these attention slots among actors who each favor a limited amount of pet issues leads to friction and stasis. Most of the time, political attention levels stay as they were before, barely responding to external cues including media signals. There is simply too much information coming in, and minor signals get drowned out, since the most efficient way for political actors to manage this information overload is to ignore new signals and continue dealing with the old ones. The agenda literature provides ample evidence of this negative feedback effect suppressing reaction to information—for example the study by Jones, Larsen-Price, and Wilkerson (2009) showing that institutions at the end of the policy cycle are, due to friction, less responsive to public priorities than institutions at the early stages of the cycle.

However, when an incoming signal becomes very strong—for example, when the media attention to an issue or event suddenly explodes—the second mechanism kicks in: *cascading*. The sudden flood of media coverage makes political actors abruptly realize that they probably ignored the problem for too long, that it has become worse without them noticing, and that they should act urgently. A brief but powerful political stampede toward the newly discovered topic occurs as political actors try to outrun each other. Once the political pack starts to move, actors look at one another's behavior, ignoring the underlying signal that initially triggered the stampede. A cyclical imitative process leads to a burst of political attention (Walgrave & Vliegenthart, 2010). Note that we are talking about a similar process here as discussed earlier when we covered how citizens suddenly overcome their personal threshold to address an issue, leading to a cascade. The difference, though, is that when politicians cascade toward an issue they do so in an even more explosive way, wanting to outrun one another and be the first (or at least an early) adopter of the issue. During such a political rush, each additional media story has a larger effect on politicians' activities than in routine times. Wolfe summarizes it as follows: "… the influence of the media is amplified once coverage hits a threshold" (2012, p. 122). There is remarkably less evidence of this second, explosive positive feedback mechanism to be found among agenda studies more generally and in media-and-agenda studies particularly (but see Vliegenthart et al., 2013). We provide some in this article.

In summary, the human mind has cognitive limits, pointing toward the need for recent, frequent, and salient activation to overcome attention and action thresholds. When we combine this general cognitive and social limitation with the pattern of friction and cascading typical for political institutions—also suggesting that only strong signals can unleash political attention that may be even more explosive—we arrive at the expectation that it takes strong and sudden (media) signals to lead to a disproportional surge of political attention. Recently, Boydstun and colleagues (2013) coined the concept

of "media storms" to refer to instances of sudden, high, enduring levels of media attention for an issue or event. We elaborate on this in the next section. So, finally, we formulate our second, nonlinearity hypothesis.

H2: When a media storm on a topic occurs, an increase in news coverage of the topic leads to a larger increase in congressional hearings on that topic than in the absence of a media storm on the topic.

Note that we do not consider the two hypotheses (linear and nonlinear) to be contradictory. Both hypotheses can be true at the same time. In fact, the first hypothesis states, in technical terms, that there will be a *main* effect of media coverage on hearings, and the second hypothesis claims the presence of an *interaction* effect of media coverage and the presence of a media storm on hearings. Of course, it is true that under storm conditions on a given issue—leading to hypothesized nonlinear effects for that issue—the space on the political agenda for the other issues is diminished, which reduces the chance of finding a linear effect for the other issues at that particular time.

Data

We test these expectations drawing on longitudinal data from the U.S. covering the 1996–2006 period capturing attention across all domestic policy topics in the media (via *New York Times* coverage) and in politics (via congressional hearings). A period of 11 years should be enough to test our expectations, as media effects are supposed to be short term and the number of observations is considerable (see below). With these data, we test the hypotheses outlined earlier using pooled fixed effects time series models. Observations in each of the two data sets are coded according to the original U.S. version of the Policy Agendas codebook developed by Baumgartner and Jones (1993; see http://www.policyagendas.org/). The codebook contains 19 major topic codes, comprised of 233 subtopic codes. All observations are coded for one primary code only. In this article we rely on the major topic codes. We do not focus on just a few topics but take all domestic topics into account in a pooled analysis, excluding the three international topics (defense, foreign trade, and international affairs) from the analysis. Previous work has showed that, in the United States, media and politics interactions differ for international issues compared to domestic issues (Edwards & Wood, 1999; Wood & Peake, 1998). Public opinion pressure on media and politics differs as well for international issues, as

Table 1
Descriptive statistics

Variable	*N* (16 topics x 132 or 129 months)	Mean	*SD*	Min	Max
Hearings	2112	4.98	5.62	0.00	76.00
Media Attention[a]	2064	3.16	3.77	0.00	40.71
Media Storms[b]	2064	0.09	0.40	0.00	3.00
MIP	2112	0.05	0.07	0.00	0.41
Media Congestion[a]	2064	0.23	0.06	0.13	0.44

Notes. [a] Variables for which a three-month average is being used and presented here.
[b] Number of months in the previous quarter that a storm was present on the given issue. Means are relative scores (percentages); non-domestic issues are excluded from the analysis.

the U.S. public cares much less about foreign issues (Page & Shapiro, 1992). Thus, international topics, while of course important, are different agenda animals, best left for separate consideration. We turn now to explaining our data. Table 1 shows descriptive statistics for the variables. Note that these are all relative scores (i.e., percentages).

Political Attention

We measure the governmental agenda using congressional hearings; this is our dependent variable. Previous authors have argued that congressional hearings are the best measure of congressional attention (Baumgartner & Jones, 1993; Edwards & Wood, 1999), and we follow in their footsteps here. Hearings are a good measure of what Congress is taking seriously (Edwards, Barrett, & Peake, 1997). We use hearings data acquired from the Policy Agenda database, drawn from the Congressional Information Service Abstracts.[1] The hearings included are those of committees, subcommittees, task forces, panels and commissions, and the joint committees of Congress. Hearings can be held on any topic as long as a member is able to convince the committee chair to hold one. A delaying factor is finding an appropriate date for the committee leader. Committees have to publicly announce the date, place, and subject of each hearing at least one week in advance (Sachs, 2004). Most hearings in the Policy Agenda database have been announced a week beforehand. In this data set, each hearing receives a single primary topic code. Since we are interested in the share of attention to issues and not in the absolute levels—political attention is a zero sum game—our measure of political attention is the proportion of congressional hearings on a given topic during a given month, using a data set comprised of 15,435 hearings in total. In general, it takes a few weeks for Congress to convene a hearing, making it appropriate to model hearings as a function of lagged media attention of one to several months earlier. Note that planned hearings are almost *never* announced in the mass media (according to our own systematic search on LexisNexis), which considerably reduces the chance that the mere announcement of a hearing sparks media attention (thus leading to a reverse causal effect).

Media Attention

We measure the media agenda, our first independent variable, using all front-page *New York Times* (*NYT*) stories, 1996–2006 (data borrowed from Boydstun, 2013). Each story was manually coded. Each story received a single topic code, employing a systematic rubric for coding the minority of cases that dealt equally with two or more policy topics. This data set of *NYT* front-page stories has high intercoder reliability, with 95.2% agreement and a Krippendorff's alpha value of 0.947 based on this major topic coding (Boydstun, 2013). Although the front page of the *NYT* forms a single media outlet only—and is characterized by limited space—it is the best single measure of what goes on in the U.S. media system. Several studies suggest that the *NYT* is generally representative of U.S. national newspaper coverage and often national television coverage and online news (Althaus, Edy, & Phalen, 2001; Baumgartner, De Boef, & Boydstun, 2008; Soroka, 2002b; Van Belle, 2003). So, when we speak in plural of "the media" in the remainder of the article we are actually talking about the *NYT*, assuming that the *NYT* reflects the national U.S. media well. Concretely, our measure of media attention is the proportion of *New York Times* stories on a given topic during a given month, using a data set of a total of 31,034 front-page stories in all.

Media Storms

The central tenet of our study is that the media's influence on politics is nonlinear. That is to say, the effect of a single-story increase in attention differs according to whether or not that story is in the context of high media attention to the topic above a certain threshold. This threshold is theoretically amorphous, but the media storm variable identified by Boydstun et al. (2014) meets our theoretical criteria. Earlier, drawing on the cognitive psychology literature, we mentioned that the *saliency* (prominence and distinctiveness), *frequency*, and *recency* of a signal determine whether it manages to attract a human's attention. The operationalization of a media storm by Boydstun and colleagues maps onto these criteria exactly. Available work on media storms—or "media hypes" or "media waves," as they are sometimes also called—is not very extensive, and most of it fails to operationalize media storms empirically (see, for example, Brosius & Eps, 1995; Elmelund-Præstekær & Wien, 2008; Kepplinger & Habermeier, 1995; Vasterman, 2005; Wien & Elmelund-Praesteker, 2009; Wolfsfeld & Sheafer, 2006). But recently, Boydstun and colleagues (2013) have developed an empirical measure of media storms. Specifically they define a media storm as (a) a sudden surge of attention to a specific topic (the attention increases two-and-a-half times compared to the previous week [i.e., +150% or more]) that (b) is high in volume (capturing at least 20% of the total front-page agenda) and (c) lasts for a significant period, by media standards (at least an entire week of coverage).

Although the thresholds that these authors employ (150% increase/20% total coverage/1 week duration) are somewhat arbitrary, they show that storms identified using these criteria have an effect on people's perception of the world around them. The attractiveness of their conceptualization of media storms is that their three dimensions—explosiveness, amount, and duration—largely map onto cognitive psychology's criteria of saliency, frequency, and recency for signals to grasp people's attention. The saliency of a signal refers to its prominence and distinctiveness. The 20% of coverage criterion (amount) for media storms corresponds with the required prominence of a signal. The 150% increase criterion (explosiveness) fits the distinctiveness of a signal. Brosius and Kepplinger (1992, p. 10) contend that extreme short-term changes in coverage are the most likely to yield effects because memories of extraordinary situations remain active for a longer time period. Frequency is accounted for by the duration criterion Boydstun and colleagues use when they state that media storms take at least one week of exceptional coverage. The recency of a signal, finally, is a matter of modeling the preceding media storms and media coverage in close proximity, short lags, to the expected outcome (hearings). Therefore, we decided to simply adopt Boydstun and colleagues' (2013) criteria for media storms without first testing their effect on congressional hearings scheduling. Other storm criteria, with higher or lower thresholds, might lead to larger or smaller hearing effects. But our primary goal here is to test whether nonlinear effects exist in the first place rather than to scrutinize the exact size of a media storm needed to prompt a shift in effect size.

In sum, Boydstun and colleagues' operationalization of media storms nicely fits with what we would expect from signals able to draw attention away from previous topics. Conveniently, they assess media storms on the *NYT* front page in the same research period as we study here (1996–2006) and they identify each media storm based on the same Policy Agendas topic coding. So, we have a measure of general coverage and of storm coverage of domestic policy topics based on the same source and covering the same period. In the 11-year period under study here, Boydstun and colleagues identified 112 domestic *NYT* media storms to meet their three criteria. Many of these storms have

household recognition, such as 9/11, the Columbine school shooting, Hurricane Katrina, and even John Kerry's Swift Boat scandal. Other storms, like Terri Schiavo and the California gubernatorial recall election of 2003, are likely memorable to most Americans who paid even passing attention to the news during this period. Some major events, like the President Bill Clinton/Monica Lewinsky scandal, produced multiple media storms erupting around distinct key moments. Of the 112 media storms identified between 1996 and 2006, 61 happened on U.S. soil and are considered here as domestic media storms. All 61 of these media storms served to draw public (and political) attention to a policy area that we can categorize using the Policy Agendas codebook (see Appendix for the list of domestic storms we use here). Thus, for the following analyses, we construct a simple media storm dummy variable set to "1" for each topic/month observation if that topic was empirically part of a media storm during that month, and "0" otherwise. Note that our two media variables, media attention and media storms, partially tap the same phenomenon: the amount of media attention. The media storm variable, though, also takes the *explosiveness* and the *duration* of exceptionally high media attention into account since we expect these two elements to increase the effect of the sheer amount of coverage. In fact, we argue that our media storm measure is a better match with theories of information processing (see the saliency and frequency of a signal) than alternative polynomial measures of media attention (e.g., media squared). One is not a mathematical artifact of the other.

Of course, as they both include levels of media attention, both media variables correlate considerably. The correlation between the variables used in the analysis (three-month average for media attention and summed scores over three months for media storms) is .76. This is a high correlation but it leaves enough non-overlapping variation in both variables to include them both simultaneously in one model. To substantiate this point, we will also run separate analyses under storm and non-storm conditions and the results are basically identical.

Control Variables

We use the *NYT* front-page data also to construct a variable that controls for how *congested* the media agenda is at each point in time (i.e., if it is dominated by only a few issues). We control for agenda congestion in order to account for the possibility that congressional response to media attention does not (only) hinge so much on whether the media has gone into storm mode—involving dramatic change as well as high amounts of coverage—but additionally or instead is influenced by the degree to which the media agenda is congested by "mega" news items like Hurricane Katrina or 9/11 that occupy a large proportion of the agenda, leaving little room for other news items. We measure media agenda congestion as the inverse normalized entropy value of the spread of media attention across topics. This inverse normalized entropy measure can range from 0 to 1, with 0 representing total agenda dispersion across topics (i.e., all topics receive an equal small slice of the agenda), and 1 representing total congestion around a single topic (see Boydstun, Bevan, & Thomas, 2014 for more details on this measure).

Finally, we control for the effect of the *public agenda*. In fact, it could be the case that hearings are steered by public concern and we want to rule out the possibility that this effect is confounded with media attention (which itself has an effect on public concern). For public opinion, we use aggregate responses to the open-ended question that Gallup poses to American citizens, asking them what they think is the most important problem (MIP) "facing this country today." The Gallup Organization surveys a large sample

(usually more than 1,000) on this question on average once every month. Once again, we use MIP data acquired from the Policy Agendas Project. In this MIP data set, each response category reported by Gallup is coded by topic; for example, if 10% of respondents identify "the economy" as the most important problem, these responses are coded under the topic of Macroeconomics. In most months a single survey is conducted, and so we use those survey results for that month. In rare cases, two or more surveys are conducted in a single month, in which case we average the survey results to produce that month's observation in our data series. And in the very rare cases when Gallup skips a month, we impute the observation for that month by averaging the surrounding months. Thus, our measure of public concern is the proportion of Gallup respondents who identify a given domestic Policy Agendas topic during a given month as the most important problem facing the country.[2]

Methods

Nonlinearity of information effects can be modeled in different ways (see, for example, Brosius & Kepplinger, 1992; Neumann, 1990). Here, we use the media storm dummy variable as a conditioning mechanism, capturing a threshold of news coverage—in terms of amount of attention, explosiveness, and duration—above which we expect media attention to have a heightened impact on political attention. We interact this media storm variable with our measure of media attention and gauge agenda-setting nonlinearity by testing whether, in a month in which a media storm on a given topic occurred, an additional story on that topic exerts a larger effect on governmental attention compared to an additional story on the topic published in a month without a media storm unfolding on that topic. We expect the media storm variable not to exert any main effect on top of the media attention measure, but we do expect to see a positive and significant coefficient of the *interaction* between the media storm variable and the media attention measure.

Our data has a pooled time series structure, with months being nested in topics. We consider all topics jointly and do not single out specific topics, since (a) we want to test the effects of media storms generally and (b) media storms are such rare phenomena, pooling data from different topics offers us the opportunity to statistically test the hypothesized nonlinearity in a robust manner. We use a monthly level of aggregation, since lower levels do not make sense: hearings take some time to be scheduled. We rely on a linear model, despite the fact that upon inspection of the residuals of our analyses, we find slight deviations from a normal distribution. Other model types (e.g., beta or gamma regressions) might statistically be more appropriate, but do not assume and test a linear relationship between independent and dependent variable. It is exactly that linearity—and deviations thereof based on storm versus non-storm coverage—that we want to test. Such a test would be seriously hampered if we would use a model that is, for example, assuming a log-linear relationship in the first place.

To decide upon the most appropriate type of analysis, several steps have to be taken. First, the dependent variables need to be checked for stationarity. Stationarity means that the mean of the series is unaffected by a change of time origin; that is, whether the expected values are the same for all time points. A pooled Dickey-Fuller test, the Fisher unit root test suggests that this is the case ($Z = -27.54$, $p < .001$). Second, we have to choose between a fixed effects and a random effects model to deal with unobserved topic-level heterogeneity (i.e., different scores across topics due to variables that are not included in the model). The random effects model is more efficient if coefficients estimated in the fixed effects and random effects do not differ significantly. We ran both models and

compared using a Durbin-Wu-Hausman test. The test indicated that coefficients differed significantly across the models (for the final model: chi-squared = 273.59; $df = 7$; $p < .001$) resulting in a choice for fixed effects models. A fixed effects model, also known as a least squares dummy variable model, includes dummy variables for each of our 16 topics minus one. In that way, it removes variation across topics, allowing the model to focus on explaining variation over time within topics. A combined F-test for fixed effects after the final model suggests that they are jointly highly significant ($F(15,1898) = 12.22$; $p < .001$), offering additional evidence that the fixed effects model is an appropriate choice. The third decision that has to be taken is in what way to deal with the temporal dependencies of the dependent variables. The Wooldridge test for first-order autocorrelation suggests the presence of serial correlation is likely ($F(1,26) = 4.128$; $p = .053$). Thus, we include a lagged dependent variable (t–1).[3] Finally, we also include the lagged value at lag 12 to account for seasonal effects. These seasonal effects control for the fact that some issues might receive more attention at certain moments in a year and also for the fact that Congress has no sessions during the summer.

We investigate two additional properties of the data: the level of contemporaneous correlation in the residuals (correlation between residuals of different panels at the same point in time) and panel-level heteroscedasticity. Results indicate some presence of contemporaneous correlation (chi-squared (120) = 244.20, average $r = –.04$) and panel-level heteroscedasticity (chi-squared (16) = 3246.00, $p < .001$). These results might warrant additional correction of the standard errors of our estimates. Therefore, we reestimated our model using ordinary least squares regression with panel corrected standard errors. Since this model did not yield substantially different conclusions, we stick to the basic fixed effects model.

For the media storm variable, we use the number of storms on the given topic in the past three months (i.e., ranging from 0 to 3 possible past storms). The final analyses excluded the first year of observations due to the inclusion of a seasonal autoregressive component (lag 12). This leaves us with a total of 1,920 observations (16 topics for 120 months).

An important consideration in our design is endogeneity; the relationship between hearings and media attention is likely to be bidirectional. To test the general presence of the bidirectional effects, we conducted a Granger causality test for pooled data, following the procedures as introduced by Hood and colleagues (2008), using three-month averages of media and hearings to predict both current values of both. This test suggests that indeed, there is a bidirectional relationship, with at least for one topic hearings Granger-causing media attention ($F(16,2033) = 3.87$, $p < .001$) and also at least for one topic media Granger-causing hearings ($F(16,2033) = 5.98$, $p < .001$). But the F-scores suggest that the impact of media on hearings is stronger than the reversed effect.[4]

Results

Table 2 presents the results of two models. The first model only contains main effects and estimates the proportion of hearings on each possible topic for each month, as influenced by media attention as well as our control variables, without taking nonlinear effects into account. Political attention is path-dependent, the results show. History imposes itself on the present. If hearings on a topic have been organized a month before, or even 12 months before, chances increase that hearings will be devoted to the same topic in the present month again. This is entirely in line with what we know about political attention: it is sticky, has a seasonal nature, and tends to last (Jones & Baumgartner, 2005; Lindblom,

Table 2
The effect of media attention on political attention (hearings), conditional on the presence of media storms

	(1) Main Effects	(2) Interaction Effects
Governmental Attention: Hearings (*t*–1)	0.0521*	0.0463*
	(0.0229)	(0.0229)
Governmental Attention: Hearings (*t*–12)	0.0833***	0.0830***
	(0.0228)	(0.0226)
Public Concern: MIP (*t*–1)	2.445	3.465
	(3.054)	(3.036)
Media Agenda Congestion (*t*–[1–3])	1.7352	0.1931
	(1.8387)	(1.8797)
Media Attention(*t*–[1–3])	**0.4358*** **	**0.2606** **
	(0.0703)	(0.0846)
Media Storm (*t*–[1–3])	–0.7750	–2.4013***
	(0.4744)	(0.6464)
Media Attention(*t*–[1–3]) * Media Storm		**0.1336*** **
		(0.03620)
Constant	2.476***	3.329***
	(0.547)	(0.592)
Observations	1920	1920
$R^{2\ \text{within}}$	0.042	0.052
$R^{2\ \text{between}}$	0.731	0.748

Notes. Estimations from a pooled fixed effects model. Standard errors in parentheses.
* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ (two-tailed tests).

1959). Once political attention is drawn to a topic, it is bound to remain in place for a while. Public concern in the previous month does not affect what Congress devotes attention to in the subsequent month. Note that some topics hardly appear on the public agenda at all; these topics are only identified as the most important problem facing the country by a negligible percentage of Gallup respondents (or by none at all). We ran the two models once including these negligible topics and then again without; the substance of our results does not change. Table 2 reports the analyses using all topics. Finally, while agenda congestion is an important control variable conceptually, it too does not demonstrate a significant influence on political attention.

In the main effects model, the key variable of media coverage (shown in bold) offers support for our first hypothesis. Media coverage directly affects what topics congressional hearings deal with, and the effect is substantial: a 1% increase in media attention results in an average .436% increase in attention for the same topic in Congress. This finding replicates what many agenda-setting studies have found in the United States and elsewhere: media coverage pushes political actors to devote attention to the covered topics. It also reinforces confidence in our procedure and in our data, as we show the same story already documented by past literature: the media matter for the political agenda. The mere presence of a media storm does not significantly influence congressional hearings on a topic on top of linear media attention. In a model without media attention but with the

media storm variable included, the latter does become a significant and positive predictor of hearings, though (model not shown in table).

Our second hypothesis holds that the occurrence of a media storm—captured by high levels of coverage after an explosive increase and with some stamina—should increase the effect of each additional media story on political attention. We can evaluate this hypothesis by inspecting the sign and significance of the interaction term between media attention and media storm presence (the second, interaction effects model in Table 2). In line with H2, the effect of this interaction term is positive and significant. When media increase their attention to a topic during a media storm, Congress tends to schedule even more hearings on that topic than when media increase their attention to that same topic to the same degree but in a non-storm context: while the effect of a 1% increase in media attention in the case of no storm is .26, it is roughly 50% higher (.26 + .13) if one storm occurred in the past two months, and doubles when two storms occurred (.26 + 2 * .13). In other words, once a storm breaks, policymakers become even more reactive to media coverage. The finding confirms the idea of the nonlinear nature of political actors' processing of information, in this case information encapsulated in media coverage. Political actors' dealing with information is governed by thresholds—in this case a threshold of 20% of the media agenda with a 150% increase during at least a week of news.

Our media attention and media storm measures are substantially correlated. We check whether our results are not affected by multicollinearity issues by conducting separate analyses on the media effect for those observations with no storm present and for those observations with one or more storms present in the past months. Results are very similar to the ones we presented in Table 2. The media attention coefficient in the non-storm situation is .198 (SE = .086, p < .05). In the storm situation the coefficient is .682 (SE = .266, p < .05). The difference between the two is (marginally) significant (difference = .484, SE = .280, p < .10), even despite the low number of storm observations and the subsequent high standard errors of the regression estimates.

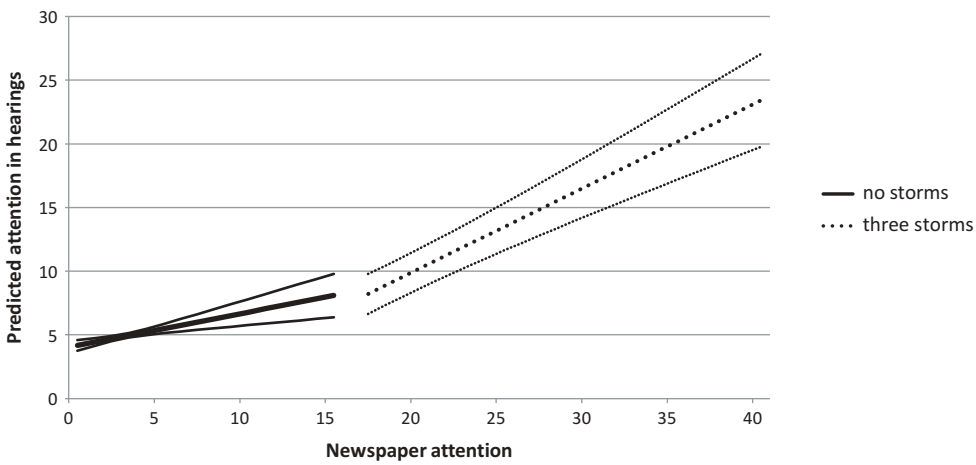

Figure 1. The effect of media attention on political attention (hearings), conditional on the presence of media storms. Interaction effect plot.
Note. All other variables are held constant at the overall means. Lines represent cases where there is no storm and three storms in the past three months. Only actual data ranges are graphed. Ninety percent confidence intervals included.

Since the media attention * media storm interaction term is central to our argument, we plot the effect of media attention on hearings, distinguishing between the presence and absence of media storms. Figure 1 presents these results. The graph shows strong and positive effects of mass media attention both when media storms are present or absent, but clearly the strongest when media storms are present (see the steeper slope of the dashed line showing the effects of three storms).

As an illustration of the nonlinear effect of media-based information on governmental attention, consider two cases: the Enron scandal and the court battle over the removal of Terri Schiavo's feeding tube. In these two cases we have two very different events—one affecting the national economy and one affecting a single family. Yet in both cases, we can easily imagine that if the national media had not jumped, storm-like, on these events, the congressional response would have been more muted. In the case of Terri Schiavo, we likely would not have seen any congressional hearings at all. In the case of Enron, we certainly would have seen some. But absent the media storm spotlight, the number of hearings would likely have been many fewer than the dozens we actually observed.

Conclusion

Extant work has held that the political agenda—the issues political actors consider for political action—is determined by information about issues, problems, and solutions floating around in society. Agenda scholars have found that political agendas are invariably punctuated. Looking at it over time yields an image of long-standing stasis and invariant attention to issues. But then, sometimes, attention spikes and during a short period, frenetic political activity occurs as political actors outbid each other in devoting attention to the issue, after which the issue regains its normal agenda status. To account for this stochastic pattern, agenda-setting scholars have argued that political actors process information from society in a disproportional, or nonlinear, fashion. Some signals are ignored, even when they get gradually more powerful, while others pass the threshold and explode on the agenda. While the disproportionality argument coined by Jones and Baumgartner (2005) is widely accepted, no direct test exists of the fact that it is the disproportional processing of *incoming information* that leads to the punctuated patterns found in so many studies. This study set out to empirically test the nonlinear effect of information on political attention by considering mass media coverage as a source of information for elites.

Drawing upon existing theories of media agenda-setting, cognitive psychology, and friction and cascading, we theorized that signals that are particularly prominent, distinctive, and frequent may break through the standard political negligence and spark attention. Political elites are, like any human being, hampered by cognitive deficiencies constraining their capacity to attend to different things at the same time and they are socially constrained as well. It requires a strong signal—a frequent, prominent, and distinctive stimulus—to make them shift their priorities and openly turn to an issue. Below a certain threshold of media attention, additional news coverage yields only small changes in political attention. But once media attention to a topic surpasses the threshold, the responding political shift toward the topic is explosive, as catch-up processes and cascades occur and political actors imitate one another's shift toward the newly discovered topic.

Concretely, we examined the nonlinearity of political agenda-setting by the media in the case of U.S. congressional hearings, 1996–2006. To explore increasing media effects above a given threshold, our test not only took into account the mere amount of media coverage. Rather, in line with the cognitive psychology literature, we relied on the concept

of media storms, as identified by three distinct criteria: a high level of attention (prominence), after an explosive increase (distinctiveness), with a certain duration (frequency). In operational terms, we examined whether the media information is more politically consequential, leading to hearings, when the media are in storm mode than when they are in routine coverage mode.

The evidence supported our expectation. We first replicated the well-known and general linear effect of media attention on political attention: when media attention goes up, politics follows. More importantly, we found that, once in media storm mode, media attention has a significantly stronger effect on congressional hearings than when not in storm mode. Our findings—which were the first results of an empirical, systematic examination of incoming information—support the notion that punctuated political attention is due to a nonlinear processing of incoming information.

The study has limitations. First, our measure of information is confined to media information—the advantage of it being public and available. Yet, precisely these features of media information may make it different from how other types of information provided by other sources are processed by elites. For example, elites rely on information from polls, constituents, experts, lobbies, organized interests, etc. We are ignorant about how information from these other sources is processed by elites. Elites may react more gradually to signals from these other sources. But since elites are inherently hampered by their cognitive limits, social pressures, and the institutional environment in which they operate, we instead expect them to process information from other sources in a similar disproportional manner. A second limitation is our dependent variable: we only looked at congressional hearings (in the United States). It may be the case that other political agendas—bills, legislation, budgets, etc.—react less disproportionally to incoming information. Yet, the fact that the institutional and partisan constraints on hearings are relatively limited—many hearings can be held and committees can schedule a hearing with relative autonomy—and, thus, the fact that friction is relatively small, makes us expect that hearings should be characterized by *less* rather than more disproportionality compared to other political agendas (see Baumgartner et al., 2009). Third, we took the "size"' of media storms as given and simply adopted the storms identified in previous work. We did not vary the storms' explosiveness or duration either. It may be the case that effects are larger or smaller depending on the size, explosiveness, or duration of a storm. Our goal here was to explore whether storms matter, and we found that they do. We leave it to subsequent work to determine the precise storm thresholds, above which the nonlinear reaction of the political agenda manifests itself.

The implications of the study extend to future agenda studies, to our understanding of government operations, and in a very pragmatic way to policy advocates trying to draw attention toward a deserving issue. Our study also has implications for the effect of mass media coverage on citizens more generally. Citizens are subject to well-known and direct media effects such as agenda-setting, framing, and priming. Our study shows that they are also touched by indirect media effects as the media lead to political reactions that may, in turn, have indirect consequences for citizens. For the thriving field of agenda research, our study calls for greater empirical attendance to the nonlinearity of the relationship between agendas. While we found linear effects underneath the threshold here, in other cases we might expect that the influence of one agenda on another operates only above (or below) a given threshold. In these cases, offering only a linear model masks the lack of significant effects for some portion of the spectrum, leading to spurious inferences.

Finally, our findings hold important implications for understanding how government operates. While past research has nicely documented the explosive nature of individual agendas, ours is the first study to show empirically that explosiveness in one agenda (the media) may serve to exacerbate explosiveness in another agenda (Congress). We knew that government does not respond proportionally to policy issues; here, we show that government does not even respond proportionally to *cues* about policy issues in the news. Our findings also bear consequences for the substantial literature on policy responsiveness and political representation. That literature builds implicitly on the idea that representatives should react proportionally to (information about) public priorities and preferences. Our findings show that reality may be at odds with that normative ideal.

Notes

1. http://comparativeagendas.s3.amazonaws.com/codebookfiles/Hearings_Codebook.pdf
2. We redid the models including a three-month average for MIP, as we do for the media variables (see further discussion). This did not change our findings in any way.
3. Models that include both fixed effects and a lagged dependent variable are sometimes criticized for producing biased and inconsistent estimates. This criticism, however, applies specifically to situations with large N (units) and small/midsize T (over-time observations). In our situation, we deal with a small/midsize N (16 topics) and a relatively large T (120 months). In those situations, fixed-effects estimators are consistent and can be applied (Baltagi, 2001, p. 130). We consider our model choice to be a fairly conservative one, taking into consideration both the temporal dependency of observations (through the lagged dependent variable) and topic-level heterogeneity (through the fixed-effects dummies).
4. Following Walgrave and colleagues (2008), for the media attention and media congestion measures, we consider multiple lags—that is, the average levels of each variable, attention and congestion, in the previous months—assuming that media might not only have a more direct (1-month lag) impact, but also a longer-term, delayed impact. The models we present next include the three-lag average of media attention. We also estimated models with a single lag and two-lag averages. The results of those models resemble the ones of the model with a three-lag average, but have a slightly worse model fit. We use the average and not separate lags for reasons of parsimony and clarity: especially when it comes to constructing the interaction between media attention and media storms, using single lags would result in the inclusion of a large number of interaction terms that might be difficult to interpret. For the main effects model, we redid the model with separate lags. Results suggest that jointly these lags exert a significant influence on the dependent variable ($F(1,1896) = 35.49$; $p < .001$), as does the averaged coefficient.

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Appendix: List of 61 Domestic Media Storms

Storm Number	First Date of Storm	Last Date of Storm	Policy Agen-das Sub-topic Code	Subtopic Description	Storm Description
1	1/8/1996	1/14/1996	2600	Natural disaster	Blizzard of 1996
2	2/6/1996	3/14/1996	2012	Elections	Primaries in different states
3	7/18/1996	7/31/1996	1003	Airline safety	Crash of Flight 800
4	8/7/1996	9/4/1996	2012	Elections	GOP Convention
5	10/4/1996	11/11/1996	2012	Elections	1996 Elections
6	2/28/1997	3/8/1997	2012	Elections	Democratic fundraising scandal
7	3/25/1997	4/1/1997	1299	Crime	Cult suicide
8	7/20/1997	7/27/1997	530	Immigration	Mexican immigrants held captive in Queens, NY
9	10/30/1997	11/6/1997	2400	State politics	NY Major Elections
10	1/22/1998	2/8/1998	2010	Executive scandal	Bill Clinton/Monica Lewinsky Scandal—initial report
11	3/10/1998	3/17/1998	2010	Executive scandal	Paula Jones Scandal
12	7/25/1998	7/31/1998	1299	Crime	Capitol Hill Slayings
13	8/13/1998	8/23/1998	2010	Executive scandal	Clinton/Lewinsky—Clinton confesses
14	9/5/1998	9/26/1998	2010	Executive scandal	Clinton/Lewinsky—Clinton apologizes
15	10/25/1998	11/12/1998	2012	Elections	Midterm Elections 1998
16	11/17/1998	11/26/1998	2010	Executive scandal	Clinton/Lewinsky—investigations begin
17	12/2/1998	12/25/1998	2010	Executive scandal	Clinton Impeachment—investigations
18	1/4/1999	2/3/1999	2010	Executive scandal	Impeachment trial in the Senate begins
19	2/4/1999	2/19/1999	2010	Executive scandal	Impeachment trial in the Senate continues

(*Continued*)

(*Continued*)

Storm Number	First Date of Storm	Last Date of Storm	Policy Agen-das Sub-topic Code	Subtopic Description	Storm Description
20	4/21/1999	5/1/1999	602	Schools	Columbine shooting
21	9/15/1999	9/23/1999	2600	Natural disaster	Hurricane Floyd
22	1/24/2000	3/17/2000	2012	Elections	Election Primaries
23	5/15/2000	5/27/2000	2012	Elections	Rudy Giuliani quits Senate race
24	7/16/2000	8/25/2000	2012	Elections	2000 Campaign—George W. Bush picks Dick Cheney
25	9/13/2000	9/28/2000	2012	Elections	2000 Presidential Election
26	10/14/2000	10/21/2000	2012	Elections	2000 Campaign continues
27	10/25/2000	12/17/2000	2012	Elections	2000 Elections
28	12/17/2000	12/23/2000	2005	Nominations/ appointments	Bush chooses Colin Powell as Secretary of State
29	12/28/2000	1/3/2001	2005	Nominations/ appointments	Bush chooses Donald Rumsfeld as Secretary of State
30	9/12/2001	11/10/2001	1615	Civil defense	9/11 Attacks
31	1/14/2002	1/29/2002	1520	Corporate management	Enron scandal breaks
32	2/3/2002	2/10/2002	1520	Corporate management	Enron scandal continues
33	2/7/2002	2/25/2002	2900	Sports	Winter Olympics—Salt Lake City 2002
34	7/9/2002	7/16/2002	1520	Corporate management	Enron scandal—Bush press conference
35	9/6/2002	9/17/2002	1615	Civil defense	9/11 Anniversary
36	10/21/2002	11/1/2002	1299	Crime	Beltway Sniper Attacks
37	10/31/2002	11/11/2002	2012	Elections	Midterm Elections 2002

38	2/2/2003	2/16/2003	1701	NASA	Crash of Columbia Shuttle
39	8/15/2003	8/24/2003	802	Electricity	NYC blackout
40	10/3/2003	10/10/2003	2400	State politics	California recall
41	1/9/2004	2/15/2004	2012	Elections	Democratic Primaries
42	2/26/2004	3/8/2004	2012	Elections	Democratic Primaries
43	6/6/2004	6/12/2004	3000	Deaths	Death of Ronald Reagan
44	7/3/2004	7/10/2004	2012	Elections	2004 Campaign—John Kerry chooses John Edwards
45	7/20/2004	7/29/2004	1615	Civil defense	Release of the 9/11 Report
46	7/24/2004	8/5/2004	2012	Elections	Democratic Convention
47	8/1/2004	8/10/2004	1615	Civil defense	Terror Threat in NYC
48	8/20/2004	9/10/2004	2012	Elections	2004 Campaign—Swift Boat controversy
49	9/15/2004	10/21/2004	2012	Elections	2004 Campaign—campaigns heat up
50	10/27/2004	11/9/2004	2012	Elections	2004 Elections
51	3/19/2005	3/28/2005	208	Personal rights	Terri Schiavo's feeding tube removed
52	6/3/2005	6/9/2005	2900	Sports	New Baseball Stadium in NYC
53	8/30/2005	9/6/2005	2600	Natural disaster	Hurricane Katrina arrives
54	9/1/2005	9/17/2005	1523	Domestic disaster relief	Hurricane Katrina—FEMA
55	9/18/2005	9/27/2005	2600	Natural disaster	Hurricane Rita
56	10/23/2005	10/30/2005	2010	Executive scandal	CIA Leak Case
57	12/16/2005	12/24/2005	504	Labor unions	NYC City Strike
58	1/9/2006	1/15/2006	2005	Nominations/appointments	Supreme Court nomination
59	8/3/2006	8/11/2006	2012	Elections	Elections—Joe Lieberman loses Senate primary
60	10/1/2006	10/9/2006	2012	Elections	Mark Foley Scandal
61	10/21/2006	11/17/2006	2012	Elections	2006 Elections

Note. This table shows the 61 domestic media storms as empirically identified by Boydstun and colleagues (2013), starting in 1996.