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## Abortion Salience After the *Roe v. Wade* Leak: A Computational Content Analysis of Tweets by CNN, Fox News, and ABC News

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### ABSTRACT


The *Roe v. Wade* leaked draft opinion, and the subsequent Supreme Court decision overturning *Roe*, drew a wave of media attention to the issue of abortion. This study sought to examine the topical and attribute salience of abortion in the tweets of CNN, Fox News, and ABC News after the leak. Findings reveal a gap in abortion salience, with Fox News more likely to tweet about abortion than CNN and ABC News. Moreover, Fox News and CNN were more likely to frame abortion politically, and Fox News had a more negative sentiment in its tweets about abortion. Implications on public opinion and policymaking are discussed.

On May 2, 2022, a draft majority opinion circulated within the Supreme Court of the United States, indicating the likely overturning of *Roe v. Wade*, was leaked and published. The leaked draft implied an end to the constitutional right to abortion and foreseeable restrictions to reproductive care in many states (Center for Reproductive Rights, 2022). While the news of the leak received mixed reactions from the public, public opinion polls indicated that the majority of Americans did not want *Roe* to be overturned (Agiesta, 2022; Brennan, 2022; Pinto et al., 2022). Yet, 53 days later, on June 24, 2022, the Supreme Court announced its decision to overturn *Roe v. Wade*.

The decision exhibited a split in public opinion and abortion-related policymaking in the United States. Crawford et al. (2022) posit that this mismatch between the majority's wants and the policymakers' actions is rooted in an *abortion salience gap*—abortion is a salient voting issue for people who oppose it but not for those who support it (Crawford et al., 2022; Leiserowitz et al., 2018). That is why policymakers are more driven, in terms of electability, to form anti-abortion policies (Crawford et al., 2022). However, according to newer polls, this gap has been shifting. More Democrats than Republicans rate abortion as a salient voting issue now (Leiserowitz et al., 2020; Pew Research Center, 2024), and consider it one of the most important issues facing the country (Gallup, 2022).

In the light of the overturning of *Roe*, and the shift in abortion salience among Democrats and Republicans, this study sought to conduct a content analysis to examine the topic salience of abortion across news outlets after the *Roe v. Wade* leak. This was

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a critical period for politicians, the judiciary, as well as abortion-related activists, and it drew much attention of the media to the issue of abortion, which is why it was an important timeframe to study. Therefore, through the lens of the agenda setting theory (McCombs & Shaw, 1972), we conducted a content analysis of the tweets of CNN, Fox News, and ABC News from the time of the leak till the Supreme Court decision. Specifically, we examined (a) the salience of abortion in the tweets of the news outlets, (b) the salient attributes/frames used by the outlets, and (c) the sentiment of their tweets on abortion. Findings show differences in abortion salience, framing, and sentiment of abortion-related tweets across the news outlets.

This study contributes to the literature on both cognitive and affective agenda setting and abortion discourse, particularly in the context of a unique event. It also informs future research about the specifics of abortion coverage during this period that can be used to study potential media effects on public opinion. Practically, the findings alert policymakers to the ideological bias present in abortion-related media coverage and caution media practitioners regarding the implications of skewed reporting on ideological and affective polarization on the issue of abortion.

### **Abortion as a Policy Issue in the United States**

Abortion is a highly contentious topic in the United States that is often intertwined with religious and political ideals (e.g., Baker et al., 1981). The issue gained considerable attention after *Roe v. Wade*—a landmark decision made by the United States Supreme Court on January 22, 1973—that gave women the constitutional right to abortion until a fetus becomes viable (see Gandhi & Anya, 2021; *Roe v. Wade*, 410 US 113). Although the debate regarding abortion as a policy issue started years before *Roe v. Wade* (see Mane et al., 2022), the case functioned as a catalyst for stimulating the interest of the masses and mobilized anti-abortion groups alongside abortion supporters. The divide between these groups intensified as interest groups with strong policy preferences on abortion allied with political parties (Karol & Thurston, 2020), and political elites started to exploit abortion-related public sentiments for political gains (Elaine, 2021). As a result, the distribution of abortion-related beliefs in the public became politically sorted, such that the majority of Democrats started to favor laws that expanded access to abortion while most Republicans wanted the opposite (Pew Research Center, 2022).

As political elites and interest groups leveraged abortion-related sentiments to mobilize their bases, media coverage has played a crucial role in shaping how the public perceives and prioritizes the issue. This brings into focus the agenda setting theory, which explains how media coverage can influence public opinion and, ultimately, the policymaking process.

### **Agenda Setting in a Fragmented Media Landscape**

The Agenda Setting theory (McCombs & Shaw, 1972) is a prominent theoretical framework for studying the effects of media on public opinion and policymaking. The basic premise of this theory is that the amount of attention an issue receives by the media is likely to make it more or less salient in the minds of the public, and indirectly, influence the policy-making process (Baumgartner et al., 2008). Beyond highlighting an issue, media can also influence the public's attitude by selectively highlighting certain attributes of the issue while

discounting others – a process known as attribute salience or framing (Entman, 1993; McCombs & Shaw, 2016). Additionally, affective agenda setting, as argued by Coleman and Wu (2010), refers to how the emotional tone of media coverage can shape the public's attitudes and evaluations of an issue.

The agenda setting theory was initially proposed in the context of mass media which featured a handful of media outlets appealing to a broad cross-section of a mainstream audience. We now live in a fragmented media environment that differs from traditional mass media regarding the dynamics of information demand and supply (Bennett & Iyengar, 2008). On the demand end, this fragmented media environment enables consumers to select the type of media they want to consume (i.e., selective exposure). On the supply end, it incentivizes the news outlets to produce content that aligns with their audience's political preferences (Mullainathan & Shleifer, 2005). This gave rise to partisan media outlets that were biased in selecting which stories to cover and provided opinionated forms of news that were framed to advance political agendas (Jamieson et al., 2007). Of late, the most prominent partisan outlets include Fox News which is the main source of news for Republicans, and CNN which is among the largest sources of news for Democrats (Pew Research Center, 2020).

Studies that tested the agenda setting theory in the context of partisan media have found significant effects that differ from the effects of mass media. These studies reported individual-level effects conditioned by selective exposure (see Muddiman et al., 2014). For example, Stroud (2011) found that Fox News and CNN viewers were more likely to report those issues as more important that were highly salient in the news coverage of the channels they watched (first-level agenda setting) (Stroud, 2011). Moreover, the attitudes of the viewers toward those issues aligned with the attributes of the news coverage they exposed themselves to (second-level agenda setting) (Muddiman et al., 2014).

In summary, when partisan media outlets differ in the amount of coverage they give to issues, as well as the aspects of those issues they decide to highlight; the same gaps tend to be found in the opinions of Democrats and Republicans who selectively expose themselves to these outlets.

## **Abortion Salience in the Media and the Public**

Generally, abortion tends to be a low-salience issue on the news when compared to other issues such as immigration (McKay & Garnett, 2012), and the frequency of abortion-related news tends to be even lower for non-election years (Perse et al., 1997). Across news outlets, however, the frequency of abortion-related news differs widely. A content analysis by McKay and Garnett (2012) reported that Fox News was seven times more likely to discuss abortion than CNN. They also observed that the discourse on Fox News consisted of mostly pro-life sentiments, while CNN had a more pro-choice stance in its commentary.

A comparable pattern in abortion salience was found among the American public. For instance, Petkova et al. (1995) conducted a study regarding the strength of abortion-related beliefs held by pro-life and pro-choice groups. They found that the strength of several abortion-related beliefs was significantly associated with a pro-life stance, but not with the pro-choice group. In other words, the pro-life group held stronger abortion-related beliefs than the pro-choice group. Similarly, Crawford et al. (2022) also concluded in their study that there was an imbalance in abortion salience across groups in the United States, such

that abortion was an important issue for groups that opposed access to abortion, but not as much for those that supported it. And because of this gap, abortion-related policymakers were more motivated to pass laws that restricted access to abortion, even though most Americans wanted the opposite (Crawford et al., 2022).

However, recent polls have shown that this gap in abortion salience is shifting. When deciding who to vote for in the 2020 presidential election, abortion was the 11<sup>th</sup> most important voting issue reported by conservative Republicans and the 14<sup>th</sup> most important issue reported by liberal Democrats (Leiserowitz et al., 2020). But when the same question was asked about the congressional election in 2022 (*before* the *Roe v. Wade* leak), abortion was rated higher in importance by liberal Democrats (9<sup>th</sup> most important issue) than conservative Republicans (13<sup>th</sup> most important issue) (Leiserowitz et al., 2022). Further, 2024 election polling reaffirmed this shift, with Democrats again ranking abortion higher than Republicans among key voting issues (Gallup, 2024; Pew Research Center, 2024). One explanation for the onset of this shift before the *Roe* leak could be the appointments of conservative justices in the Supreme Court (Litman, 2020). As politicians and the media expressed concerns over court packing by the conservatives, the foreseeable restrictions on abortion access might have increased the salience of abortion in the minds of liberals and caused this shift. But was this shift mirrored in the agendas of partisan news outlets after the leak happened?

To answer this question, we sought to examine the salience of abortion across news outlets after the *Roe v. Wade* leak. Specifically, we wanted to see if the shift in abortion salience among Democrats and Republicans was mirrored in the coverage of the *Roe v. Wade* leak across liberal and conservative news outlets. Therefore, the first research question for this study was:

**RQ1:** How did the salience of abortion as a topic differ across news coverage of partisan news outlets from the time of the *Roe v. Wade* leak till the Supreme Court decision?

## Abortion Framing After the *Roe v. Wade* Leak

The Democratic and Republican leadership's reaction to the *Roe v. Wade* leak was bipolar. According to the Washington Post, "On Capitol Hill, news of *Roe*'s impending demise was met with a peculiar split-screen reaction: While Democrats were eager to talk about the substance of the draft opinion . . . Republicans were overwhelmingly focused on the leak itself. . ." (Barnes & Marimow, 2022). A similar trend was observed across partisan media outlets, where " . . . the left (media) focused more on the impacts to women, and the right (media) focused more on the leak itself" (Stelter, 2022),.

From the above-mentioned excerpts, it appears as if the Democratic and Republican leadership, as well as partisan media, were emphasizing different aspects of the same news story. In the agenda setting literature, this is called *attribute salience* and it is akin to the concept of *emphasis framing*—the process of selecting "some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (Entman, 1993, p. 52). By highlighting certain aspects of an issue while masking others, media outlets and political elites can draw the

public's attention to certain properties of the issue, so as to guide their thoughts, attitudes, and eventually their actions (Chong & Druckman, 2007).

Some of the general policy frames that have been used to report abortion in the news include political, health, religious, economy, and public opinion frames (Boydston et al., 2014). A content analysis of abortion-related newspaper articles published from 2013 to 2016 found that abortion was largely covered as a political issue rather than a health issue (Woodruff, 2019). And stories depicting the experiences of people with abortion accounted for only 4% of all abortion-related news (Woodruff, 2019). Another content analysis reported differences in how conservative and liberal media framed abortion – Fox News was more likely than CNN and MSNBC to use the religious/moral frame and to employ the health frame as a device to advance its *pro-woman-pro-life* rhetoric. The study also found that the political frame was the most prevalent across all news outlets (Cook, 2021).

Given the political attention that the *Roe v. Wade* leak received, it was expected that the political frame would dominate abortion-related news in the aftermath of the leak (H1). However, we also expected that the prevalence of the political frame would be higher for partisan news outlets than nonpartisan outlets (H2).

**H1:** The political frame will dominate news coverage on abortion after the *Roe v. Wade* leak.

**H2:** The prevalence of the political frame will be higher for partisan news outlets than nonpartisan news outlets.

### **Abortion-Related Sentiment After the *Roe v. Wade* Leak**

According to McCombes et al. (2000), there are two dimensions of attributes at the second level of agenda setting: the cognitive (or substantive) dimension and the affective dimension. “The substantive dimension is concerned with things such as personality, ideology, and fitness for office about a candidate, or inflation versus unemployment on the issue of the economy. The affective dimension focuses on the emotional qualities of those attributes – whether the tone of those substantive attributes is positive, negative, or neutral.” (Wu & Coleman, 2009, p. 776).

While much of the research on agenda setting has emphasized substantive attributes, Coleman and Wu (2010) argue that affect is a critical dimension of second-level agenda setting. In a study combining content analysis and survey data, they found that exposure to negative media portrayals of candidates significantly influenced public opinion, with negative media coverage correlating with negative emotions of the public toward the candidates. However, no significant effects were found when candidates were portrayed positively. Their findings are consistent with other studies highlighting the asymmetrical influence of media affect or tone. For example, Hester and Gibson (2003) found that negative media coverage of the economy was associated with more pessimistic public expectations about future economic performance, while positive coverage had no significant effect. Similarly, Sheafer (2007) demonstrated that negative affect reinforced first-level agenda setting effects, as more negative media portrayals of the economy increased the likelihood that respondents would consider the economy the most important issue.

One explanation for the stronger impact of negative affect is that it tends to elicit stronger attitudinal and behavioral responses compared to positive affect (Cacioppo et al., 2016), making it more effective in transferring the media's agenda to the public (Sheafer, 2007; Wu & Coleman, 2009). This heightened influence of negative affect is a defining characteristic of *outrage programming*, which often relies on emotionally charged and negative content to engage audiences (Sobieraj & Berry, 2011; Young, 2020). Outrage discourse tends to provoke emotional reactions from the audience, specifically anger, fear, or moral righteousness, by presenting overgeneralized information that is often *sensationalized* (Sobieraj & Berry, 2011). Naturally, outlets that engage in outrage discourse should have a higher negative sentiment or tone in their news coverage. And since outrage programming is rampant on partisan media, especially on right-leaning outlets (Sobieraj & Berry, 2011; Young, 2020), we expected to find higher negative sentiment in abortion-related news coverage by partisan news outlets (H3), especially those that are right-leaning (H4). Moreover, we were also curious to see whether there were differences in the sentiment of abortion news coverage across the frames (RQ2).

**H3:** Partisan news outlets will have more negative sentiment in their news coverage on abortion after the *Roe v. Wade* leak as compared to nonpartisan outlets.

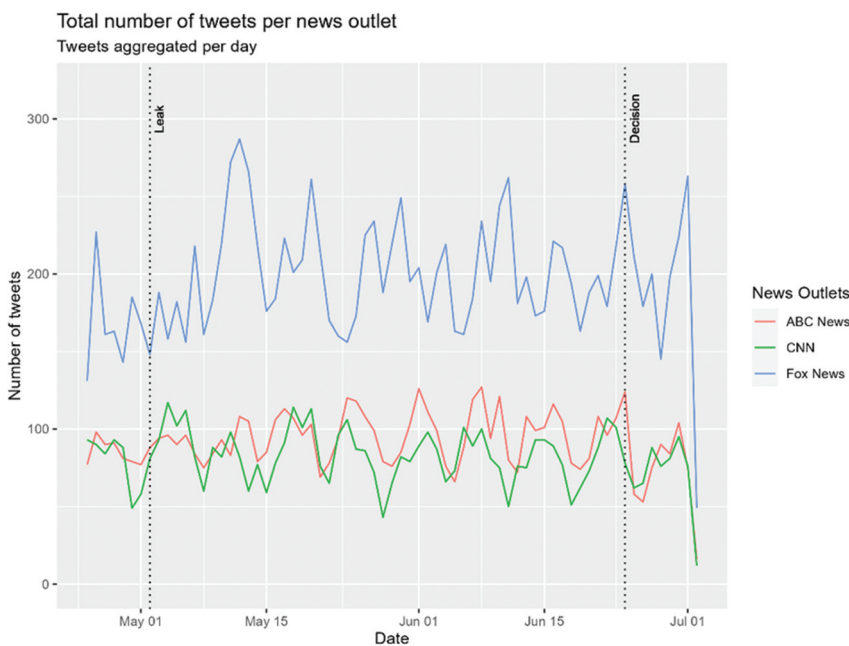
**H4:** Right-leaning news outlets will have more negative sentiment in their news coverage about abortion after the *Roe v. Wade* leak as compared to left-leaning outlets.

**RQ2:** How did the sentiment in the news coverage on abortion differ across frames?

## Methods

### Data

We decided to use tweets to answer our research questions and test our hypotheses for several reasons. Firstly, it was less resource intensive to collect the tweets by the news outlets rather than news articles or news broadcast transcripts, and since previous studies have found that the salience of issues in the tweets of news outlets correlate with the salience of issues in the news articles (Armstrong & Gao, 2010; Palser, 2009), resource efficiency seemed to be justified. Secondly, Twitter (now called X) was the most prominent social media platform for news at the time of data collection. Almost 23% of Americans used Twitter and among them, 70% said that they got news from it (Pew Research Center, 2021). Lastly, a majority of news outlets operated their official Twitter accounts (at the time of data collection) and used this platform to direct traffic to their main Web sites by tweeting headlines with hyperlinks (Armstrong & Gao, 2010). Therefore, the tweeted news articles were in a way highlighted by the news outlets and were likely to receive more exposure. Also, we thought it was reasonable to analyze only the content of the tweets – the headlines – and not the whole articles because: (1) headlines provided sufficient data to measure issue salience and predominant frames, which was the focus of this study, and (2) since the majority (59%) of the links in the tweets are never clicked (Gabelkov et al., 2016), headlines



**Figure 1.** Total number of tweets collected from CNN, Fox News, and ABC news. (Note: graph data includes tweets one week before and after the sample timeframe.  $N = 25,509$ ).

have more exposure. There are, however, limitations of using tweets instead of news articles or broadcast transcripts which we will discuss in the limitations section.

For the news outlets, we selected Fox News, CNN, and ABC News to answer hypotheses and RQs about the comparison of the news coverage between partisan and nonpartisan news outlets. We selected these news outlets because Fox News was the main source of news for Republicans and CNN was one of the largest sources of news for Democrats (Pew Research Center, 2020). ABC News was included as a nonpartisan comparison. As for ideological bias, Fox News was considered right-leaning, CNN left-leaning, and ABC News fairly centrist (Ad Fontes Media, n.d.).

Hence, the data for this study comprised the entirety of tweets by CNN, Fox News, and ABC News from the time of the *Roe v. Wade* leak till the Supreme Court decision. Using the Academic Twitter API 2.0, all tweets posted by the official Twitter handles of the news outlets (@FoxNews, @CNN, and @ABC) were collected from the day of the *Roe v. Wade* leak (May 2, 2022) to the day prior to the announcement of the Supreme Court decision (June 23, 2022). This resulted in a total of  $N = 20,144$  tweets collected. As shown in Figure 1, Fox News had the highest number of tweets ( $N = 10,637$ ), followed by ABC News ( $N = 5,066$ ), and CNN ( $N = 4,441$ ).

## Measures

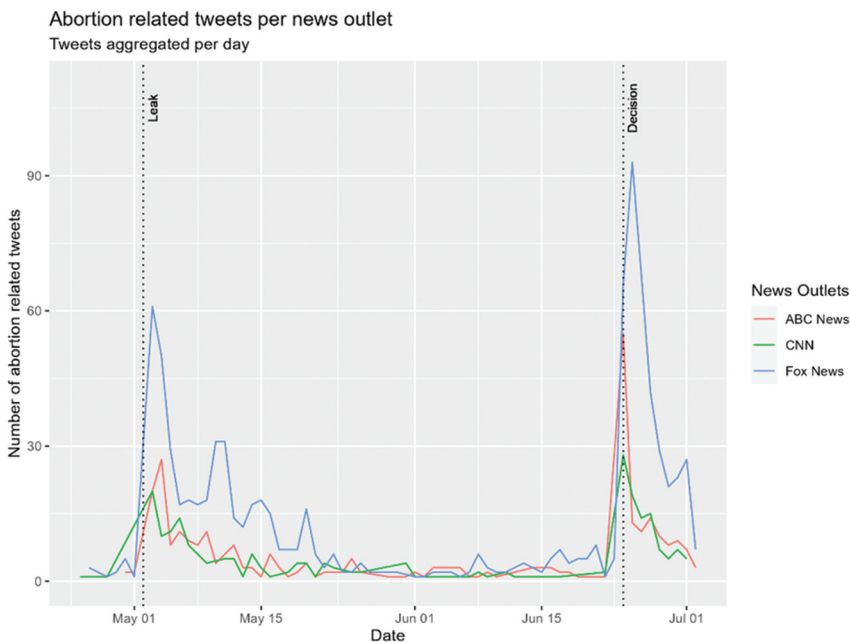
### Abortion Salience

For the purposes of this study, we defined abortion salience as the proportion of abortion-related tweets to the total number of tweets. Previous studies have used similar methods,

such as frequency of news stories, to measure topic salience (e.g., Korencic et al., 2016). Therefore, to calculate proportions, we first had to code for abortion-related tweets. We did this in two ways:

In the first method, we identified abortion-related tweets using a set of keywords adapted from Mane et al. (2022). The complete list of keywords is provided in the supplementary material, however, some of the keywords were: abortion, anti-abortion, pro-life, pro-choice, *Roe v. Wade*, *Dobbs v. Jackson*, heartbeat bill, etc. According to the results of the lexicon-based coding, 3.99% of the tweets ( $N = 803$ ) in our dataset were identified as being related to the topic of abortion. To validate this method, one of the researchers manually coded 5% of the total sample ( $N = 1,008$ ) and found good reliability with the keyword-detected codes (Percentage agreement = 99.67%, Krippendorff's Alpha ( $\alpha$ ) = .97). Figure 2 shows the frequency of abortion-related tweets per outlet. In the immediate aftermath of the leak, there is a pronounced surge in abortion-related tweets among the outlets, with Fox News showing the largest overall increase. By late May 2022, the volume of abortion-related tweets declines to levels comparable to those observed prior to the leak. However, on the day of the Supreme Court decision, frequencies spike once again, exceeding the peak levels observed following the leak.

In the second method, we used Structural Topic Modelling (STM) (Roberts et al., 2013) to inductively identify topics and then we compared the proportion of the topic of abortion to other tweets. To establish face validity, one of the researchers manually coded a sample of the tweets classified by the STM as related to abortion. Using the *findThoughts* function with a threshold of .7, tweets that were highly representative of the abortion topic were identified ( $N = 122$ ). Those tweets were then manually coded by



**Figure 2.** Abortion-related tweets by CNN, Fox News, and ABC news. (Note: graph data includes tweets one week before and after the sample timeframe.  $N = 1,404$ ).

one of the researchers for their relevance to the topic of abortion. Results showed a 99% agreement between the manually coded tweets with the STM-identified tweets. We then evaluated the convergent validity of our selected model by comparing the proportion of the abortion topic from the STM (5.1%) with the proportion of abortion-related tweets calculated by the lexicon-based method (3.99%). The two methods showed a 1.11% difference in the occurrence of abortion-related tweets within the sample. A closer investigation of the difference in the proportions shows that the topic of abortion, as identified by the STM method, included tweets about protests outside the homes of the Supreme Court justices, which were not coded as related to abortion by the lexicon-based method.

### **Frames**

The definitions for general issue frames were adapted from the Policy Frames Codebook (Boydston et al., 2014). Specifically, we coded for political, health, economic, religious, and public opinion frames with a lexicon-based method. The lexicon was created by an iterative process of consulting relevant dictionaries and codebooks, such as the Lexicoder topic dictionaries (Albugh et al., 2013), and the Policy Frames Codebook (Boydston et al., 2014). The final lexicon along with the definitions of the frames can be found in the supplementary material. Using the lexicon, we coded for the presence (1) or absence (0) of each frame in all abortion-related tweets. Therefore, a single tweet could be assigned to more than one frame. To validate the keywords, one of the researchers manually coded 5% of tweets and found good validity of the manually coded frames with the keyword-detected ones (Percentage agreement = 91%–98%, Krippendorff's Alpha ( $\alpha$ ) = .83–1.0).

### **Sentiment**

Sentiment analysis – also called opinion mining – is a Natural Language Processing (NLP) approach for identifying “opinions, sentiments, evaluations, appraisals, attitudes, and emotions towards entities such as products, services, organizations, individuals, issues, events, topics, and their attributes” (Liu, 2012). Although there are different approaches to performing sentiment analyses, we used the Valence Aware Dictionary for sEntiment Reasoning (VADER) (Hutto & Gilbert, 2014) because it performs well with tweets. VADER is a lexicon-based method that is suitable for short-form social media texts such as tweets. This method applies grammatical and syntactical conventions when calculating the sentiment compound score. The compound score is calculated by adding the valence scores that are adjusted according to grammatical and syntactical conventions and normalized to be between  $-1$  and  $+1$ , where  $-1$  represents highly negative sentiment and  $+1$  represents highly positive sentiment (Hutto & Gilbert, 2014). VADER has been validated by previous studies that have shown that it can outperform human coders (Hutto & Gilbert, 2014) and other sentiment lexicons (Borchers et al., 2021). But to establish validity on the data in use, a random subsample of 5% of abortion-related tweets was manually coded for the overall sentiment of the tweet (positive, negative, or neutral). Percentage agreement between the manual coding and positive/negative/neutral valence of the VADER generated scores was 73% and Krippendorff's Alpha ( $\alpha$ ) was .62. Most of the disagreement occurred for the tweets that had a low positive/negative valence, but for the strongly valenced tweets, there was high agreement.

## Empirical Approach

The first objective of the study was to measure the topic salience of abortion in the news coverage of the selected news outlets (RQ1). We approached this question in two ways: In the first method, we used a lexicon-based method to measure the salience of abortion as the proportion of abortion-related tweets to the total number of tweets and used Chi-Square to test for significant differences. In the second method, we used STM (Roberts et al., 2013) to inductively identify topics. In STM, a topic is defined as a group of words that can be semantically interpreted as a theme (Roberts, Stewart, Dustin, et al., 2014). After identifying the topics in the tweets, we compared the proportion of the topic of abortion to other topics in the tweets using regression functions embedded in the STM package. The preprocessing, model selection, interpretation, and validation process for STM can be found in the supplementary material.

The second objective of the study was to examine the general issue frames used within the tweets (H1, H2). To do this, we ran McNemar Chi-Square tests and logistic regressions to find significant differences in the prevalence of frames used and the differences in the proportions of those frames across media outlets.

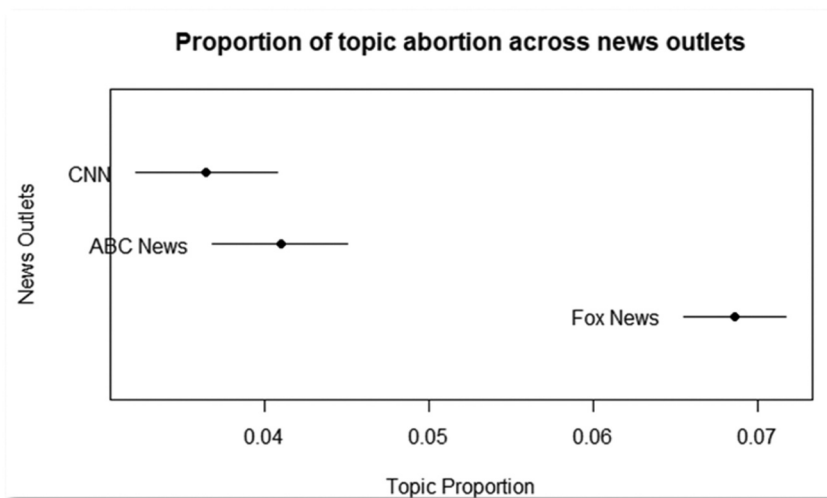
The third objective of the study was to examine the sentiment of abortion-related tweets across the news outlets (H3, H4) and across the frames (RQ2). To test H3 and H4, we used one-way ANOVA to detect significant differences in sentiment scores across the outlets. To answer RQ2 we ran a regression analysis to examine the relationships between frames and sentiment scores while controlling for the news outlets.

## Results

### Abortion Salience

According to the results of the lexicon-based coding, 3.99% of the tweets ( $N = 803$ ) in our dataset were identified as being related to the topic of abortion. Figure 2 shows that, overall, Fox News had the highest proportion of abortion-related tweets (4.58%,  $N = 487$ ), followed by ABC news (3.59%,  $N = 182$ ) and CNN (3.02%,  $N = 134$ ). A Chi-Square test showed that the differences in the proportions of abortion-related tweets were significantly different across the news outlets ( $\chi^2(2, 20144) = 22.69, p < .001$ ).

After examining the proportions of the tweets using a lexicon-based method, we used STM (Roberts et al., 2019) to inductively identify the different topics within the tweets. According to the results, the top three topics with the highest proportions were crime (10.7%), inflation (8.5%), and health (7.6%), respectively. Abortion was the seventh-highest topic with respect to proportion (5.1%). We examined differences in topic proportions across the news outlets (RQ1), using the *estimateEffect* function of STM. This function estimated a regression with topic proportion as the outcome variable, and news outlets as the predictors (Roberts, Stewart, Tingley, et al., 2014). As shown in Figure 3, Fox News had a significantly higher proportion of the topic abortion as compared to both CNN and ABC News (Fox:  $\beta = .027, SE = .002, p < .001$ ). The results of STM were the same as the results calculated by the lexicon-based method. Other



**Figure 3.** Group differences in the proportion of topic abortion from STM. 95% CI.

**Table 1.** McNemar test chi-square statistics for significant differences in proportions of frames. Continuity corrected.  $N = 803$ .

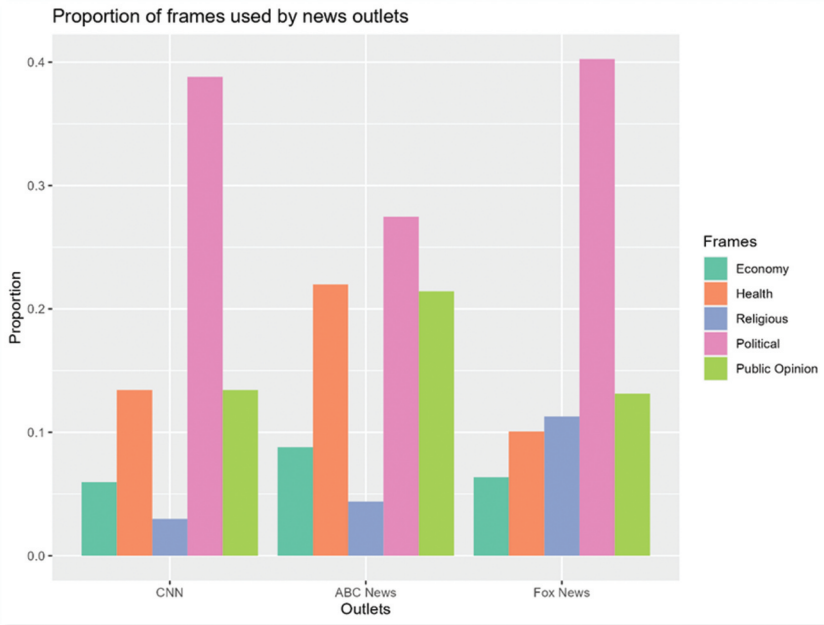
	Economy & political	Health & political	Religious & political	Public opinion & political
Chi-Square	174.82	96.78	169.01	86.77
$p$	.000	.000	.000	.000

topics with significant group differences across the news outlets were elections, school shootings, inflation, crime, health, January 6<sup>th</sup>, and gun control. Regression coefficients and figures depicting the differences in the proportions of these topics across the news outlets are available in the supplementary material.

### Framing Analysis

Next, we examined the general issue frames used in the tweets. The most prevalent frames used by the news outlets to tweet about abortion were the political (37.11%), public opinion (15.07%), and health frames (13.32%), respectively. Whereas the religious (8.34%) and economic (6.85%) frames were the least prominent. McNemar's Chi-Square tests showed that the frequency of the political frame was significantly higher than all other frames ( $p < .001$ ), confirming the first hypothesis (H1). Statistical values for the tests can be found in Table 1.

We then ran logistic regressions to test for significant differences in the proportions of the frames used by the news outlets to tweet about abortion. Results showed significant differences for the political ( $\chi^2(2, 803) = 9.77, p = .008$ ), health ( $\chi^2(2, 803) = 15.01, p = .001$ ), religious ( $\chi^2(2, 803) = 16.01, p < .001$ ), and public opinion frames ( $\chi^2(2, 803) = 6.96, p = .031$ ). CNN and Fox News were significantly more likely than ABC News to use the political frame ( $OR(CNN) = .52, S.E. = .24, p = .034$ ;  $OR(Fox) = .58, S.E. = .19, p = .002$ ). Therefore, H2 was also confirmed. Additionally, ABC news was



**Figure 4.** Group differences in the frames used by news outlets to tweet about abortion from the time of the Roe v. Wade leak till the supreme court decision.

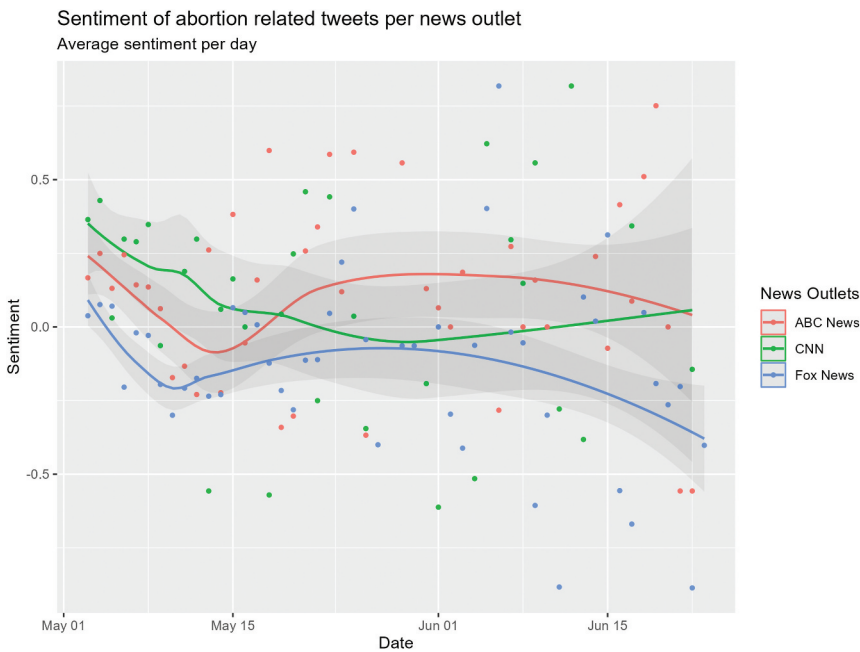
more likely to use the health frame ( $OR = .92, S.E. = .23, p < .001$ ) whereas Fox News was more likely to use the religious frame ( $OR = 1.02, S.E. = .39, p = .009$ ) and less likely to use the public opinion frame ( $OR = -.59, S.E. = .23, p = .009$ ). **Figure 4** depicts the differences in the proportions of frames used by the news outlets to tweet about abortion.

### Sentiment Analysis

Lastly, we studied the general sentiment associated with the abortion-related tweets across the news outlets (H3, H4) and across the frames (RQ2). **Figure 5** shows the average sentiment per day for abortion-related tweets.

To test for significant differences in sentiment scores across the news outlets (H3, H4), we ran a one-way ANOVA. The results showed that the sentiment scores for the abortion tweets differed significantly across the news outlets ( $F [2, 800] = 27.89, p < .001$ ). A Tukey post-hoc test revealed that Fox News ( $N = 487; M = -.10, SD = .45$ ) had a significantly more negative sentiment for its abortion-related tweets than both CNN ( $N = 134; M = .17, SD = .47$ ) and ABC News ( $N = 182; M = .12, SD = .41$ ). However, there was no significant difference in sentiment scores between CNN and ABC News. Therefore, H3 remained unsupported, whereas H4 was supported.

We further explored whether the relationship between news outlets and sentiment scores differed for abortion-related tweets as compared to other tweets. To test this, we ran a regression analysis with sentiment score as the dependent variable, and news outlets, abortion post, and the interaction of news outlets and abortion post as



**Figure 5.** Sentiment scores for abortion-related tweets. Scores generated using VADER. LOWESS smoothing applied. CI: 95%. (-1 represents highly negative sentiment and + 1 represents highly positive sentiment.)  $N = 803$ .

**Table 2.** Regression coefficients for the relationship between the interaction of abortion-related tweets and news outlets (IV) with sentiment score (DV).

	$\beta$	S.E.	p
<b>Constant</b>	-.126	.007	.000
<b>Abortion tweets</b>	.243	.035	.000
<b>Fox News</b>	-.024	.008	.002
<b>CNN</b>	.069	.010	.000
<b>Abortion tweets x Fox</b>	-.189	.041	.000
Abortion tweets x CNN	-.014	.053	.793

the independent variables. The regression analysis showed a significant interaction effect of Fox News and abortion tweets ( $R^2 = .011$ ,  $F(5, 20138) = 46.27$ ,  $p < .001$ ). Abortion-related tweets by Fox News had a more negative sentiment than abortion-related tweets by both CNN and ABC News. Regression coefficients are presented in Table 2.

Next, we tested the overall sentiment associated with each of the frames (RQ2). To do this, we ran a regression with sentiment score as the dependent variable and the frames as independent variables while controlling for the effect of the news outlets ( $R^2 = .08$ ,  $F(7,795) = 11.48$ ,  $p < .001$ ). The results showed significant effects for all frames except for the religious frame. The presence of a political, economy, health, and public opinion frame was related to a more negative sentiment. Regression coefficients for all the variables can be found in Table 3.

**Table 3.** Regression coefficients for relationship between frames (IV) and sentiment score (DV), controlling for news outlets.

	$\beta$	S.E.	p
<b>Constant</b>	<b>.207</b>	<b>.038</b>	<b>.000</b>
<b>Political frame</b>	<b>-.110</b>	<b>.033</b>	<b>.001</b>
<b>Economy frame</b>	<b>-.125</b>	<b>.063</b>	<b>.047</b>
<b>Health frame</b>	<b>-.117</b>	<b>.047</b>	<b>.013</b>
Religious frame	-.065	.057	.252
<b>Public opinion frame</b>	<b>-.098</b>	<b>.044</b>	<b>.026</b>
<b>Fox News</b>	<b>-.220</b>	<b>.039</b>	<b>.000</b>
CNN	.045	.050	.370

## Discussion

This study examined the topical and attribute salience of abortion in the tweets of news outlets in the aftermath of the *Roe v. Wade* leak. Our results demonstrate discrepancies in abortion salience between the news outlets, as well as unique attributes of news coverage that have important implications for public opinion and policymaking.

Even though the salience of abortion rose on the media agendas of all the news outlets after the leak (Figure 2), it was disproportionately spread. Fox News had a significantly higher salience of abortion in its tweets as compared to both CNN and ABC News (Figure 3). This finding echoes previous scholarship that highlights the discrepancy in the salience of abortion between right and left-leaning media as well as between pro-choice and pro-life groups (Cook, 2021; Crawford et al., 2022; McKay & Garnett, 2012; Petkova et al., 1995). As pointed out by Crawford et al. (2022), this discrepancy in abortion salience is problematic because it could suppress the opinion of the majority of Americans who support abortion but for whom abortion is not a salient issue. In the case of *Roe*, the largely negative and opposing reactions on social media following the Supreme Court's decision to overturn *Roe* (Valdez et al., 2024) suggest that the ruling did not align with the preferences of most Americans. Yet, policymakers were inclined to enact abortion restrictions to satisfy vocal constituents for whom abortion was a decisive voting issue (Crawford et al., 2022). The overturning of *Roe* serves as a critical consequence of this historical abortion salience gap in the U.S.

However, as discussed earlier, newer reports indicated that the abortion salience gap between Republicans and Democrats has been shifting (Gallup, 2024; Leiserowitz et al., 2020, 2022; Pew Research Center, 2024). In fact, *after* the overturning of *Roe* the trend had actually reversed – abortion was the second most important issue reported by Democrats but the ninth most important issue as per Republicans (Gallup, 2022). This shift was noticed by several Democratic candidates who prioritized abortion in the 2022 midterms to “turn the outrage and frustration into votes” (Janfaza, 2022), setting the stage for continued advocacy on reproductive rights in the 2024 presidential election (El-Bawab & Hutzler, 2024). Despite the evolving political dynamics surrounding abortion rights, CNN and Fox News' coverage following the *Roe* leak did not mirror the shifting salience of the issue. Even in the immediate aftermath of the leak, which was a critical period for pro-abortion activists to mobilize support for upholding *Roe*, abortion was a low salience issue on CNN, as compared to Fox News, suggesting a missed opportunity to amplify the growing public concern over reproductive rights.

Our findings also documented unique characteristics of partisan news coverage of abortion during this timeframe. Scholars argue that partisan media can increase polarization (Iyengar & Hahn, 2009; Lelkes et al., 2017; Levendusky, 2013; Mutz, 2007), our study identified characteristics of partisan news content that might be contributing to ideological and affective polarization in the context of abortion. For instance, we found that CNN and Fox News engaged in politically charged coverage of abortion that was evident their use of the political frame. Political framing of health issues is problematic at various levels. It has harmful effects on health-related attitudes, beliefs, and behaviors of the public (Bolsen & Palm, 2022; Mo Jones-Jang & Noland, 2020; Saulsberry et al., 2019; Stroebe et al., 2021; Young et al., 2022). Also, it tends to activate motivated reasoning and skew people's evaluations of policies (Van Bavel & Pereira, 2018). Secondly, the use of negatively charged emotional language by Fox News, atop of political framing of abortion, points to the possibility of outrage programming that is characteristic of right-leaning cable news (Berry & Sobieraj, 2013; Sobieraj & Berry, 2011). Outrage discourse tends to activate partisan identities and feelings toward political out-groups, thereby exacerbating ideological and affective polarization, stalling political and legislative functions, and decreasing trust in the media, institutions, and the government (Berry & Sobieraj, 2013; Young, 2020). Lastly, the use of religious framing by Fox News shows their signaling of in-group cues to their largely conservative audience (Pew Research Center, 2019). Such pro-attitudinal and ideologically conforming coverage can reinforce the existing beliefs of viewers and their feelings toward the *other* party, thereby pulling them further apart toward ideological extremes (see Levendusky, 2013).

In summary, our study identified differences in the salience of abortion, the frames used to cover abortion, and the dominant sentiment of abortion-related tweets across the news outlets. Since media agendas can shape public agendas, the discrepancies in abortion salience across partisan outlets might be mirrored in the opinions of Democrats and Republicans, and could, in turn, skew perceptions of public opinion and influence policymaking. Similarly, the sensationalization of abortion-related news by Fox News, as demonstrated by the pervasiveness of political framing and negative sentiment, might exacerbate ideological and affective polarization on the issue. Although media is not the only factor that shapes public opinion on the issue of abortion, its role in affecting public sentiments and policymaking is, and has been, nevertheless, critical. This warrants examination into the amount and type of news coverage on the issue of abortion across news outlets and over time.

### **Limitations, Significance, and Areas of Future Research**

It is important to note that this study has several limitations. The first set of limitations pertains to the sample. As the sample for the study consisted of tweets from three news outlets, our findings are limited to the Twitter agendas of the selected news outlets. Moreover, since the demographic characteristics of people who get news from social media differ from the demographics of people who get news from other sources (Statista, 2022), news outlets might be more or less motivated to share abortion-related stories on Twitter, which is also why the findings of this study should be generalized with caution to television or print news agendas of the selected news outlets. Therefore, although the Twitter and Web site content of news outlets tends to

coincide (Armstrong & Gao, 2010), results might differ for content analyses on news articles or transcripts. Also, since less than a quarter of Americans use Twitter and even fewer use the platform for news (Pew Research Center, 2021), exposure to tweets by news outlets is limited and may therefore have limited influence on issue salience in the public. The second set of limitations is regarding the methodology. We used automated text analysis methods to reach our conclusions and, while these methods offer useful features in terms of efficiency and researcher/coder bias reduction, they may not account for linguistic nuances as accurately as human coders. However, we tried to overcome this limitation by validating the findings at every step of the analysis. Moreover, we tried to overcome concerns of using STM with short texts by establishing face validity through manual coding of a sample of tweets, and by establishing convergent validity by comparing the results from the STM to the results from the lexicon-based analysis.

Despite its limitations, the study has some theoretical and practical contributions. Theoretically, the study contributes to the literature on cognitive and affective agenda setting, framing, media fragmentation, and abortion discourse in the context of an unprecedented event – the *Roe v. Wade* leak. Additionally, it informs future research by providing evidence-based insights into the media landscape of abortion coverage during this critical timeframe. These insights can help researchers explore the ripple effects of this media coverage on public opinion and policymaking. Practically, the findings inform health practitioners of the political bias in the sources of abortion-related information that might shape people's health-related attitudes, beliefs, and behaviors. Additionally, the study alerts policymakers to the ideological bias in abortion-related media coverage and underscores the importance of recognizing its potential influence on policy decisions. Most importantly, it cautions media practitioners about the role that imbalanced reporting may play in exacerbating ideological and affective polarization within the abortion debate.

While this study tackled some research questions, it left many unanswered for future research. For instance, this study neither compares the salience of abortion on the media's agenda with that of the public's, nor does it measure inter-media agendas of the news organizations. Future studies could overlay the findings of this study with abortion salience on the public's agenda, or the agendas of other media, to see trends. Lastly, studying the shifting trends of abortion salience among Democrats/Republicans and left/right-leaning media, and comparing them with changes in abortion-related policies is another important area for continuing research.

## Disclosure Statement

No potential conflict of interest was reported by the author(s).

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