Effects of perceived reach on ratings of media bias, quality, and agreement

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EFFECTS OF PERCEIVED REACH ON RATINGS
OF MEDIA BIAS, QUALITY, AND AGREEMENT

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Matthew Sedlacek
University of Northern Iowa
July 2022
The hostile media effect refers to individuals’ tendencies to perceive seemingly neutral news coverage as biased against their stance (Vallone et al., 1985). Research has shown this effect in partisan politics, with liberals and conservatives perceiving bias in information presented from the opposing side. The current study examined the effects of liberal or conservative and small or large audience news source manipulations on liberals’ and conservatives’ perceptions of media bias and the relationship between partisan identity and perceptions of bias. Three hundred and sixty participants read a news article presented with either a Fox News, CNN, PatriotNewsDaily, or The Progressive news heading and completed a questionnaire assessing perceptions of article bias, article quality, and their agreement with the article’s content. I hypothesized that liberals and conservatives would perceive hostile media bias when reading an article with an opposing source heading and that the effect would be greater when participants were presented with the high-reach source headings (i.e., Fox News, CNN). Liberals and conservatives did not perceive the article to be biased against their stance based on the political stance of the news source or its perceived reach. They also did not differ in their article quality ratings and ratings of agreement with the article’s content depending on the news source or perceived reach. Exploratory correlations between partisan identity article bias, article quality, and agreement with the article’s content showed small correlations overall. Individuals may be less inclined to focus as much on the source of information in a society increasingly centered on sharing of content on social media. They also may focus less on a source’s political stance and more on the article content itself. This
research highlights the effects of the way news outlets present their content as well as an individual’s biased interpretations of the news they are receiving.

*Keywords:* hostile media effect, liberal, conservative, psychology, study
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This Study by: Matthew Sedlacek

Entitled: Effect of Perceived Reach on Ratings of Media Bias, Quality, and Agreement

has been approved as meeting the thesis requirement for the

Degree of Master of Arts

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Effects of Reach and Partisan Identity on the Hostile Media Effect

Since 1994, the divide between individuals who identify as Democrat and individuals who identify as Republican on major political issues has more than doubled (Doherty, 2017). There are several aspects of news media directly tied to this widening partisan divide, including the biased presentation of media coverage on political issues. This biased news presentation has coincided with the proliferation of coverage as a result of the 24-hour news cycle and the growth of mainstream cable news networks. News media, especially cable television, that has a liberal slant may amplify viewpoints of other liberals, creating an “echo chamber” effect (Carmichael et al., 2017). This biased news coverage encourages supporters of a partisan position to operate in a closed system where they only believe arguments on their side to be true, and their overall viewpoints are strengthened.

This growing divide between the positions of Democrats and Republicans on major issues contributes to greater feelings of negativity towards the opposing party. Identified as affective polarization, this is a growing trend of animosity between the two parties where individuals on both sides feel negatively towards the other and perceive them as unwilling to cooperate across political lines (Iyengar et al., 2018). Startlingly, the U.S. has increased in affective polarization significantly more than eight other major countries studied for this phenomenon, including the U.K., Canada, German, and Australia (Boxell et al., 2021). With feelings towards members of the opposing party growing increasingly negative, it is important to examine what contributes to this effect.
The political slant of news coverage has played a significant role in this growing rift between liberals and conservatives, and it occurs through the strategic ways news networks present their coverage. All three major cable news networks (i.e., FOX News, CNN, MSNBC) engaged in several noteworthy bias tactics in their coverage of the 2012 election (Rosell, 2013). Programs were biased in many ways, including their story selections, their deliberate omissions of other sides of a story, and their strategic selection of guests who offered supportive points to their overall agenda. Other networks have also displayed partisan bias in their coverage, with CBS stories favoring the Democratic candidate in the 2000 and 2004 presidential elections and ABC stories favoring the Republican candidate (Zeldes et al., 2008). News coverage with a political slant has played a role in the growing divide between Democrats and Republicans, but individual perceptions of bias also play a role, even when the news coverage is largely unbiased.

Partisan evaluations are not only affected by the presentation of news coverage, but also the individual interpretations and perceptions of this coverage. Even unbiased news can be perceived to be biased by people if it goes against their personal beliefs or worldview. The hostile media effect refers to an individual’s tendency to perceive even objective news coverage of a particular issue as biased against their stance (Vallone et al., 1985). Democrats are likelier to perceive a Republican bias in mainstream media, whereas Republicans are likelier to perceive a Democratic bias, regardless of the objectivity of the news reported (Morris, 2007). Individuals on both sides of a debate have a stake in the outcome, and – because of their stance – may interpret news coverage
in a biased way, despite the accuracy of the information reported. Personal values and beliefs may impact an individual’s perceptions of bias, even in unbiased news coverage.

This study examined the hostile media effect in online news coverage. In the following sections, I first discuss what “neutral” or non-biased media consists of. Then, I review the foundations of the hostile media effect, including hostile media effect research as well as several components of motivated reasoning, including cognitive dissonance and confirmation bias. Then, I discuss the effects of news source heading manipulations, the strength of an individual’s identification with their partisan position, and the perceived influence of the news source on hostile media bias in individuals. Finally, I describe a study that assessed perceived hostile media bias and its relationship with these components.

**Neutrality and Bias in News Media**

When news reporting was establishing its footing as a more desirable profession in the 1800s, realism and unbiased reporting was widespread (Gershon, 2019). The most successful journalists were those whose work was entirely based on factual reporting (Gershon, 2019). The turn of the 20th century saw a shift, where reporters became more aware of the effects of propaganda. With this, news reporting with a slant, or an allegiance to a certain side, became more mainstream. Walter Lippmann, one of the most prominent journalists of the 20th century, described the dangers that biased news reporting causes for democracy and stated that journalism should find a common ground rooted in facts (Lippmann et al., 1920). Despite Lippmann’s influential commentary, journalistic objectivity continues to be a topic of concern. There is no clear agreement between
liberals and conservatives on what news “falls in the middle” between the two sides. In fact, 56% of Americans stated that they cannot name a news source that reports news objectively (Jones & Ritter, 2018).

In a world where perceptions of a hostile media are increasingly apparent, some journalists have become more conscientious in their objective reporting of the news (Solomon, 2018). They recognize neutral and fair reporting of the news as being a core value the profession of journalism was built on. However, there seems to be a tradeoff between objective reporting of the news and producing informative content. For example, reporting news in partisan politics that is objective, or covers both the liberal and conservative sides in an equal manner, can actually be counterproductive. Reporting news in partisan politics in an objective manner that does not question either side may actually undermine the public’s ability to make an informed decision and their ability to make significant distinctions between two candidates (Dunaway et al., 2015; Patterson, 2013). In fact, articles with no slant that did not pick a side in a debate were found to be less informative as a whole (Dunaway et al., 2015).

Media bias refers to the subjectivity of journalists and all those who report the news in the ways they select and cover events. Biased reporting is accomplished through the process of framing, which refers to selecting elements of a perceived or implied reality and organizing them in a narrative to achieve a desired interpretation of the story (Entman, 2007). Creating a narrative that promotes a particular interpretation of a story has often been referred to in media bias research as agenda setting (Entman, 2007; Morstatter et al., 2018). News reporters who bias their coverage want their audience to
respond to information in a particular way, and framing allows them to achieve this goal. The concept of slant goes hand in hand with framing, and the overall concept of media bias, as it indicates an allegiance to a particular side. Slant is often achieved through the particular language used in a story as well as the elements of a story that are included (Dunaway et al., 2015). In the political landscape, slant is interpreted through the ways policy and various others pieces of information, such as candidate trait and issue preferences, are discussed in a story. Skeptics have been aware of biased reporting for more than a century, but it has only been recently that researchers have begun to examine the mechanisms through which it is achieved.

**Foundations of the Hostile Media Effect**

**Hostile Media Effect Review**

The hostile media effect refers to how even neutral news information can be perceived as biased against one’s stance (Vallone et al., 1985). This effect has been demonstrated in perceptions of news coverage related to areas such as sports (Arpan & Raney, 2003), the use of GMOs (Gunther et al., 2009), various political issues (Gunther & Liebhart, 2006), and the 1997 UPS strike (Christen et al., 2002). For example, in viewing the same news story about the Beirut massacre of 1982 from a major TV network, pro-Israeli students and pro-Arab students perceived the coverage to be biased against their side (Vallone et al., 1985). A meta-analysis on hostile media effect research showed a medium effect size across all thirty-four of the studies (Hansen & Kim, 2011). This meta-analysis investigated the various mediums through which the hostile media effect was explored, finding 50% of the studies examined the effect through newspaper
content, whereas the rest examined the effect through television or general media exposure.

The hostile media effect has been studied extensively in political communication. In a study of reactions to the John Kerry/George W. Bush debates preceding the 2004 Presidential election, Republicans were more likely to perceive the moderator of the debate to be hostile against George W. Bush, whereas Democrats were more likely to perceive the moderator to be hostile against John Kerry (Richardson et al., 2008). Individuals perceive less bias against their position in news coverage if the host of a show has similar political views, and more bias against their position when they do not (Feldman, 2011). Although Democrats and Republicans differ on their opinions, values, and beliefs, it appears hostile media bias affects supporters of both political parties.

Perceptions of bias in political news coverage cover a wide range of political issues. An individual’s partisan stance impacts their perception of global warming, and they may perceive opposing coverage as biased against their stance (Feldman et al., 2017). Democrats and Republicans also perceived media bias in newspapers they read during a gubernatorial race (Huge & Glynn, 2010). Interestingly, Republicans’ perceptions of bias grew much stronger as the campaign wore on as opposed to Democrats’ perceptions. This finding could be attributed to the fact the Democratic candidate had an increasingly larger lead in opinion polls as the election drew closer, so the Democrats may have been less apprehensive about biased coverage swaying voters who were unsure of their candidate choice (Huge & Glynn, 2010). These results indicate
that individual perceptions of bias may be fluid throughout an election cycle depending on factors such as opinion polls.

As the social media age has progressed, the hostile media effect research has translated to online settings. One of these settings is the social media platform Twitter, which is a major media source for consumers of news. Individuals who identified as Democrat perceived hostile media bias in a tweet from another Twitter user who identified as Republican (Lee et al., 2018). News articles that are embedded in shared posts on social media also seem to induce biased perceptions. Liberals and conservatives perceived bias in a news article included in a blog post when it was presented from a source with the opposing political position (Yun et al., 2016). This bias may emerge even if individuals do not read the article. Partisans perceived bias in a Facebook post about an article when they were exposed to comments underneath it that disagreed with their stance (Gearhart et al., 2020). There were no biased perceptions in partisans who were exposed to comments that agreed with their opinions. Even in an online setting such as social media, partisans demonstrate hostile media perceptions, and these could be influenced by perceptions of the source and comments on the social media posts.

Theory and Processes

The hostile media effect is a subset of a larger area of research in social cognition, called motivated reasoning. Motivated reasoning refers to how individuals are driven to be accurate in their thoughts and behavior, and this process influences the way they construct and access their internal beliefs (Kunda, 1990). Other aspects of motivated reasoning include cognitive dissonance, confirmation bias, and selective exposure. These
terms compose the foundation of the hostile media effect and the mechanisms that contribute to perceptions of media bias.

Motivated Reasoning

Individuals’ behaviors are heavily impacted by internal beliefs they hold to be true and their motivations to adhere to these beliefs. The motivation to defend one’s beliefs is manifested in the way people make decisions and develop or change their attitudes. This idea has been applied to explain people’s behavior in a variety of ways, with one example being the use of stereotypes (Kunda & Sinclair, 1999). When individuals believe a stereotype fits the initial impression they have of another person, motivated reasoning leads them to activate this stereotype, and they will interact with them in a constrained manner. In the same light, when a stereotype does not fit the initial impression, motivated reasoning dictates the individual will inhibit that stereotype (Kunda & Sinclair, 1999). This effect was demonstrated through individuals’ activation of a stereotype against African-American individuals in a study where either a White or African-American individual reviewed participants’ responses on an employee exercise. Participants responded to criticism more harshly when they received a negative review from an African-American individual rather than a White individual (Kunda & Sinclair, 1999). Participants were motivated to undermine the evaluator because they had activated the Black stereotype, and this motivation stemmed from the desire to defend their own internal beliefs and self-views.

People also use motivated reasoning to support decisions they want to make. When smokers had the urge to smoke, they accessed their preexisting beliefs about the
positive aspects of smoking and suppressed the negative aspects. With these positive aspects of smoking more salient to them, they reinforced these preexisting beliefs by satisfying their urge to smoke (Sayette & Hufford, 1997). Motivated reasoning impacts decision-making and interactions with other individuals.

Motivated reasoning translates to politics in that individuals with strong prior political attitudes may selectively interpret information in a way that supports their desired conclusion. Taber and Lodge (2016) posit that motivated reasoning produces an automatic response, and exposure to items that engender a strong opinion—such as a politician’s speech or news coverage of a major event—will trigger an immediate reaction after exposure to the information. This immediate reaction is tied to hot cognition, which refers to cognition that is influenced by an individual’s current emotional state (Abelson, 1963). Regarding political news media coverage, Democrats and Republicans may harbor strong positive or negative emotions about certain policies. Motivated reasoning through hot cognition dictates that any time they are exposed to news coverage on these hot-button issues, they will be triggered by their existing emotional response to have an automatic reaction either in favor or against the coverage. Individuals are motivated to adhere to their beliefs, and this motivation heavily influences their cognition. One of the ways this motivation impacts individuals’ thought processes occurs when they are exposed to information inconsistent with their beliefs.

**Cognitive Dissonance**

The theory of cognitive dissonance states that when individuals are exposed to information inconsistent with their beliefs, they are motivated to resolve the discomfort
that arises from this inconsistency (Festinger, 1957). People reduce cognitive dissonance through either changing one of the inconsistent beliefs to agree with the other, integrating new information that outweighs the dissonant belief, or decreasing the importance of the belief altogether. A classic study on cognitive dissonance showed that individuals changed their previous personal ratings of a menial task from “boring” to “enjoyable,” when they were paid $1 to tell another group of participants that the task they performed was pleasant. They changed their personal ratings of the task to ensure their behaviors and beliefs were not in conflict with one another, demonstrating a desire to reduce feelings of dissonance (Festinger & Carlsmith, 1959).

The effects of cognitive dissonance have been shown in political contexts. One study of cognitive dissonance in a political context asked participants to write counter-attitudinal essays about the two most recent U.S. Presidents (Nam et al., 2013). Specifically, conservatives had to write a counter-attitudinal essay about Obama (liberal) and liberals had to write one about Bush (conservative). Conservatives were more likely to refuse to write the essay than liberals were, indicating that conservatives may be more guarded towards feelings of dissonance. In another study, participants were asked whether they would like to hear arguments from opposing sides of the debate on same-sex marriage and earn $10 or hear arguments that were compatible with their position on the debate for only $7 (Frimer et al., 2017). Motivation to avoid cognitive dissonance was evident in participants’ responses, with 63% of the participants choosing to forgo the chance at the additional $3 given for hearing attitudes from the opposing side of the debate. Individuals are more comfortable taking in information that is consistent with
their position, and liberals and conservatives are both inclined to avoid feelings of dissonance. Not only are individuals motivated to avoid inconsistent information, but they also seek out information that is consistent with their beliefs.

**Confirmation Bias**

People tend to seek out information that agrees with their beliefs, a phenomenon termed “confirmation bias” (Nickerson, 1998). In a classic study of confirmation bias, participants created a sequence pattern of three numbers in a row. After being given an example of a sequence by the researcher, participants developed constrained beliefs about the rule, almost as if they developed their own understanding of the rule. They then only created patterns that fit their understanding of the rule (Wason, 1960).

Confirmation bias is related to the concept of selective exposure, which refers to how individuals tend to favor and seek out information that is consistent with their beliefs and intentionally avoid information that opposes them (Klapper, 1960). In the 1940 Presidential election, more than 75% of voters had consumed media propaganda from their own party, whereas only 20% had consumed media propaganda from an opposing party (Lazarsfeld et al., 1948). Selective exposure is a way for individuals to avoid dissonance-inducing information. Individuals are also more likely to spend time interacting with news information that is consistent with their beliefs than information that goes against their beliefs, and this finding occurs across cultures (Jonas et al., 2003; Westerwick et al., 2013). Individuals are motivated to avoid or discredit information that is contrary to their beliefs and only accept agreeable information as fact (Knobloch-
Westerwick et al., 2017). Individuals seek out information that confirms their beliefs, but they also process incoming information in a biased way to fit their beliefs as well.

**Biased Assimilation**

The ways in which people intake and interact with new information often depends on their existing beliefs. Biased assimilation refers to the tendency for individuals to interpret new information that supports their position more positively than information that does not (Lord et al., 1979). Sometimes referred to as “motivated skepticism,” when assimilating information in a biased way, individuals tend to emphasize incoming information that supports their beliefs and weaken or undermine arguments against it. Additionally, individuals’ attitudes may become more polarized because of this biased assimilation of information (Lord et al., 1979; Taber & Lodge, 2006). The biased processing of information is reflective of individuals’ ties to their preexisting beliefs, and the ways in which they defend or bolster them.

Biased assimilation of information exists in the political landscape, particularly in the ways in which liberals and conservatives evaluate arguments from either side. Conservatives and liberals each read information relating to one of three political issues (i.e., abortion, illegal immigration, economic inequality) and viewed articles with opposing arguments as more negative than articles with supporting ones (Suhay & Erisen, 2018). They were also more inclined to provide counterarguments when exposed to information from the opposing position. Both liberals and conservatives also perceived their candidate (i.e., Kerry, Bush) to be the winner of a 2004 Presidential debate, indicating they emphasized or focus on supporting information to their position.
(Richardson et al., 2008). Both liberals and conservatives are inclined to process political information in a biased way and will emphasize information supporting their viewpoint and minimize or counter the information against it.

**Summary**

Cognitive dissonance suggests that individuals are motivated to resolve the feelings of discomfort that arise from conflicting cognitions and beliefs. Confirmation bias suggests that individuals intentionally seek out information that is consistent with their beliefs. Selective exposure is related to confirmation bias due to it being the act of avoiding information that is disconfirming of one’s beliefs. Biased assimilation indicates individuals interact with incoming information in a way that supports their position, which includes highlighting supporting arguments and minimizing or dismissing the opposing ones. These terms all fit under the overall umbrella term of motivated reasoning, where people are driven by preexisting beliefs to act in a certain way.

Each of these phenomena are evident in politics through the ways people interact and interpret information. Individuals avoid or dismiss information contrary to their beliefs, actively seek out information that confirms them, and interpret incoming information supporting their stance in a more positive light than information that goes against it. With the growing partisan divide on political issues, individuals are more motivated than ever to act in ways that support or defend their political stance. In this regard, people respond to information in a way that aligns with their beliefs, and one of these ways is by perceiving neutral information as biased. This tendency is the essence of the hostile media effect. The strength of the hostile media effect is influenced by factors
such as the news source presenting the information, the perceived reach of the news source, and the strength of an individual’s partisan identity.

Factors Affecting the Hostile Media Effect

News Source

Perceptions of the news source contribute to the presence of the hostile media effect. Individuals who believe a particular news source to be partial to the opposing side may perceive bias in the story they present (Giner-Sorolla & Chaiken, 1994). Liberals and conservatives each viewed taped news stories from the Fox and CNN networks, and liberals perceived more bias in the Fox News network story, whereas conservatives perceived more bias in the CNN network story (Coe et al., 2008). Supporters of a home-town sports team perceived more bias in a neutral news article about an NCAA investigation into their school when the article was presented with the rival team’s newspaper source heading than when the article was presented with the home-town team’s newspaper source heading (Arpan & Raney, 2003). Native Americans perceived more hostile media bias in an article – written on the genetic modification of natively cultivated wild rice – from an opposing source than from a source that closely identified with their position (Gunther et al., 2009). The manipulations of the news sources presenting the article have elicited perceptions of bias against one’s own stance.

Biased news source perceptions are also impacted by beliefs about the source’s credibility. Individuals perceive a message more favorably when it is presented from a news source they deem to have “high credibility,” (Gunther, 1992). Credibility attached to a source may depend on the agreement of the source’s content with the individual’s
stance. Individuals tend to rely on the news sources they deem the most credible, which is typically the source that aligns with their position, and this tendency leads to biased perceptions of news information when it is presented in a rival or oppositional source.

Perceived Reach of Source

The perceived reach of the source—how widespread and disseminated its information is—may impact hostile media perceptions because it leads people to perceive that others will be influenced by the media message. People were more likely to perceive the hostile media effect when information was presented from a “high reach” news source (e.g., a prominent news source) than from a “low reach” news source (e.g., a college essay; Gunther & Liebhart, 2006; Gunther & Schmitt, 2004). Republicans perceived more hostile media bias in a tweet when it came from an account with 503,000 followers compared to when it was from an account with 21 followers (Lee et al., 2018). This impact is of greater importance when factoring in the thoughts and beliefs of partisans. Partisans are more concerned with public issues that are of great importance, which are usually covered by large media sources, and so they may be more cognizant of the impact mass media has on popular opinion (Gunther & Liebhart, 2006). Perceived reach of a source has considerable influence on the hostile media effect given that individuals may perceive more bias in news coverage presented from a source with a large audience as opposed to one with a small audience.

Partisan Identity

The strength of an individual’s allegiance to their partisan side, which includes the level of identification with their in-group as well as animosity towards the out-group,
appear to be directly tied to their perceptions of hostile media bias. Partisans with stronger in-group identifications are more likely to perceive information presented from an outgroup source more negatively and are also more likely to denigrate the source (Daily, 2014). Partisans may activate an ingroup-versus-outgroup schema when exposed to information from an opposing source that does not align with their stance. These effects may be explained by self-categorization theory (Turner et al., 1987), which asserts that a key component of one’s self-concept is their identification with social groups (Reid, 2012). Partisans who had their identities activated by a precursor message to an article perceived more media bias against their political position than the control group, indicating a self-categorization effect (Reid, 2012). Partisans indicate less agreement, and more bias, with a source that does not align with their political views due to this source being identified with the outgroup.

Hostile media perceptions are also stronger among individuals with a stronger identification with their in-group (Ariyanto et al., 2007; Matheson & Dursun, 2001). Individuals with strong in-group identifications with political positions seek out so-called “villains” and “victims” to distinguish between their in-group and outgroup members. A stronger in-group identification may be activated when individuals are exposed to partisan issues that are more important to them. This in-group identification would in turn strengthen their opinions and beliefs, causing them to become more extreme (Harton & Latané, 1997). Individuals who demonstrate a strong in-group identification are far more likely to perceive hostile media bias in news coverage (Matheson & Dursun, 2001).
An individual’s allegiance to a certain political position can impact how they perceive bias in the media, as well as its perceived influence on others. Individuals with partisan positions inconsistent with a partisan news source perceived more bias in the source than those whose position was consistent with the source (Kim, 2016). Additionally, individuals voted more strongly against or in favor of political initiatives, such as clean energy efforts, when the topics were directly referenced by highly influential political leaders, such as the President (Crowe, 2020). A higher profile, or higher reach, source may pose more of a threat to one’s own partisan identity due to the increased number of people that could be swayed by the source. Indeed, individuals with a stronger identity to their group are more likely to perceive bias in a news source not affiliated with their group. Individuals who identify as nationalists perceived more hostile bias towards the U.S. in news stories from international news sources (Golan et al., 2021). A stronger partisan identity may amplify these perceived media biases overall, as individuals are more motivated to defend their in-group from information that is disseminated from opposing news sources.

There may be differences between liberals and conservatives in how partisan identity impacts their perceptions of hostile media bias. Conservatives believe that the media has more of a liberal spin and is thus biased against them (Domke et al., 1999). Conversely, liberals may believe that news media has a conservative slant (Mayer, 2005). The truth is that media bias exists on the part of both partisan political positions. The rise of 24-hour news networks has created platforms for both liberal and conservative-leaning news sources to build their influence and reach. There are prominent conservative TV
networks (e.g., Fox News) and liberal TV networks (e.g., CNN), and numerous online political sources (e.g., Breitbart, The Blaze, The Atlantic, Politico). With the dissemination of a wide range of information, which may be biased towards a liberal or conservative viewpoint, it is crucial to study the hostile media effect and its relationship with the reach of news sources. This research will help individuals recognize bias in the way information is presented, and researchers develop strategies to counteract it.

**Current Study**

The hostile media effect refers to how individuals perceive even neutral news coverage as biased against their stance (Vallone et al., 1985). This effect is a subset of the field of motivated reasoning, with components such as cognitive dissonance, confirmation bias, and selective exposure all providing a foundation for the phenomenon. The hostile media effect transpires in political contexts with perceptions by Democrats and Republicans of bias in media coverage, and can depend on the news source presenting the coverage (Arpan & Raney, 2003; Gunther et al., 2009), the perceived reach of the source (Gunther & Schmitt, 2004), and the strength of partisan identity in the individual perceiving the coverage (Daily, 2014).

In a previous study, I assessed level of perceived bias in an article depending on the source heading (Sedlacek & Harton, 2019). One hundred fifty Amazon Mechanical Turk (mTurk) participants read an article detailing the recent passage of the U.S. Farm Bill with an NBC News heading (liberal source) or a Fox News heading (conservative source) and rated the bias and quality of the article. Those who identified as conservative rated the article as lower quality when they were presented with the liberal source.
heading, and those who identified as liberal rated the article as lower quality when they were presented with the conservative source heading. Political orientation and source did not affect ratings of liberal/conservative bias in the article. Finding differences in perceived article quality based on the source indicated individuals recognized the source. However, the finding of no differences in perceived liberal or conservative bias was contrary to this idea and it needed to be examined in future research. It is not clear whether the results may have been affected by low power in some conditions or participants being unfamiliar with the NBC News header and its liberal stance (Sedlacek & Harton, 2019).

The current study used similar methodology to Sedlacek and Harton (2019), but also assessed the moderation of news source reach on the relationship between an individual’s political orientation and their perceptions of bias. The current study was a 2 (liberal/conservative source) x 2 (low/high perceived reach) x 2 (liberal/conservative participant) between groups factorial design.

The current study addressed several gaps in hostile media effect research. There is a need in hostile media effect research to synthesize indicators of perceived bias such as agreement with the article and quality of the article. These variables are often assessed in separate studies from one another, and the current study addresses each of them as indicators of perceived bias. There is also a need in hostile media effect research to further address social media metrics (e.g., likes, shares, views) and how they impact perceptions of source reach, because consumption of news has shifted largely from print news to websites and social media platforms. Specifically, it is important to assess
whether these metrics can be manipulated in studies of perceived source reach, so that participants can identify whether a news source has a low or a high reach based on these numbers. Research conducted in the mid-2000s by Gunther and colleagues, that used print news sources (e.g., newspapers), needs to be translated to today’s digital news media society. Therefore, present day indicators of online news consumption (i.e., social media metrics) should be applied to the methodology previously used in hostile media effect research to examine whether the findings have changed.

The current study addressed these gaps by investigating perceptions of the article’s quality and ratings of an individual’s agreement with the content presented in the article as indicators of perceived bias. Additionally, the current study investigated how social media metrics that are often included on online news articles directly influence individual perceptions of the reach of the source. Participants read an article with a liberal (i.e., The Progressive, CNN) or conservative (i.e., PatriotNewsDaily, Fox) news source. I manipulated perceived reach by having participants read an article with a smaller-audience source heading (i.e., The Progressive, PatriotNewsDaily) or a larger-audience source heading (i.e., CNN, Fox). I also manipulated perceived reach using the social media metrics of article views, article shares, and website subscriptions. Social media metrics are a more modern indicator of perceived reach beyond traditional print media sources (Stavrositu & Kim, 2014). All “high-reach” sources had article views and website subscription numbers over 1,000, whereas the “low-reach” sources had all of their social media metrics under 1,000. Two groups (i.e., liberal, conservative) were compared in regards to their perceptions of hostile media bias, their perceptions of article quality, and
their agreement with the article. Partisan identity’s relationships with the three dependent variables were assessed in exploratory analyses, given that the strength of an individual’s partisan identity has been previously associated with perceptions of bias (Ariyanto et al., 2007; Matheson & Dursun, 2001; Reid, 2012).

I also evaluated perceived objectivity versus subjectivity of each article as well as the perceived informativeness of the article; however, these evaluations were conducted in an exploratory manner. I evaluated ratings of objectivity versus subjectivity on a slider asking participants whether the article contained “mostly fact-based” or “mostly opinion-based” content. I evaluated ratings of informativeness by assessing the strength of participants’ agreement with how informative the article was. There are several websites that employ independent researchers to dissect media content of various political sources in order to most accurately depict their partisan slant to concerned news consumers. One of these sources, mediabiasfactcheck.com, was used in order to identify the source content adapted for the current study. The following hypotheses and research questions were tested in the current study:

- H1: Conservatives will rate an article as more biased against conservatives when presented with a liberal news source heading. Liberals will rate an article as more biased against liberals when presented with a conservative news source heading.

- H2: Conservatives will rate an article as lower quality when presented with a liberal news source heading, whereas liberals will rate an article as lower quality when presented with a conservative news source heading.
• H3: Conservatives will indicate more agreement with an article when it is presented with a conservative news source heading than when it is presented with a liberal news source heading. Liberals will indicate more agreement with an article when it is presented with a liberal news source heading than when it is presented with a conservative news source heading.

• H4: Perceived reach of the news source will moderate these effects, such that ratings of the article will be more negative when conservatives view the article with the high-reach liberal news source heading (CNN) than when they view the article with the low-reach liberal news source heading (The Progressive). Likewise, ratings of the article will be more negative when liberals view the article with the high-reach conservative news source heading (Fox News) than when they view the article with the low-reach conservative news source heading (PatriotNewsDaily).

In exploratory analyses, I assessed partisan identity’s correlation with the three dependent variables (ratings of article bias, quality, and agreement with the article) using the Partisan Identity Scale (Huddy & Bankert, 2017).

Pilot Study

I conducted a pilot study to test a number of important aspects for the primary study. The pilot study assessed the perceived neutrality of the two different articles used in the primary study (i.e., U.S. Farm Bill article, military housing article), the perceived liberal or conservative stances of sources, and perceived reach of these sources.
Additionally, this tested whether the sources were perceived to have a “high” or “low” reach. The results of the pilot study determined which article was used in the primary study, and which four source headings were manipulated with that article.

Method

**Participants.** I recruited 90 participants (59% Male, 39% Female; Age $M = 24.22$, $SD = 14.05$; 81.1% White/Caucasian, 7.8% Hispanic/Latinx, 6.7% Black/African American, 4.4% Asian/Pacific Islander, 1.1% Multiracial; 61.6% liberal, 31.1% conservative, 7.8% Moderate) through Amazon Mechanical Turk for the pilot study. I set CloudResearch to block duplicate IP addresses and suspicious or duplicate geocodes. I required participants to have a 99% hit approval rate and between 5,000-500,000 approved hits. I limited the sample to US citizens only. Additionally, I used the CloudResearch panels to only include people in my study who identified as Democrat or Republican in their political views, and exclude those who identified as Independent. I compensated participants $0.50 for completing the study.

**Procedure.** Participants either read an article on the U.S. Farm Bill or a military bill with low or high reach metrics. These articles were adapted from articles published on Reuters.com. This website was determined to have little to no partisan bias, and more moderate reporting overall (mediabiasfactcheck.com). The articles were modified to ensure they were as neutral as possible, with the number of liberal and conservative arguments being balanced. Specifically, there were three arguments on both sides in the U.S. Farm Bill article, and one argument on each side in the military housing bill article. These articles had no source headings, and low versus high reach was manipulated
through using different social media metrics at the bottom of each article. The low-reach articles had less than 5,000 views, less than 1,000 shares and less than 1,000 website subscriptions. The high-reach articles had more than 1,000,000 views, more than 100,000 shares, and more than 1,000,000 website subscriptions.

After reading the article, participants completed a questionnaire assessing their perceptions of the article quality and their perceptions of liberal or conservative bias in the article content itself (see Appendix A).

Then, participants completed a manipulation check that was multiple choice, asking them to estimate the number of views the article had. This item assessed whether the participants paid attention to the social media metrics at the bottom of the article (see Appendix B). Participants also completed an item assessing whether they agreed the article was informative or not and an item asking them to indicate whether the article was fact-based or opinion-based (see Appendix A).

Participants then rated their perceptions of the political stances (liberal or conservative), their ratings of the size of the audience (i.e., “Small”, “Medium-sized”, “Large”), and their ratings of trustworthiness of several news outlets (e.g., Fox News, CNN, Wall Street Journal) (See Table 1). The questionnaire also included an adapted form of the Partisan Identity Scale (Huddy & Bankert, 2017). This scale was created to measure partisanship as a social identity, and the converging of one’s partisan identity with their sense of self (see Appendix C).
Results and Discussion

An independent samples \( t \)-test revealed participants who read the article on the U.S. Farm Bill indicated that it was closer to moderate politically \((M = 3.12, SD = 1.41)\) than those who read the article on the military housing bill \((M = 2.17, SD = 1.25; 1-7\) scale\). There were 16 participants who were not able to identify the article they just read. Roughly 39% of all participants had stated the number of views in the article they read was in the smaller range of 1,000-100,000. Due to a coding error, I was not able to identify the differences between low-reach and high-reach views manipulations. In open-ended responses, participants indicated they had to guess on the number of views the article had. Therefore, in the main study I moved the metrics to the top of the article instead of the bottom in order to make them more noticeable for the reader. I also used the U.S. Farm Bill as the article I manipulated with different headings since participants perceived it to be more neutral than the military housing bill article.
Table 1

*Article Bias Ratings, Perceived Source Audience Size, and Perceived Article Views*

*(Percentages)*

<table>
<thead>
<tr>
<th>Bias Ratings</th>
<th>CNN</th>
<th>PatriotNewsDaily</th>
<th>Fox News</th>
<th>The Progressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal</td>
<td>32.4</td>
<td>4.5</td>
<td>2.7</td>
<td>30.6</td>
</tr>
<tr>
<td>Slightly Liberal</td>
<td>22.5</td>
<td>3.6</td>
<td>4.5</td>
<td>17.1</td>
</tr>
<tr>
<td>Neutral</td>
<td>14.4</td>
<td>26.1</td>
<td>3.6</td>
<td>27</td>
</tr>
<tr>
<td>Slightly Conservative</td>
<td>11.7</td>
<td>23.4</td>
<td>14.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Conservative</td>
<td>5.4</td>
<td>28.8</td>
<td>60.4</td>
<td>7.2</td>
</tr>
<tr>
<td>Mean (1-5 Scale)</td>
<td>2.25</td>
<td>3.79</td>
<td>4.46</td>
<td>2.33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audience Size</th>
<th>CNN</th>
<th>PatriotNewsDaily</th>
<th>Fox News</th>
<th>The Progressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Audience</td>
<td>9.9</td>
<td>67.6</td>
<td>8.1</td>
<td>63.1</td>
</tr>
<tr>
<td>Medium-sized Audience</td>
<td>6.3</td>
<td>10.8</td>
<td>9.9</td>
<td>16.2</td>
</tr>
<tr>
<td>Large Audience</td>
<td>66.7</td>
<td>4.5</td>
<td>65.8</td>
<td>5.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Views</th>
<th>Less than 1,000</th>
<th>1,000-100,000</th>
<th>100,000-500,000</th>
<th>500,000-1,000,000</th>
<th>More than 1,000,000</th>
<th>Mean (1-5 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.9</td>
<td>38.7</td>
<td>15.3</td>
<td>4.5</td>
<td>18</td>
<td>2.79</td>
</tr>
</tbody>
</table>

Tests of perceived liberal or conservative bias showed that 63% of the participants identified CNN as having a liberal bias and 74.8% of participants identified Fox News as having a conservative bias. This demonstrated that the two largest mainstream media sources were perceived to have their liberal and conservative stances, respectively. The two smaller-scale sources that had the highest percentages of perceived bias in the liberal or conservative direction were The Progressive and PatriotNewsDaily, with 56% of
participants identifying The Progressive as having a liberal bias, and 52.2% of participants identifying PatriotNewsDaily as having a conservative bias.

In tests of the perceived source reach, both conservative sources were identified as having their correct reach, with 67.6% of participants identifying PatriotNewsDaily as having a small audience and 65.8% of participants identifying Fox News as having a large audience. Similar results were found with the two liberal sources, with 76% viewing The Progressive as having a small audience and 80% of participants identifying CNN as having a large audience. These findings led me to use The Progressive as the low-reach liberal source, CNN as the high-reach liberal source, PatriotNewsDaily as the low-reach conservative source, and Fox News as the high-reach conservative source in the primary study.

Method

All materials used in the procedure and the planned analyses were preregistered on the Open Science Framework website:
https://osf.io/atjzf/?view_only=330a3b87c6b942fca63e9f2648985a70 (Open Science Collaboration, 2015).

Design

This study used a 2 (political affiliation of news source; liberal/conservative) x 2 (perceived reach of news source; Low/High) x 2 (individual’s political affiliation; liberal/conservative) between groups factorial design.
Participants

Three hundred sixty participants (42.9% Male, 56% Female; Age $M = 28.28$, $SD = 13.52$; 77.3% White/Caucasian, 10.2% Black/African American, 7.8% Asian/Pacific Islander, 4.7% Hispanic/Latinx, 1.7% Multiracial; 59.6% liberal, 34.6% conservative, 5.3% Moderate) were recruited using CloudResearch, an online crowdsourcing platform, to participate in a study assessing their evaluations of the quality of news articles. CloudResearch was set to block duplicate IP addresses and suspicious or duplicate geocodes. Participants were required to have a 99% hit approval rate and between 5,000-500,000 approved hits. The sample was limited to US citizens only. Like the pilot study, I used the CloudResearch panels to only include people in my study who identified as Democrat or Republican in their political views, and exclude those who identified as Independent. Participants were compensated $0.50 for their completion of the study.

After all data cleaning and the exclusion of participants who identified as having a moderate political orientation from analyses, 143 participants (38.4% Male, 60.9% Female; Age $M = 28.74$, $SD = 13.59$; 76.8% White/Caucasian, 10.6% Black/African American, 7.3% Asian/Pacific Islander, 4.6% Hispanic/Latinx, 3.3% Multiracial; 61.6% liberal, 33.1% conservative) were included in data analyses.

I determined a suggested sample size of 360 participants through conducting a power analysis using G*power (Faul et al., 2007). Gunther and Liebhart’s (2006) study assessing perceived reach of source’s moderation of the hostile media effect yielded an effect size of partial $\eta^2 = .01$. However, Gunther et al., (2009) yielded an effect size of partial $\eta^2 = .02$. Given this discrepancy, and that multiple studies similar to my design
have yielded results in a range of small to medium effects, I decided to split the difference between a small effect size (partial $\eta^2=.01$) and medium effect size (partial $\eta^2=.025$) and inputted the effect size partial $\eta^2=.015$ into my power analysis. This effect size was used to find the desired sample size for a two-tailed ANOVA assessing group differences between liberals and conservatives, depending on the political orientation of the source and the source reach. The desired power in this power analysis calculation was .90 with an alpha level set at .05, number of groups set at 8, and a numerator df set at 1. The power analysis yielded a recommended sample size of 327 participants.

Procedure

Participants first read an electronic consent form, and then read that the study would assess their evaluations of the quality of news information. They were randomly assigned to read an article about the recently passed U.S. Farm Bill, with either a Fox News heading used from their site, foxnews.com (high-reach conservative condition), CNN news heading used from their site, cnn.com (high-reach liberal condition), PatriotNewsDaily news heading used from their site, patriotnewsdaily.com (low-reach conservative condition), or The Progressive news heading from their site, progressive.org (low-reach liberal condition; see Appendix D). Although the legislation exists and did pass, some details about the bill in the article were falsified, such as the impact the bill had on food stamps recipients. Specifically, the number of arguments that would be classified as more liberal were balanced with the number of arguments that would be classified as conservative (see Appendix E). This manipulation was done in order to balance the number of liberal and conservative arguments in the article and contribute to
its overall neutrality. In addition, the low-reach news source conditions included smaller social media metrics (i.e., 4,754 views, 346 shares, 897 website subscriptions), whereas the high-reach news source conditions included larger social media metrics (i.e., 3,859,567 views, 302,781 shares, 5,067,435 website subscriptions). The survey also recorded the time participants spent reading the article.

Participants then completed a questionnaire assessing their perceptions of the article along with two manipulation checks. The items assessing participants’ perceptions of bias against a conservative or liberal viewpoint were adapted from similar items used in Gunther and Liebhart (2006). Then, participants completed a questionnaire addressing their political orientation, level of partisan identity, and basic demographic questions. I assessed partisan identity using an adapted subscale of the Partisan Identity Scale created by Huddy and Bankert (2017). Participants completed two open-ended response items asking them to write what the article was about in their own words and whether they had comments for the researchers.

I debriefed participants on the true focus and goals of the study and indicated to them that the article was falsified in order to accomplish the study’s goals. I included this debriefing on the “end of survey” screen and then directed participants out of the survey after completion (see Appendix F).

Measures

**Article bias against conservative viewpoint and liberal viewpoint items.** Two items adapted from those used by Gunther and Liebhart (2006) assessed perceived bias on a 7-point Likert scale (1=Strongly Disagree and 7=Strongly Agree). I analyzed these
items separately due to there being a low correlation between the two items ($r = -.27$). The first item assessed perceived article bias against conservatives: “I feel the article was biased against a conservative viewpoint.” The second item on perceived bias assessed perceived article bias against liberals: “I feel the article was biased against a liberal viewpoint.” (see Appendix A).

**Quality of article item.** One item assessed perceived quality of the article on a 7-point Likert scale (1=Very poor quality and 7=Very high quality): “Please rate the quality of the article you just read.” (see Appendix A).

**Agreement item.** One item assessed agreement with the article’s content on a 7-point Likert scale (1=Strongly Disagree and 7=Strongly Agree): “Please indicate the extent to which you agree with the content of the article you read.” (see Appendix A).

**Fact-Based versus Opinion-Based Item.** One item assessed the level of perceived fact-based information or opinion based information in the article on a graphic slider from 1-100, with the bar starting in the middle of the slider for the participants to drag to either side: “On the slider below, please indicate the extent to which you thought the article you read contained opinion-based information or fact-based information” (see Appendix A).

**Informative Item.** One item assessed the informativeness of the article on a 7-point Likert scale (1=Strongly Disagree and 7=Strongly Agree): “Please indicate the extent to which, if any, you agree with the following statement: The article was informative” (see Appendix A).
**Manipulation check item.** One item served as a perceived reach manipulation check on a 7-point Likert scale (1=hardly any people and 7=extremely large number of people): “On a scale of 1-7, with 1 meaning hardly any people and 7 meaning an extremely large number of people, indicate the size of the message’s audience” (see Appendix B).

**Attention check items.** Participants completed two attention checks throughout the study, with the first one as follows: “Please identify the source of the article you just read.” Participants chose from a list of five sources to answer this check. The second attention check was the following: “In your own words, please describe what you thought the article you read was about.” This item was an open-ended response item with a comment box. (see Appendix B).

**Partisan identity scale.** I asked participants to indicate the political party, if any, they identified most with, and to choose from the following options: Democrat (liberal), Republican (conservative), Independent, Green Party, Libertarian, No Affiliation, and Other (please specify) with a comment box. They completed four items in an adapted subscale of the Partisan Identity Scale, which assessed participants’ levels of partisan identity relative to the party they indicated they identified the most with (Huddy & Bankert, 2017). This scale has greater predictive validity than single-item assessments of partisan identity. These items were answered on a 7-point Likert scale (1=strongly disagree and 7=strongly agree). An example of an item on this subscale is, “When I speak about this party, I usually say ‘we’ instead of ‘they’” (α=.85; see Appendix C).
Demographic questions. Participants answered basic demographic questions including gender, race/ethnicity, and educational attainment (see Appendix G).

Honesty check. I asked participants the following question: “How honest were you in answering the questions on this survey? You will receive compensation regardless of your answer” (see Appendix G).

Comment box. I asked participants if they had any additional comments for the researchers, and I provided them a text box for their answer.

Plan of Analysis

To test hypotheses 1 to 3, I conducted four ANOVAs to compare the differences between liberals and conservatives, depending on the political orientation of the source (i.e., liberal, conservative), on the four dependent variables (i.e., ratings of bias against a conservative viewpoint, ratings of bias against a Liberal viewpoint, ratings of article quality, ratings of agreement with the article’s content). To test hypothesis 4, I did a second set of ANOVAs adding perceived reach (i.e., low, high) as an additional independent variable. Because of unequal cell sizes, I chose to run two separate sets of analyses because of potential differences in results between the 2 x 2 and the 2 x 2 x 2 ANOVA. Initially, I had pre-registered that I would use the Process macro (Hayes, 2013) to test moderation, but because of program limitations and because all variables were categorical, I did ANOVAs instead. I conducted exploratory analyses to assess the within-cell correlations between each of the four dependent variables.
Results

Data Cleaning

Based on pre-registration criteria, I excluded 199 cases due to participants failing the attention check asking them to identify the source they read. Participants did not fail the other attention check (i.e., open-ended response describing what the article was about). I excluded 9 cases due to participants not meeting the three-minute minimum time requirement, and 2 cases due to participants indicating they were “not at all honest” or “slightly honest” on the honesty check. After these exclusions, there were 151 remaining cases.

To conduct the analyses comparing the differences between liberals and conservatives, participants were coded as “1 = conservative” if they identified their political orientation anywhere from 1-3 (1=extremely conservative and 3=lean conservative) and “2 = liberal” if they identified their political orientation anywhere from 5-7 (5=lean liberal and 7=extremely liberal). Participants who identified themselves in the middle (i.e., 4=moderate) were excluded from analyses. There were 8 participants who identified themselves as moderates. After exclusion of these cases and all other exclusions, there were 143 participants included in the analyses.

Tests of Assumptions

Due to unequal n’s in each condition, I used Bartlett’s test of homogeneity to test the assumption of equal variances. The assumption of homogeneity of variance was not violated for article bias ratings against a conservative viewpoint based on political orientation ($\chi^2=.14, p = .71$) or source reach ($\chi^2 = 2.02, p = .16$), for article bias ratings
against a liberal viewpoint based on political orientation ($\chi^2 = .055, p = .81$) or source reach ($\chi^2 = .12, p = .73$), for article quality ratings based on political orientation ($\chi^2 = 2.41, p = .12$) or source reach ($\chi^2 = .03, p = .86$), or for agreement with article’s content based on political orientation ($\chi^2 = 1.23, p = .27$) or source reach ($\chi^2 = .665, p = .42$). The assumption of homogeneity of variance was not violated for article bias ratings against a conservative viewpoint based on source political orientation ($\chi^2 = .03, p = .86$), for article bias ratings against a Liberal viewpoint based on source political orientation ($\chi^2 = .00, p = .99$), for article quality ratings based on source political orientation ($\chi^2 = 1.32, p = .25$), or for agreement with the article’s content based on source political orientation ($\chi^2 = .09, p = .77$).

**Manipulation check**

To test the effectiveness of the manipulation, I conducted an independent samples $t$-test to assess the differences in participants’ perceived number of views of the article they read. Participants perceived the article in the high-reach condition ($M = 3.60, SD = 1.48$) as having a larger number of views than the article in the low-reach condition ($M = 1.97, SD = .55$), suggesting the manipulation was valid, $t(141) = -8.58, p < .001, d = 1.46, 95\% CI: [1.114, 1.857]$.

Additionally, I set a timer to check how much time participants spent reading the article. On average, participants included in analyses spent 576 seconds (about 10 minutes) reading the article in the study. There were 9 participants excluded from analyses due to viewing the article for less than 180 seconds (3 minutes). For participants included in analyses, the shortest amount of time spent reading the article was 194
seconds (a little over 3 minutes), while the longest amount of time spent was 7,433 seconds (a little over 2 hours).

Hypothesis Testing

**Hypothesis 1.** The first ANOVA assessed differences between liberals and conservatives on article bias ratings against a conservative viewpoint, depending on the source political orientation. Participants who were politically conservative rated the article as being more biased against conservatives \((M = 3.50, SD = 1.71)\) than did liberals \((M = 2.58, SD = 1.28)\), \(F(1, 143) = 6.539, p = .012\), partial \(\eta^2 = .05\), 95\% CI: [.002, .124]. There was not a main effect of source political orientation, \(F(1, 143) = 1.511, p = .22\), partial \(\eta^2 = .01\). There was not a significant interaction between source political orientation and the participant political orientation, \(F(1, 143) = .143, p = .71\), partial \(\eta^2 = .001\) (see Figure 1).

The second ANOVA assessed differences between liberals and conservatives on article bias ratings against a liberal viewpoint, depending on the source political orientation. Participants who were politically liberal rated the article as being more biased against liberals \((M = 3.83, SD = 1.65)\) than did conservatives \((M = 2.64, SD = 1.43)\), \(F(1, 143) = 4.586, p = .034\), partial \(\eta^2 = .03\), 95\% CI: [0, .105]. Participants who read the article with a conservative source heading rated the article as being more biased against liberals \((M = 3.55, SD = 1.56)\) than those who read the article with a liberal source heading \((M = 2.91, SD = 1.56)\), \(F(1, 143) = 5.037, p = .026\), partial \(\eta^2 = .04\), 95\% CI: [0, .109]. There was not a significant interaction between source political orientation and participant political orientation, \(F(1, 143) = .417, p > .05\), partial \(\eta^2 = .003\) (see Figure 2).
Overall, the hypothesis that conservatives will perceive more bias in an article with a liberal source heading, and that liberals would do so when the article is presented with a conservative source heading, was not supported.

Figure 1. Article Bias Ratings Against a Conservative Viewpoint.

*Mean Article Bias Ratings Against a Conservative Viewpoint Depending on Source Political Orientation*

*Note.* Error bars represent standard error of each value. “Conservative” and “liberal” labels refer to participant political orientation unless otherwise specified. Higher ratings indicate stronger perceptions of bias.
Hypothesis 2. The third ANOVA assessed differences between liberals and conservatives on article quality ratings, depending on the source political orientation. There was not a main effect of source political orientation, $F(1, 143) = .009, p = .93$, partial $\eta^2 = .000$. There was not a main effect of participant political orientation, $F(1, 143) = .061, p = .81$, partial $\eta^2 = .000$. There was not a significant interaction between source political orientation and participants’ political orientation, $F(1, 143) = .378, p =$
.54, partial $\eta^2 = .003$ (see Figure 3). Overall, the hypothesis that conservatives will rate an article as lower quality when it is presented with a liberal source heading, and that liberals would do so when the article is presented with a conservative source heading, was not supported.

Figure 3. Article Quality Ratings

*Mean Article Quality Ratings Depending on Source Political Orientation*

![Mean Article Quality Ratings Depending on Source Political Orientation](image)

*Note.* Error bars represent standard error of each value. “Conservative” and “liberal” labels refer to participant political orientation unless otherwise specified. Higher ratings indicate higher perceived article quality.

**Hypothesis 3.** The fourth ANOVA assessed differences between liberals and conservatives on agreement with the article’s content, depending on the source political orientation. There was a main effect of participant political orientation, as participants
who were politically conservative had higher ratings of agreement ($M = 4.58$, $SD = 1.05$) with the article than did liberals ($M = 4.11$, $SD = 1.21$) regardless of the source political orientation, $F(1, 143) = 5.240$, $p = .024$, partial $\eta^2 = .04$, 95% CI: [0, .111]. There was not a main effect of source political orientation, $F(1, 143) = .487$, $p = .49$, partial $\eta^2 = .003$. There was not a significant interaction between source political orientation and participant political orientation, $F(1, 143) = 1.001$, $p = .32$, partial $\eta^2 = .007$ (see Figure 4). Overall, the hypothesis that conservatives will indicate more agreement with an article when it is presented with a conservative source heading rather than a liberal source heading, and that liberals would do so when it is presented with a liberal source heading versus a conservative one, was not supported.
Figure 4. Agreement with Article content

Mean Ratings of Agreement with Article Content Depending on Source Political Orientation

Note. Error bars represent standard error of each value. “Conservative” and “liberal” labels refer to participant political orientation unless otherwise specified. Higher ratings indicate stronger agreement with the article’s content.

Hypothesis 4. The first moderation model was a 2 x 2 x 2 ANOVA with participant political orientation, source political orientation, and source reach as the independent variables and article bias ratings against a conservative viewpoint as the dependent variable in the analysis. Participants who were politically conservative rated the article as being more biased against conservatives ($M = 3.50, SD = 1.71$) than did liberals ($M = 2.58, SD = 1.28$), $F(1, 143) = 6.246, p = .014$, partial $\eta^2 = .04$, 95% CI: [.002, .121]. The interaction between participant political orientation, source political
orientation, and news source reach was not significant (see Table 2). Contrary to the hypothesis, this result did not identify news source reach as a moderator of the relationship between participant political orientation, source political orientation and article bias ratings against a conservative viewpoint.

Table 2

*Results of Moderation of News Source Reach on Relationship Between Source PO, Participant PO, and Article Bias Ratings Against a Conservative Viewpoint*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>7</td>
<td>3.420</td>
<td>1.787</td>
<td>.095</td>
<td>.085</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>1132.005</td>
<td>591.704</td>
<td>.000</td>
<td>.814</td>
</tr>
<tr>
<td>SourcePO</td>
<td>1</td>
<td>2.368</td>
<td>1.238</td>
<td>.268</td>
<td>.009</td>
</tr>
<tr>
<td>SourceReach</td>
<td>1</td>
<td>6.793</td>
<td>3.551</td>
<td>.062</td>
<td>.026</td>
</tr>
<tr>
<td>PartPO</td>
<td>1</td>
<td>11.949</td>
<td>6.246</td>
<td>.014*</td>
<td>.044</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
<td>1</td>
<td>.735</td>
<td>.384</td>
<td>.536</td>
<td>.003</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>1</td>
<td>.574</td>
<td>.300</td>
<td>.585</td>
<td>.002</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
<td>1</td>
<td>.096</td>
<td>.050</td>
<td>.823</td>
<td>.000</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>1</td>
<td>.164</td>
<td>.086</td>
<td>.770</td>
<td>.001</td>
</tr>
</tbody>
</table>

*Note: * = correlation is significant at the .05 level. PO = political orientation.*

The second moderation model included participant political orientation, source political orientation, and source reach as the independent variables and article bias ratings against a liberal viewpoint as the dependent variable in the analysis. There was a main effect of participant political orientation, as participants who were politically liberal rated the article as being more biased against liberals ($M = 3.44$, $SD = 1.67$) than did conservatives ($M = 2.88$, $SD = 1.37$) regardless of the source political orientation, $F(1,$
143) = 4.751, \( p = .031 \), partial \( \eta^2 = .03 \), 95% CI: [0, .106]. Liberals rated the conservative source heading as more biased (\( M = 3.83, SD = 1.65 \)) against liberals than did conservatives (\( M = 3.07, SD = 1.30 \)), \( F(1, 143) = 4.568, p = .034 \), partial \( \eta^2 = .03 \), 95% CI: [0, .104]. The interaction between participant political orientation, source political orientation, and news source reach was not significant (see Table 3). Contrary to the hypothesis, this result did not identify news source reach as a moderator of the relationship between participant political orientation and source political orientation on article bias ratings against a liberal viewpoint.

Table 3

Results of Moderation of News Source Reach on Relationship Between Source PO, Participant PO, and Article Bias Ratings Against a Liberal Viewpoint

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>7</td>
<td>5.411</td>
<td>2.279</td>
<td>.032</td>
<td>.106</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>1244.571</td>
<td>524.139</td>
<td>.000</td>
<td>.795</td>
</tr>
<tr>
<td>SourcePO</td>
<td>1</td>
<td>10.847</td>
<td>4.568</td>
<td>.034*</td>
<td>.033</td>
</tr>
<tr>
<td>SourceReach</td>
<td>1</td>
<td>.580</td>
<td>.244</td>
<td>.622</td>
<td>.002</td>
</tr>
<tr>
<td>PartPO</td>
<td>1</td>
<td>11.282</td>
<td>4.751</td>
<td>.031*</td>
<td>.034</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
<td>1</td>
<td>.027</td>
<td>.011</td>
<td>.916</td>
<td>.000</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>1</td>
<td>.809</td>
<td>.341</td>
<td>.560</td>
<td>.003</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
<td>1</td>
<td>8.190</td>
<td>3.449</td>
<td>.065</td>
<td>.025</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>1</td>
<td>1.803</td>
<td>.759</td>
<td>.385</td>
<td>.006</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.

The third moderation model tested participant political orientation, source political orientation, and source reach as the independent variables and article quality
ratings as the dependent variable in the analysis. The interaction between participant political orientation, source political orientation, and news source reach was not significant (see Table 4). Contrary to the hypothesis, this result did not identify news source reach as a moderator of the relationship between participant political orientation, source political orientation and article quality ratings.

Table 4

Results of Moderation of News Source Reach on Relationship Between Source PO, Participant PO, and Article Quality Ratings

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>7</td>
<td>.241</td>
<td>.196</td>
<td>.986</td>
<td>.010</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>2454.694</td>
<td>1994.407</td>
<td>.000</td>
<td>.937</td>
</tr>
<tr>
<td>SourcePO</td>
<td>1</td>
<td>7.475E-5</td>
<td>.000</td>
<td>.994</td>
<td>.000</td>
</tr>
<tr>
<td>SourceReach</td>
<td>1</td>
<td>.019</td>
<td>.015</td>
<td>.901</td>
<td>.000</td>
</tr>
<tr>
<td>PartPO</td>
<td>1</td>
<td>.083</td>
<td>.067</td>
<td>.796</td>
<td>.000</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
<td>1</td>
<td>.260</td>
<td>.211</td>
<td>.646</td>
<td>.002</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>1</td>
<td>.440</td>
<td>.357</td>
<td>.551</td>
<td>.003</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
<td>1</td>
<td>.365</td>
<td>.297</td>
<td>.587</td>
<td>.002</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>1</td>
<td>.378</td>
<td>.307</td>
<td>.580</td>
<td>.002</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.

The fourth moderation model tested participant political orientation, source political orientation, and source reach as the independent variables and ratings of agreement as the dependent variable in the analysis. Participants who were politically conservative indicated higher ratings of agreement with the article ($M = 4.58, SD = 1.05$) than did liberals ($M = 4.11, SD = 1.21$) regardless of the source political orientation, $F(1,$
143) = 4.865, \( p = .029 \), partial \( \eta^2 = .04 \), 95\% CI: [0, .108]. The interaction between participant political orientation, source political orientation, and news source reach was not significant (See Table 5). Contrary to the hypothesis, this result did not identify news source reach as a moderator of the relationship between participant political orientation, source political orientation and ratings of agreement. Overall, the hypothesis that news source reach would moderate the relationship between participant PO and article bias ratings, article quality ratings, and ratings of agreement, was not supported.

Table 5

Results of Moderation of News Source Reach on Relationship Between Source PO, Participant PO, and Ratings of Agreement

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>7</td>
<td>2.231</td>
<td>1.666</td>
<td>.122</td>
<td>.080</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>2420.681</td>
<td>1808.018</td>
<td>.000</td>
<td>.931</td>
</tr>
<tr>
<td>SourcePO</td>
<td>1</td>
<td>.558</td>
<td>.417</td>
<td>.520</td>
<td>.003</td>
</tr>
<tr>
<td>SourceReach</td>
<td>1</td>
<td>.111</td>
<td>.083</td>
<td>.774</td>
<td>.001</td>
</tr>
<tr>
<td>PartPO</td>
<td>1</td>
<td>6.514</td>
<td>4.865</td>
<td>.029*</td>
<td>.035</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
<td>1</td>
<td>.377</td>
<td>.282</td>
<td>.596</td>
<td>.002</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>1</td>
<td>1.344</td>
<td>1.004</td>
<td>.318</td>
<td>.007</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
<td>1</td>
<td>1.458</td>
<td>1.089</td>
<td>.299</td>
<td>.008</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>1</td>
<td>2.530</td>
<td>1.890</td>
<td>.171</td>
<td>.014</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.

Exploratory Analyses

In exploratory analyses, I conducted within-cell correlations between each of the dependent variables (i.e., bias ratings against a liberal viewpoint, bias ratings against a
conservative viewpoint, article quality ratings, article agreement ratings) within each of the eight conditions. Article quality ratings had a strong positive association with article agreement ratings in the Low-reach liberal/conservative PO condition ($r = .736, p = .006$). Those who rated the article as having a higher quality also indicated higher ratings of agreement with the article. Article bias ratings against a liberal viewpoint had a strong negative association with quality ratings in the High-reach liberal/conservative PO condition ($r = -.751, p = .012$). Those who indicated higher ratings of bias against a liberal viewpoint indicated lower quality ratings in this condition. Overall, the two dependent variables with the highest correlations across all conditions were quality and agreement ratings. The full table of correlations is displayed below (see Table 6).

Many participants failed the manipulation check asking them to identify the source of the article they read. This failed check resulted in more than half of the cases’ data being excluded from analyses. Analyses were re-run with none of the cases excluded in order to test the hypotheses using the full sample size (see Appendix H). The pattern of results using all participants was similar as with the reduced sample; conservatives perceived that the article was more biased against conservatives, whereas liberals perceived the article as more biased against liberals. Conservatives agreed with the article more than did liberals. Using the full sample, there was no longer an overall difference by source on perceptions of bias against liberals. There were no other significant effects, suggesting that the lack of differences by conditions was not likely due to lack of statistical power.
Table 6

*Within-cell Correlations Table*

<table>
<thead>
<tr>
<th></th>
<th>Low-reach lib-libPO (n = 27)</th>
<th>High-reach lib-libPO (n = 19)</th>
<th>Low-reach lib-consPO (n = 21)</th>
<th>High-reach lib-consPO (n = 26)</th>
<th>Low-reach cons-consPO (n = 15)</th>
<th>High-reach cons-consPO (n = 13)</th>
<th>Low-reach lib-consPO (n = 12)</th>
<th>High reach lib-consPO (n = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias ag lib-bias</td>
<td>-.181</td>
<td>.676**</td>
<td>.080</td>
<td>-.093</td>
<td>.501</td>
<td>.126</td>
<td>-.147</td>
<td>.139</td>
</tr>
<tr>
<td>Bias ag lib-quality</td>
<td>.039</td>
<td>.012</td>
<td>-.253</td>
<td>-.413*</td>
<td>.103</td>
<td>-.322</td>
<td>-.326</td>
<td>-.751*</td>
</tr>
<tr>
<td>Bias ag lib-agreement</td>
<td>-.387*</td>
<td>-.183</td>
<td>-.487</td>
<td>-.536**</td>
<td>-.310</td>
<td>.014</td>
<td>-.159</td>
<td>-.196</td>
</tr>
<tr>
<td>Bias ag conserv-quality</td>
<td>-.216</td>
<td>.106</td>
<td>.125</td>
<td>.092</td>
<td>-.149</td>
<td>-.278</td>
<td>-.065</td>
<td>-.313</td>
</tr>
<tr>
<td>Bias ag conserv-agreement</td>
<td>.385*</td>
<td>-.014</td>
<td>.282</td>
<td>.267</td>
<td>-.334</td>
<td>-.506</td>
<td>-.216</td>
<td>-.668*</td>
</tr>
<tr>
<td>Quality-agreement</td>
<td>-.010</td>
<td>.085</td>
<td>.483*</td>
<td>.496**</td>
<td>.397</td>
<td>.506</td>
<td>.736**</td>
<td>.653*</td>
</tr>
</tbody>
</table>

* = correlation is significant at the .05 level  ** = correlation is significant at the .01 level
Discussion

Participant political orientation impacted how partisans perceived bias in a neutral news article, as conservatives indicated higher bias ratings against conservatives in the article they read, whereas liberals indicated higher bias ratings against liberals, demonstrating the hostile media effect (Vallone et al., 1985). Contrary to hypotheses, however, this effect was not exacerbated by the perceived political orientation of the news source, although participants of both political orientations perceived the article as more biased against liberals when it had a conservative heading. Conservatives also agreed more with the article. Unexpectedly, perceived reach of the article did not moderate these effects.

Possible Explanations

Conservatives perceived more bias against their viewpoint and liberals perceived more biased against their own viewpoint, regardless of the source. This finding provides evidence of the hostile media effect at play, but it does not support the manipulation of source as the factor. The activation of the individual’s partisan identity may be an explanation for this result. Consistent with the self-categorization theory, an individual who identifies with a partisan position may have this identity become salient to them through the presentation of political news content (Reid, 2012). This effect can occur without the recognition of the source’s political orientation, but rather by the exposure to the political content itself.

There were few news source effects in the study. Participants may not have been as focused on the source as what was predicted. A 2018 Pew research survey suggests
that online news consumers may have difficulties recalling the news source that they obtained their information from (Mitchell et al., 2017). Specifically, online news consumers between the ages of 18 and 29 recalled a news source they accessed two hours prior about 47 percent of the time. On average across all age groups, people were able to recall the news source only 56 percent of the time. This finding translates to social media platforms, as individuals tend to show a lack of memory of a source when the source’s headline is presented on Twitter (Bourne et al., 2020). When a news article with a CNN headline is presented on Twitter, there is less source memory than when reading the source on the actual website. Individuals separating a news source from its content is problematic in terms of looking at source effects in research on hostile media perceptions because manipulating the source itself may not influence perceptions of bias as strongly as previous research suggests.

Additionally, news presentation on social media platforms does not display the source as prominently as they do in print, which may lead to less focus on the source itself. Previous hostile media effect research that used source manipulations used print news source manipulations in the early to mid-2000s (Gunther & Liebhart, 2006; Gunther et al., 2009). People may be more inclined to focus on the news source when looking at a print newspaper than an online article, as the individual could continually see the source on each page, whereas in an online article they could immediately scroll down to the content. Another explanation for the lack of source effects is the way in which individuals are conditioned to respond to information that is more educational or explanatory of the issue at hand as opposed to information that is less direct and more
focused on affective associations with the information. A central route of persuasion would dictate that individuals are more focused on information directly related to the issue as opposed to the peripheral route, which focuses more on affective cues or ones that are not necessarily directly tied to the root of the issue (Petty & Cacioppo, 1986). If individuals are more focused on the information itself, such as the reporting that legislation was passed or vetoed, they may be less inclined to pay attention to the source presenting the information, and thus perceive bias.

One final possible explanation for the lack of source effects is the idea that certain individuals are conditioned to see news articles as biased regardless of the source. There are well-supported claims that conservatives tend to see all media as biased, and that they generally perceive it to have a liberal slant (Domke et al., 1999). Individuals who generally perceive the media to be biased would be more likely to indicate stronger perceptions of bias in the news information they interact with. Gauging the general perceptions of media bias that an individual has prior to even reading a news article could indicate whether a manipulation of source impacts the hostile media effect.

News source reach also did not affect impressions of bias, quality, or agreement. A possible explanation for the lack of effects of news source reach is the lack of recognition of the two low-reach sources (i.e., The Progressive, PatriotNewsDaily). This was reflected in the open-ended response data, as many participants indicated they guessed on the metrics associated with these news articles due to not being familiar with the source. Individuals may also be more inclined to associate the political stance with a source, but not as inclined to associate its influence on others. In the pilot study, a large
number (i.e., over 60% for each source) of participants were able to identify the conservative stance for Fox News and the liberal stance for CNN, but fewer participants identified the sources as having a “high” reach. Using the metrics, such as views and subscriptions, did not particularly affect perceptions of bias. The lack of source effects may have contributed to less of a focus on influence of the source, and more of a focus on the content only. It is plausible that with a larger number of participants associating the source with the content, the perceptions of its reach would be stronger.

An additional explanation of the lack of effect of news source reach is that individuals may perceive the smaller or lesser-known sources as more biased. Lower-reach sources and those that do not have as large of an influence would not have to abide by some of the standards in place in mainstream media. Sources that reach a much smaller audience may go a bit more unchecked in headlines and content that directly opposes the other side. An assessment of the overall content being presented on a source such as Fox News versus PatriotNewsDaily may indicate how deliberate one source would be over the other in biased presentation of content.

Limitations and Ideas for Future Research

A major limitation of this study is power. There were a large number of participants who did not correctly identify the source they read and had their data excluded from analysis, resulting in a sample size that was less than half of what was intended for 90% power. There were an unequal number of participants in each of the four conditions (i.e., Low-Reach liberal, High-Reach liberal, Low-Reach conservative, High-Reach conservative) after data cleaning, which may have compromised the
comparison of differences between liberals and conservatives across the independent variables. In future research using a similar methodology, perceptions of bias could be explored in a different way where attention checks on source are not as crucial to the outcomes and overall goals of the study. For example, open-ended response items could be used where individuals could explain why they perceived a source to be bias or neutral. In this way, researchers could detect whether the recognition of the source truly impacts perceptions of bias, or rather if the content itself is most important.

An additional limitation to the study is the potential bias in the article content itself. There were steps taken to ensure the article was as neutral as possible and that it did not have a slant in either the conservative or liberal direction. Some of these steps including balancing the arguments made in favor of either side, as well as omitting information that was a direct indication of bias in either direction. The article chosen for the study was the modified version of the U.S. Farm Bill article, and this was due to participants in the pilot study rating it closely to moderate (i.e., $M = 3.12$ on a 1-5 scale, 1-3 indicating a liberal bias, 3-5 indicating a conservative bias, and 3 indicating neutral or moderate). Since the ratings were an average of 3.12, a limitation is that the article content may have been slightly biased in the conservative direction from the start. Future studies using a similar methodology could ask participants to elaborate further on their ratings and why they perceived the content as biased in any particular direction. This way, specific points in the article could be targeted and altered to fit more of a neutral stance.
Another limitation is a nonrepresentative sample of the population. A byproduct of using Amazon Mechanical Turk is that demographics of participants vary tremendously, and depending on the samples there may be a very uneven distribution of white/caucasian, african american, and latinx participants. There is also the limitation of typically a Liberally-skewed sample in terms of political orientation in Amazon Mechanical Turk participants (Paolacci & Chandler, 2014). This limitation was reflected in my research, with nearly double the number of Liberal participants as Conservative participants. Other studies have shown that a recurring limitation to Amazon Mechanical Turk samples is a lack of participant naiveté (Chandler et al., 2014; Fort et al., 2011). The generalizability of the results to other populations is compromised, so it will be important to conduct further research using a different sampling method.

The shift in the dynamics surrounding online news in general presents an additional limitation to this study. Individuals are consuming a large amount of news through social media, which often is done through the sharing of embedded links that may already have comments/critiques on the story (Carlson, 2016). Additionally, people may be paying more attention to the individual who shares the article rather than the source (Lee et al., 2018). As a result of the sharing of news by third parties on social media, there is now a prevalence of mundane media criticism, which may be a phrase or several sentences provided by the sharer that offer criticism or support towards a news article. This may cause the consumer to detach the article from the website or news source itself, compromising their evaluation of the article within its original context (Carlson, 2016). It is possible that individuals are perceiving news in an entirely different
way, and less consideration is being given to the news outlet. This provides a limitation to this study due to the effectiveness of the manipulation depending on perceptions of the source itself as well as perceptions of its audience. Future research should examine news sharing in the social media landscape, and how the hostile media effect translates to this research.

Lastly, there are several limitations to this study related to the timing and motivations of participants who completed this study. Participants may have been less motivated to pay attention to the article and the questions due to the low compensation for completion of the study ($0.50). This lowered motivation may also relate to the lack of time spent reading the article. The timer set on the article page yielded a wide range of results in participants’ time spent reading the article itself. It is reasonable to question how well they were able to decipher bias in the article and any political slant in either direction, given that some participants spent so little time reading the article. Future research could offer higher compensation for the study, such as in the $1.00 to $5.00 range for completion. This may lead to more motivated participants and even raise the time spent reading any articles or other materials during the study, and may also lead to more thoughtful responses on the questionnaires.

Future research could look at other factors influencing the hostile media effect, such as the diversity and number of news outlets an individual follows. If they show allegiance to only one or two outlets, will they perceive more bias in coverage from outlets they do not follow or outlets that are contrary to the stance of the outlets they follow? Additionally, future research could further assess the association between
partisan identity and the hostile media effect by examining whether partisan identity moderates the relationship between news source and hostile media effect.

Motivated reasoning encompasses different phenomena that govern how people interact with and the ways people seek out information (Kunda, 1990). Biased assimilation refers to an individual’s selective interpretation of new or incoming information (Lord et al., 1979). Since biased assimilation and hostile media bias both refer to perceptions of incoming information, it is plausible that they may be more closely related and their relationship should be examined further. Separating or at least emphasizing certain parts of bias could help determine the root causes and potential ways to counteract it. Interestingly, asking individuals to consider bias in a news report prior to reading it helped to counteract overall perceptions of hostile media bias (Litovsky, 2021). Defining or separating out the types of bias that underlie hostile media perceptions could aid in understanding of its root causes and where biases lie in the news content people interact with daily.

**Implications**

This research contributes to the growing discussion on the hostile media effect in a digital news society, the partisan divide, and the steps society should take to reduce it. The key outcome of this study is that individuals perceived bias in the articles they read, but it was not the source that contributed to these perceptions of bias, or the level of its reach. The hostile media effect is evident in individual perceptions of news coverage in general topic areas as well as the political landscape, however, the contributing factors towards hostile media perceptions need to be explored further. Previous studies have
detected partisan identity salience as a mediator (For a review, see Kim & Hwang, 2019; Reid, 2012), however there could be additional factors influencing an individual’s perceptions of bias.

Another overarching implication of this study is that it reflects a change in dynamics of news consumption and how perceptions of bias fit into this new context. A key takeaway from this research is that news sharing has diminished source perceptions, and it is imperative to investigate how the hostile media effect plays a role in how we interact with news on social media. With social media offering individuals the opportunity to offer commentary and present news in a way that fits their beliefs and cognitive representations, dissecting whether we are receiving accurate news is a fair question. It is crucial in an increasingly polarizing political climate – where individuals are more divided on issues than ever before – that individuals are actively seeking out the most accurate news information and multiple sources to develop their opinions. This could impact choices at the voting booths and subsequent policies that affect millions of Americans.
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APPENDIX A

Hostile media effect measures, Quality, and Agreement items (Gunther & Liebhart, 2006; Gunther et al., 2009), Fact-Based versus Opinion-based item, and Informative item.

**Hostile media effect items**

Please indicate how much you agree or disagree with the following statements:

I feel the article I just read was biased against a Liberal viewpoint (HME)

1=Strongly Disagree

2

3

4

5

6

7=Strongly Agree

I feel the article I just read was biased against a Conservative viewpoint (HME)

1=Strongly Disagree

2

3

4

5

6

7=Strongly Agree
Quality Item

Please rate the quality of the article you just read.

1=Very poor quality
2
3
4
5
6
7=Very high quality

Agreement Item

Please indicate the extent to which you agree with the content of the article you read.

1=Strongly Disagree
2
3
4
5
6
7=Strongly Agree

Fact-Based versus Opinion-Based item.

On the slider below, please indicate the extent to which you thought the article you read contained opinion-based information or fact-based information.
Informative item

Please indicate the extent to which, if any, you agree with the following statement:

**The article was informative.**

1 = *Strongly Disagree*

2

3

4

5

6

7 = *Strongly Agree*
APPENDIX B

Attention checks and Manipulation check

Attention check items

What was the news source of the article you just read?

1. CNN
2. Fox News
3. PatriotNewsDaily
4. The Progressive
5. NBC News
6. Not Sure

In your own words, please describe what the article was about? (open-ended response with comment box)

Manipulation check items

Pilot Study Item

About how many views did the article you read have?

1. Less than 1,000
2. 1,000-100,000
3. 100,000-500,000
4. 500,000-1,000,000
5. More than 1,000,000

Primary Study Item
On a scale of 1-7, with 1 meaning “hardly any people” and 7 meaning “an extremely large number of people”, indicate the size of the message’s audience. (PR)

1. Hardly any people
2.
3.
4.
5.
6.
7. An extremely large number of people
APPENDIX C

Partisan Identity Scale (Huddy & Bankert, 2017)

What political party, if any, do you identify most with?

1. Democrat (Liberal)
2. Republican (Conservative)
3. Independent
4. Green Party
5. Libertarian
6. No Affiliation
7. Other (please specify) _______________

When answering the following statements, please think about the political party you indicated you identify most with…

When I speak about this political party, I usually say “we” instead of “they”

1 = strongly disagree
2
3
4
5
6
7 = strongly agree

When people criticize this party, it feels like a personal insult.

1 = strongly disagree
7 = strongly agree

I have a lot in common with other supporters of this party.

1 = strongly disagree

7 = strongly agree

When I meet someone who supports this party, I feel connected to this person.

1 = strongly disagree

7 = strongly agree
When people praise this party, it makes me feel good.

1=strongly disagree

2

3

4

5

6

7=strongly agree

If this party does badly in opinion polls, my day is ruined.

1=strongly disagree

2

3

4

5

6

7=strongly agree
U.S. lawmakers recently passed the Agriculture Improvement Act, otherwise known as the U.S. 2018 farm bill, in order to establish new funding for the U.S. Department of Agriculture and several other key programs for the nation's farmers. Perhaps the most controversial component in the bill, or lack thereof, is the proposed changes to the Supplemental Nutrition Assistance Program (SNAP), more commonly known as food stamps. Republicans exhausted their efforts in lobbying for tighter food stamps criteria but were once again unsuccessful in doing so. President Trump and others heavily fought for lowering the income criteria below the threshold it sits at currently and also enacting mandatory strict drug testing of all individuals receiving the benefits. If included in the bill, individuals who failed drug tests were to have their benefits stripped from them for a minimum of 1-year and be subjected to rigorous drug counseling.

Democrats had advocated for an increase in food stamp provisions in the bill, wanting the inclusion of items such as medications and birth control on the list. Unsurprisingly, they were unsuccessful in getting these changes enacted in the bill. In addition, the Democrats in the House of Representatives came under fire for deliberately stalling the passage of the bill in a time when the financial security of farmers was in the palm of their hands. While the various agricultural programs were passed under the bill, the food stamp changes were tabled for the time being and more clarity should come when discussions on a new bill commence halfway through 2020.

Trump signs Agriculture Improvement Act, Republicans not ready to drop stricter food stamp regulations
By Todd Alexander, CNN
Updated 5:08 PM ET, February 14, 2019

U.S. lawmakers recently passed the Agriculture Improvement Act, otherwise known as the U.S. 2018 farm bill, in order to establish new funding for the U.S. Department of Agriculture and several other key programs for the nation's farmers. Perhaps the most controversial component in the bill, or lack thereof, is the proposed changes to the Supplemental Nutrition Assistance Program (SNAP), more commonly known as food stamps. Republicans exhausted their efforts in lobbying for tighter food stamps criteria but were once again unsuccessful in doing so. President Trump and others heavily fought for lowering the income criteria below the threshold it sits at currently and also enacting mandatory strict drug testing of all individuals receiving the benefits. If included in the bill, individuals who failed drug tests were to have their benefits stripped from them for a minimum of 1-year and be subjected to rigorous drug counseling.

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High-reach Liberal

Trump signs Agriculture Improvement Act, Republicans not ready to drop stricter food stamp regulations
By Todd Alexander
Updated 5:08 PM ET, February 14, 2019

Low-reach Liberal
U.S. lawmakers recently passed the Agriculture Improvement Act, otherwise known as the U.S. 2018 farm bill, in order to establish new funding for the U.S. Department of Agriculture and several other key programs for the nation’s farmers. Perhaps the most controversial component to the bill, or lack thereof, is the proposed changes to the Supplemental Nutrition Assistance Program (SNAP), more commonly known as food stamps. Republicans exhausted their efforts in lobbying for tighter food stamp criteria but were once again unsuccessful in doing so. President Trump and others hardly fought for lowering the income criteria below the threshold it sits at currently and also enacting mandatory periodic drug testing of all individuals receiving the benefits. If included in the bill, individuals who failed drug tests were to have their benefits stripped form them for a minimum of 1 year and be subjected to rigorous drug over-testing.

Democrats had advocated for an increase in food stamp provisions in the bill, wanting the inclusion of items such as medications and birth control on the list. Unsurprisingly, they were unsuccessful in getting their changes accommodated in the bill. In addition, the Democrats in the House of Representatives came under fire for deliberately stalling the passage of the bill in a time when the financial security of farmers was in the palm of their hands. While the various agricultural programs were passed under the bill, the food stamp changes were left intact for the time being and more clarity should come when discussions on a new bill commence halfway through 2020.

President Trump signs 2018 farm bill, despite intentional Democratic stalling

High-reach Conservative

President Trump signs 2018 farm bill, despite intentional Democratic stalling

Low-reach Conservative

Article Statistics

Views: 3,859,567
Shares: 302,781
Website Subscriptions: 5,067,435

Article Statistics

Views: 4,754
Shares: 346
Website Subscriptions: 897
Original news article text with changes/edits highlighted

*underlined text = paraphrased and/or edited to balance arguments in study article*
*strikethrough text = omitted from study article*


Original Article:

U.S. lawmakers have reached an agreement on a farm bill that leaves out a proposal to tighten food stamps criteria backed by President Donald Trump, and offers some financial certainty to farmers suffering from the U.S. trade war with China.

The bill passed the Senate 87-13. Congressional staffers are expecting the House to vote by Thursday and send the bill to Trump for his signature before Friday.

The agreement between Republicans and Democrats on the crucial piece of legislation caps a bitter, months-long debate on the bill, which covers $867 billion worth of food and agriculture programs including crop subsidies and support to growers seeking access to export markets.

The final text shows Republicans in the lame duck Congress had to walk back from some of their demands, the biggest being the proposal, championed by Trump, to impose stricter requirements for recipients of food stamps.
Speaking to reporters at the White House, Trump, who had accused the Democrats of stalling the bill, said the progress on it was bipartisan. “We think the farm bill is in very good shape. A lot of good things are happening with it, and our farmers are well taken care of,” he said.

The debate had delayed the legislation beyond the most recent version’s expiration in September, and was finalized only after Democrats won a majority in the House of Representatives in elections in November.

Food stamps, or the Supplemental Nutrition Assistance Program, is a voucher-type free food program used by more than 40 million Americans, or about 12 percent of the total U.S. population.
APPENDIX F

Debriefing

There was a debriefing message for the primary study discussing the true focus and goals of the study incorporated into the “End of Survey” message. The debriefing message was as follows:

“Thank you for participating in this study!
While the article you read was based on a real piece of U.S. legislation, the article was created for this study and contained some false information. The article was also not distributed from the source you read it from in the study. We didn’t tell you that to start with because we wanted to see how you would respond to an article that you believed was printed in a particular news source. We are interested in whether people’s political beliefs affect their interpretations of news from the mass media, as well as whether or not the perceptions of the size of the news source’s influence will impact those interpretations. Please do not discuss the details of this study with any other individuals that could participate – this is very important for the accuracy of the study.
If you have further questions about this study, please contact either Matthew Sedlacek at sedlamab@uni.edu or Helen Harton at helen.harton@uni.edu.
Thank you for your time and effort!”
APPENDIX G

Demographic questions and honesty check

What is your age? (dropdown list 18-99)

What is your gender?

What is your education level?

1. 8th grade or lower 4. Bachelor’s Degree
2. High School diploma or GED 5. Graduate Degree
3. Associate’s Degree

What is your race/ethnicity? Select all that apply.

1. Asian/Pacific Islander
2. Black/African American
3. Hispanic/Latinx
4. Multiracial
5. Native American/American Indian
6. White/Caucasian
7. Not listed (please specify __________)

How honest were you in answering the questions on this survey? You will receive compensation regardless of your answer.

1. Not at all honest
2. Slightly honest
3. Somewhat honest
4. Very honest
APPENDIX H

Results without exclusion of cases for mis-identification of source

Table 7

Re-run of Article Bias Ratings Against a Conservative Viewpoint Depending on Source

Political Orientation

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>6</td>
<td>2.809</td>
<td>1.587</td>
<td>.150</td>
<td>.027</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>105.469</td>
<td>59.588</td>
<td>&lt;.001*</td>
<td>.148</td>
</tr>
<tr>
<td>SourcePO</td>
<td>2</td>
<td>1.510</td>
<td>.853</td>
<td>.427</td>
<td>.005</td>
</tr>
<tr>
<td>PartPO</td>
<td>2</td>
<td>5.526</td>
<td>3.122</td>
<td>.045*</td>
<td>.018</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>2</td>
<td>1.320</td>
<td>.746</td>
<td>.475</td>
<td>.004</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.

Table 8

Re-run of Article Bias Ratings Against a Liberal Viewpoint Depending on Source

Political Orientation

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>6</td>
<td>8.821</td>
<td>3.739</td>
<td>.001*</td>
<td>.061</td>
</tr>
<tr>
<td>Intercept</td>
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<td>118.254</td>
<td>50.129</td>
<td>&lt;.001*</td>
<td>.128</td>
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<tr>
<td>SourcePO</td>
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<td>5.022</td>
<td>2.129</td>
<td>.121</td>
<td>.012</td>
</tr>
<tr>
<td>PartPO</td>
<td>2</td>
<td>11.092</td>
<td>4.702</td>
<td>.010*</td>
<td>.027</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>2</td>
<td>.628</td>
<td>.266</td>
<td>.766</td>
<td>.002</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.
**Table 9**

*Re-run of Article Quality Ratings Depending on Source Political Orientation*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>6</td>
<td>2.253</td>
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<td>.031</td>
</tr>
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<td>Intercept</td>
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<td>409.914</td>
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<td>.481</td>
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<tr>
<td>SourcePO</td>
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<td>1.990</td>
<td>1.540</td>
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<tr>
<td>PartPO</td>
<td>2</td>
<td>2.627</td>
<td>2.034</td>
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<td>.012</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>2</td>
<td>3.428</td>
<td>2.653</td>
<td>.072</td>
<td>.015</td>
</tr>
</tbody>
</table>

*Note:* * = correlation is significant at the .05 level. PO = political orientation.

**Table 10**

*Re-run of Ratings of Agreement with Article Content Depending on Source Political Orientation*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>6</td>
<td>3.331</td>
<td>2.353</td>
<td>.031*</td>
<td>.040</td>
</tr>
<tr>
<td>Intercept</td>
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<td>386.059</td>
<td>272.688</td>
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<td>.443</td>
</tr>
<tr>
<td>SourcePO</td>
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<td>1.572</td>
<td>1.111</td>
<td>.331</td>
<td>.006</td>
</tr>
<tr>
<td>PartPO</td>
<td>2</td>
<td>7.224</td>
<td>5.103</td>
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<td>.029</td>
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<tr>
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<td>2</td>
<td>1.118</td>
<td>.790</td>
<td>.455</td>
<td>.005</td>
</tr>
</tbody>
</table>

*Note:* * = correlation is significant at the .05 level. PO = political orientation.
Table 11

Re-run of Moderation of News Source Reach on Relationship Between Source PO,
Participant PO, and Article Bias Ratings Against a Conservative Viewpoint

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1.609</td>
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<td>.054</td>
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<td>.189</td>
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<td>.727</td>
<td>.394</td>
<td>.002</td>
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<td>SourceReach</td>
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<td>6.336</td>
<td>3.618</td>
<td>.058</td>
<td>.011</td>
</tr>
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<td>PartPO</td>
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<td>3.822</td>
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<td>.022</td>
</tr>
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<td>SourcePO*Source Reach</td>
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<td>5.432</td>
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<td>.079</td>
<td>.009</td>
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<tr>
<td>SourcePO*PartPO</td>
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<td>1.882</td>
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<td>2</td>
<td>4.333</td>
<td>2.474</td>
<td>.086</td>
<td>.015</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.

Table 12

Re-run of Moderation of News Source Reach on Relationship Between Source PO,
Participant PO, and Article Bias Ratings Against a Liberal Viewpoint

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
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<td>5.212</td>
<td>2.197</td>
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<tr>
<td>Intercept</td>
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<td>.000</td>
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<td>4.339</td>
<td>.014*</td>
<td>.025</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
<td>1</td>
<td>.730</td>
<td>.308</td>
<td>.579</td>
<td>.001</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>2</td>
<td>.899</td>
<td>.379</td>
<td>.685</td>
<td>.002</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
<td>2</td>
<td>1.828</td>
<td>.771</td>
<td>.464</td>
<td>.005</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>2</td>
<td>.027</td>
<td>.011</td>
<td>.989</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: * = correlation is significant at the .05 level. PO = political orientation.
Table 13

*Re-run of Moderation of News Source Reach on Relationship Between Source PO, Participant PO, and Article Quality Ratings*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>12</td>
<td>1.797</td>
<td>1.390</td>
<td>.168</td>
<td>.047</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>474.496</td>
<td>367.008</td>
<td>&lt;.001*</td>
<td>.521</td>
</tr>
<tr>
<td>SourcePO</td>
<td>1</td>
<td>1.819</td>
<td>1.407</td>
<td>.236</td>
<td>.004</td>
</tr>
<tr>
<td>SourceReach</td>
<td>1</td>
<td>.009</td>
<td>.007</td>
<td>.932</td>
<td>.000</td>
</tr>
<tr>
<td>PartPO</td>
<td>2</td>
<td>3.271</td>
<td>2.530</td>
<td>.081</td>
<td>.015</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
<td>1</td>
<td>2.008</td>
<td>1.553</td>
<td>.214</td>
<td>.005</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
<td>2</td>
<td>3.879</td>
<td>3.000</td>
<td>.051</td>
<td>.018</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
<td>2</td>
<td>1.275</td>
<td>.986</td>
<td>.374</td>
<td>.006</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>2</td>
<td>2.014</td>
<td>1.558</td>
<td>.212</td>
<td>.009</td>
</tr>
</tbody>
</table>

*Note:* * = correlation is significant at the .05 level. PO = political orientation.

Table 14

*Re-run of Moderation of News Source Reach on Relationship Between Source PO, Participant PO, and Ratings of Agreement*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>12</td>
<td>2.559</td>
<td>1.816</td>
<td>.044*</td>
<td>.061</td>
</tr>
<tr>
<td>Intercept</td>
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<td>432.799</td>
<td>307.138</td>
<td>&lt;.001*</td>
<td>.477</td>
</tr>
<tr>
<td>SourcePO</td>
<td>1</td>
<td>.220</td>
<td>.156</td>
<td>.693</td>
<td>.001</td>
</tr>
<tr>
<td>SourceReach</td>
<td>1</td>
<td>.769</td>
<td>.546</td>
<td>.461</td>
<td>.002</td>
</tr>
<tr>
<td>PartPO</td>
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<td>6.957</td>
<td>4.937</td>
<td>.008*</td>
<td>.029</td>
</tr>
<tr>
<td>SourcePO*Source Reach</td>
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<td>.118</td>
<td>.083</td>
<td>.773</td>
<td>.000</td>
</tr>
<tr>
<td>SourcePO*PartPO</td>
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<td>1.152</td>
<td>.818</td>
<td>.442</td>
<td>.005</td>
</tr>
<tr>
<td>SourceReach*PartPO</td>
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<td>1.183</td>
<td>.839</td>
<td>.433</td>
<td>.005</td>
</tr>
<tr>
<td>SourcePO<em>SourceReach</em>PartPO</td>
<td>2</td>
<td>1.761</td>
<td>1.250</td>
<td>.288</td>
<td>.007</td>
</tr>
</tbody>
</table>

*Note:* * = correlation is significant at the .05 level. PO = political orientation.