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### Mass Shootings, Mass Media, and Mass Opinion: An Examination of How the News Media Affects Public Opinion in the Aftermath of Mass Shootings

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# Mass Shootings, Mass Media, and Mass Opinion: An Examination of How the News Media Affects Public Opinion in the Aftermath of Mass Shootings

## Abstract

This research looks at how newspaper mentions of mass shootings correlate with the percentage of people in the U.S. who view gun control as the most important issue facing the country. While the agenda-setting effect of the news media has been theorized and demonstrated for a number of different issues, scholars have yet to consider how the news media may set the agenda for the public's view on the importance of gun control through its coverage of mass shootings. Utilizing designs put forth by Smidt (2011), Tan and Weaver (2007), and Winter and Eyal (1984), this paper seeks to fill that gap by showing the importance of news media discourse surrounding mass shootings on public opinion formation. While the results do not show a definite causal pattern between higher news media mentions of a mass shooting and a higher percentage of people who think gun control is important, this study does demonstrate that there is an important relationship between news media discourse and public opinion.

## MASS SHOOTINGS, MASS MEDIA, AND MASS OPINION: AN EXAMINATION OF HOW THE NEWS MEDIA AFFECTS PUBLIC OPINION IN THE AFTERMATH OF MASS SHOOTINGS

Patrick Cavanaugh

**Abstract:** *This research looks at how newspaper mentions of mass shootings correlate with the percentage of people in the U.S. who view gun control as the most important issue facing the country. While the agenda-setting effect of the news media has been theorized and demonstrated for a number of different issues, scholars have yet to consider how the news media may set the agenda for the public's view on the importance of gun control through its coverage of mass shootings. Utilizing designs put forth by Smidt (2011), Tan and Weaver (2007), and Winter and Eyal (1984), this paper seeks to fill that gap by showing the importance of news media discourse surrounding mass shootings on public opinion formation. While the results do not show a definite causal pattern between higher news media mentions of a mass shooting and a higher percentage of people who think gun control is important, this study does demonstrate that there is an important relationship between news media discourse and public opinion.*

### INTRODUCTION

A poll conducted by the Pew Research Center following the Newtown Shootings in December 2012 found that public support for gun control increased in reaction to the tragedy. In the poll, 65 percent of respondents said that allowing citizens to own assault weapons makes the country more dangerous, 56 percent approved of legislation to ban bullets that could explode through bulletproof vests, and 53 percent supported measures to limit high-capacity ammunition clips.<sup>77</sup> However, another article published by Pew Research Center in July of 2013 found that by May 2013 the spike in public support for gun control had receded to pre-Newton levels.<sup>78</sup> This shift raises questions as to how much the mass shooting actually impacted public opinion, and how much outside sources influence that opinion. A possible source of influence is the news media, which has been theorized to have an agenda-setting effect on public opinion ever since Walter Lipmann's influential *Public Opinion* was published in 1922.

In recent years, the gun control debate has often been framed by mass shootings. When a mass shooting gains traction in the media, the gun control debate is reignited, and politicians and special interest groups on both sides voice opinions on the appropriate course of action. Mass shootings appear to be followed by heated discourse on the extent to which gun control laws should be changed in response to the shooting. It would seem that mass shootings, defined by the FBI as public active shooter incidents wherein four or more people are killed within a short time span,<sup>79</sup> could bring gun control to the forefront of the public consciousness.

However, an empirical study on whether coverage of mass shootings has any effect on the public's perception of the issue of gun control has yet to be done. Coverage of mass shootings has

<sup>77</sup> Pew Research Center 2012

<sup>78</sup> Pew Research Center 2013

<sup>79</sup> FBI.gov 2005

been shown to impact perceptions on those with mental illness,<sup>80</sup> and others have found that coverage of the 1999 Columbine shooting led to existing policies being more strictly followed and enforced,<sup>81</sup> but none have performed a newspaper content analysis to determine the impact on public opinion. With easy access to news media outlets and public opinion polls on gun control, an opportunity exists to look at how mass shooting saliency impacts public perceptions. This study seeks to fill the research gap by asking the following: when mass shootings become salient in the news media, does the saliency of the story impact public opinion on the importance of gun control? And if it does, what types of coverage have greater impact?

#### ORGANIZING THE PUBLIC CONCIIOUSNESS: THE NEWS MEDIA AS AGENDA SETTER

##### *Theorizing the News Media as Public Opinion Director*

Much has been written about the effect of the news media on public perceptions. Scholars have said that discourse in general, of which the news media plays a major part, influences the formation of public opinion.<sup>82</sup> Discourse has long been thought to play an important role in informing the public's view on issues. It binds the social fabric of public opinion<sup>83</sup> and is "indispensable to the organization of the public mind."<sup>84</sup> Public opinion becomes coherent through the give and take of public discourse, in which ideas are debated, lines are drawn, and groups form together around issues that they deem important. Theoretical writings have posited that the news media's function in this discourse could be to influence public opinion by pointing readers' attention to certain stories. This is accomplished by giving more time to certain stories over others, or even, as Lippmann would say, through censorship.<sup>85</sup> Put another way, news media outlets have the power to decide which information on a story is given and which information is withheld.<sup>86</sup> Leading the public's attention to certain stories, according to Lippmann, organizes public opinion along the lines of what the news media views as important: "...the newspapers necessarily and inevitably reflect...organization of public opinion."<sup>87</sup> Though Lippmann failed to reinforce this assertion with empirical data, he provided detailed theoretical and analytical insights into the power of the news media to impact public opinion.

Later theoretical writings on the news media's influence on public opinion focused Lippmann's broad claims in more nuanced ways. Scholars made an important distinction in how exactly the news media's influence functions, characterizing it less as a factor that changes public

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<sup>80</sup> McGinty, Webster, and Berry 2013

<sup>81</sup> Birkland and Lawrence 2009

<sup>82</sup> Blumer 1946, 48

<sup>83</sup> Park 1939

<sup>84</sup> Cooley 1909, 149

<sup>85</sup> Lippmann 1922, 76

<sup>86</sup> Berelson 1948

<sup>87</sup> Lippmann 1922, 32

opinion and more as an “agenda-setter” for what issues that public should be thinking of and having opinions about. Cohen (1963) said it best: “[The press] may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about.”<sup>88</sup> Kurt and Gladys Engel Lang (1966) echoed Cohen’s assertion, offering that the mass media directs public attention by “suggesting what individuals in the mass should think about, know about, have feelings about.”<sup>89</sup> Though these claims are similar to Lippmann’s characterization of the news media as opinion organizer, Lippmann also asserted that the news media “intensified” public opinion, which these scholars argue against.<sup>90</sup> The news media acts less as an opinion changer and more as an opinion director, pointing its figurative finger toward the issues on which the public should be keeping its collective eye.

To some scholars, the news media’s attention-directing function in tandem with its constant movement between stories creates a perpetual cycle of rising and falling interest. As the news media’s attention to an issue decreases, a new issue takes its place. Anthony Downs has dubbed this phenomenon the “issue attention cycle.”<sup>91</sup> Scholars have shown that the news media not only directs the public’s attention to certain issues, but also contributes to the cycle of increasing and decreasing public valuing of issues.<sup>92</sup> Ultimately, the news media has been characterized not as an opinion changer, but as an agenda-setter, a factor in determining what issues the public thinks and cares about.

*Confirmation of the Agenda-Setting Process and Illumination of how it Functions*

Many scholars have run various types of studies to observe the different ways that news media sets the public opinion agenda, though few have focused specifically on the issue of gun control. McCombs and Shaw (1972), employing survey data, found that “voters tend to share the media’s composite definition of what is important,” which they thought “strongly suggest[ed] an agenda-setting function of the mass media.”<sup>93</sup> This study was subject to some limitations. For one, it focused more on voters and less on the public as a whole, and it may not be possible to generalize from voters, who are more likely to be informed, to the public as a whole. Additionally, McCombs and Shaw acknowledged that it did not necessarily prove the agenda-setting function, as the correlation between the news media’s mention of political players and the measure of voters’ political interest in them could be a result of the news media accurately predicting what the public might want

<sup>88</sup> Cohen 1963, 13

<sup>89</sup> Lang and Lang 1966, 468

<sup>90</sup> Ibid.

<sup>91</sup> Downs 1972

<sup>92</sup> Protess et. al 1987; Cook and Skogan 1990

<sup>93</sup> McCombs and Shaw 1972, 184

to hear<sup>94</sup>. Despite these drawbacks, the study still provided an early look at how the agenda-setting function might be empirically tested.

Many other studies have since been completed on the agenda-setting function of the news media. Scholars have found that news media agenda-setting can influence the speed at which policymaking takes place, while others have discovered that it can reinforce political interest in the public.<sup>95</sup> Tan and Weaver (2007) used *New York Times* coverage of events from 1946 to 2004 correlated with Gallup's Most Important Problem question to take a long-form perspective on the agenda-setting function of the media. In general, they found a positive correlation between media coverage and public opinion, suggesting that the public viewed salient issues as the more important ones.<sup>96</sup> However, this year-by-year approach takes a broad look at broad issues, whereas a monthly look at the media mentions and the Most Important Problem question applied to a specific issue may be more useful to demonstrating the particulars of agenda-setting.

To engage in this month-by-month analysis of agenda-setting, Winter and Eyal's (1981) findings in their study on agenda-setting in the Civil Rights Issue will be helpful. In that study, mentions from the *New York Times* were correlated with Gallup polls on a monthly basis. In addition to finding a strong correlation between the two, the scholars discovered that a time-lag is necessary when testing for agenda-setting. Analyzing content from one month prior to a poll, they discovered, leads to stronger correlations, suggesting that it takes about four to six weeks for the public to adopt the agenda set by the news media.<sup>97</sup> Consequently, when determining how mass shooting coverage may impact the public's perception of gun control, it would be useful to employ a similar time-lag. Though the agenda-setting effect has been confirmed in many instances, some studies have shown that it is not enough for the news media to mention an issue – how the news media covers the issue can influence agenda-setting. One study found that gun control coverage focusing on citizen activists groups may have greater influence on public opinion than coverage of the efforts of politicians, meaning the angle of coverage can influence agenda-setting effects.<sup>98</sup> Medium matters as well, with internet stories shown as more likely to spur political interest than other forms of news media.<sup>99</sup> The takeaway from these studies is that counting mentions is not enough when analyzing the agenda-setting effect; studies must acknowledge that differing angles can influence how important the public views an issue to be.

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<sup>94</sup> Ibid.

<sup>95</sup> Wolfe 2012; Boulianne 2011

<sup>96</sup> Tan and Weaver 2007, 735

<sup>97</sup> Winter and Eyal 1981, 381

<sup>98</sup> Smidt 2011

<sup>99</sup> Boulianne 2011

## HYPOTHESES

A number of testable hypotheses arise from the literature and the study at hand. The primary hypothesis states the following:

**H1:** The more mentions that appear of a mass shooting in the *New York Times*, the *Washington Post*, the *Los Angeles Times*, the *USA Today*, and the *Chicago Tribune*, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the coverage.

This hypothesis operates under the theory that news media organize, direct, and have a role in leading public opinion. According to this theory, as news media cover mass shootings, issues of gun control become more salient in the public consciousness. The increased awareness of mass shootings and gun control issues then leads the public to value gun control more, to see it as a more important issue. Though more on this will be covered in the “Design and Methodology” section, it is important to note that the hypothesis specifically mentions the public opinion in the month after the shooting as a result of taking Winter and Eyal’s time-lag into consideration.

In line with Smidt and others, a number of hypotheses about the differing angles of mass shooting coverage follow from the primary hypothesis. Not only will this study test the agenda-setting effect of total mentions in these newspapers, it will also test how differing frames influence agenda-setting. The hypotheses in the table below account for the possibility that different frames on mass shootings will influence how the news media’s agenda-setting works (if it is there to begin with). Each frame is predicted to have a positive correlation with public opinion on the importance of gun control because if it is true that total mentions correlate positively with public opinion (H1), then it would follow that each frame would also correlate positively (H2-H7). It would not make sense if one of the frames had a negative correlation when the frames in total correlate. It would not make sense if one of the frames had a negative correlation when the frames in total correlate positively since the frames are just subsets of total mentions.

Table 1: Hypotheses

**H2:** The more articles that appear in the aforementioned newspapers that take a “gun legislation” frame to mass shootings, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the shooting.

- **H2a:** This frame will show a stronger correlation with public opinion than all other tested frames.

**H3:** The more articles that appear in the aforementioned newspapers that take a “mental illness” frame to mass shootings, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the shooting.

- **H3a:** This frame will show a stronger correlation with public opinion than all other tested frames except for “gun legislation.”

**H4:** The more articles that appear in the aforementioned newspapers that take a “shooter profile” frame to mass shootings, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the shooting.

- **H4a:** This frame will show a stronger correlation with public opinion than all other tested frames except for “gun legislation” and “mental illness.”

**H5:** The more articles that appear in the aforementioned newspapers that take a “victim profile” frame to mass shootings, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the shooting.

- **H5a:** This frame will show a stronger correlation with public opinion than “changing security” and “general mentions,” but a weaker one than all other tested frames.

**H6:** The more articles that appear in the aforementioned newspapers that take a “changing security” frame to mass shootings, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the shooting.

- **H6a:** This frame will show a stronger correlation with public opinion than “general mentions,” but a weaker one than all other tested frames.

**H7:** The more articles with general mentions of mass shootings that appear in the aforementioned newspapers, the higher the percentage of people who think gun control is the most important problem facing the United States will be in the month following the shooting.

- **H7a:** This frame will show a weaker correlation with public opinion than all other frames

However, the frames are predicted to have varying levels of strength of correlation. News articles that frame mass shootings in reference to the issue of gun control, whether directly or indirectly, are predicted to have higher correlations. The “gun legislation” (GL) frame is predicted to



have the strongest correlation because it directly references the issue of gun control. Theoretically, a high volume of articles that frame a mass shooting in relation to gun control will more overtly direct reader attention to the issue of gun control than other frames, fostering public awareness of the problem and leading the public to view it as more important. The “mental illness” (MI) frame is predicted to have the second strongest correlation because it references an important sub-issue of gun control. While they do not reference the issue directly like the GL frame, articles that follow the MI frame will still lead the public to see the gun control issue as more important.

Those frames that look at the human aspect of the mass shootings are predicted to have weaker correlations than those that reference the issue, but stronger correlation than those that examine issues largely unrelated to gun control. The “shooter profile” (SH) frame is predicted to have the third strongest correlation among all of the frames. While it does not directly reference gun control in relation to a mass shooting, it does reference a reason some people may support gun control: limiting access to guns to certain citizens. Consequently, it may bring gun control to the fore of the public consciousness more than other indirectly related frames. The “victim profile” (V) is predicted to have the fourth strongest correlation because articles that take that angle reference a possible consequence of gun control policies without necessarily bringing up the issue of gun control. Articles that use the V frame may lead the public to think about gun control, but they also may elicit emotional responses that do not necessarily raise public cognizance of gun control.

Those frames that either reference different issues or no issues at all are predicted to have the least strong correlations. The “changing security” frame (CS) is predicted to have the fifth strongest correlation because it directs reader attention to a divergent issue: alterations to institutional protections against violence, such as police or warning systems. As a result, it would follow that this frame would theoretically lead the public to become more aware of different issues than gun control and value those problems more. Finally, the “general mentions” frame (G) is predicted to have the weakest correlation because those articles do not reference any issues of gun control or security. The G frame refers to all articles that cursorily mention a mass shooting in the context of the article’s larger focus.

## RESEARCH DESIGN

To test these hypotheses, I ran a series of bivariate correlations between media mentions of a mass shooting in one month and the percentage of people who say gun control is the most important problem facing the country in the following month. Data collection consisted of two main parts: media content analysis (counting and coding of mentions) and public opinion poll collection. My independent variable is then newspaper mentions of mass shootings, and my dependent variable is public opinion on how important of a problem people perceive gun control to be.

The media content analysis focused on six mass shootings, here listed in chronological order: the Red Lake Massacre (2005), the Virginia Tech Massacre (2007), the Binghamton Shootings (2009), the Fort Hood Shootings (2009), the Aurora Colorado Theater Massacre (2012), and the Newtown School Massacre (2012). These shootings were chosen because they were the six most deadly public mass shootings in the past 10 years (excluding the recent Washington Naval Yard Shooting, which was too recent to analyze using this model), meaning they would be more likely to gain media traction.<sup>100</sup>

For each mass shooting, the number of instances the *New York Times*, the *Washington Post*, the *Los Angeles Times*, the *USA Today*, and *The Chicago Tribune* ran articles on or mentioned the mass shooting in the month following were counted. Each article was coded as either GL, MI, SH, V, CS, or G. The total mentions from all five of the papers were then grouped by month, as were the coded mentions. In instances where newspaper mentions of the mass shootings overlapped, the mention data were grouped together since the unit of analysis is broadly “mass shooting newspaper mentions per month,” with a total of 57 months.

These newspapers were chosen because they represent a variety of regions in the country, are all national papers, and have large circulation.<sup>101</sup> By covering a wide variety of regions and using widely circulated papers, the hope was the newspaper mention counts could be generalized to represent the country’s public consciousness as a whole and that they would represent readership across the United States. Coding for each of the aforementioned frames utilized the following guidelines:

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<sup>100</sup> Mother Jones 2013

<sup>101</sup> Alliance for Audited Media 2013

Table 2: Article Coding Guidelines

| Frame | Definition   | Example   |
|-------|--|---|
| GL    | Discusses a mass shooting from the angle of implementing or altering gun control legislation, arguments for or against gun control, etc.                       | <p>“Gun control groups said that they admired the efforts, but that they would never carry the weight of legislation to expand the number of gun buyers who are subjected to the background check system...”</p> <ul style="list-style-type: none"> <li>- “White House Makes Moves to Bolster Gun Safety” <i>New York Times</i>, 6/12/13</li> </ul> |
| MI    | Discusses a mass shooting from the angle of mental stability, new approaches to mental health, altering illness in regards to mental illness and guns, etc.    | <p>“According to a research review published this year in <i>Annals of General Psychiatry</i>, most people with Asperger's who commit violent crimes have serious, often undiagnosed mental problems...”</p> <ul style="list-style-type: none"> <li>- “Predicting Who's at Risk for Violence Isn't Easy” <i>USA Today</i>, 12/22/12</li> </ul>      |
| SH    | Discusses a mass shooting from the angle of profiling the shooter, explaining his motivations, detailing his personal history or family life, etc.             | <p>“She thought Cho Seung Hui exuded loneliness, and she volunteered to teach him by herself, to spare her colleagues...”</p> <ul style="list-style-type: none"> <li>- “Student Wrote About Death and Spoke in Whispers, But No One Imagined What Cho Seung Hui Would Do” <i>Washington Post</i>, 4/18/07</li> </ul>                                |
| V     | Discusses a mass shooting from the angle of the victims' backgrounds, providing eulogies, detailing memorial plans, etc.                                       | <p>“Roberta King was...as passionate about helping others as she was about teaching.”</p> <ul style="list-style-type: none"> <li>- “Victim of Binghamton Shootings Is Remembered for Her Compassion” <i>New York Times</i>, 4/5/2009</li> </ul>   |
| CS    | Discusses a mass shooting from the angle of changing or enhancing security to prevent future shootings, any security pitfalls in regards to the shooting, etc. | <p>The military remains vulnerable to another Fort Hood-like massacre with religious radicalization on the rise and too little attention being paid to internal threats, Pentagon officials said Friday...”</p> <ul style="list-style-type: none"> <li>- “Fort Hood Report Critical of Officers” <i>Chicago Tribune</i>, 1/16/2010</li> </ul>       |
| G     | Any general mention of a shooting in articles not primarily about the shooting.  | <p>“Yes, they have thoughts on Aurora. Yes, gun violence affects these gold medalists. Yes, mass shootings will always impact the sport...”</p> <ul style="list-style-type: none"> <li>- “Even at the Olympics, Athletes in the Sport of Shooting Face Questions about Gun Violence” <i>Washington Post</i>, 7/31/2012</li> </ul>                   |

Public opinion data were collected from Gallup.com. The monthly question of the most important problem facing the United States was used to gauge how important people found the issue

of gun control to be. The exact wording of the question is “What do you think is the most important problem facing this country today?” It is an open-ended question in which respondents can answer whatever they like. Gallup pollsters then code each response according to a set of categories, one of which gun control. Gallup poll data were collected for the month after the coverage to account for Winter and Eyal’s time lag theory. Since the most important problem question is from a national polling source, it may be used to reflect national perceptions on the importance of gun control.

Once both the newspaper counts were complete for each month in the year, the total mentions of a mass shooting in each month were correlated with public opinion on the importance of gun control in the following month. A one-tailed correlation was used to test for direction and strength of correlation. Direction here is important because the research is trying to determine whether increased mentions of mass shootings influence increased public belief in gun control’s importance. Further, each of the coded mentions, grouped as “mentions per month,” were also correlated with public opinion in order to see which types of mentions had stronger correlations with public opinion. Again, these were one-tailed correlations, testing for the strength and direction of correlation.

Two additional sets of correlations were also run to test for causality. Whereas the initial correlations tested the strength and direction of the relationship between mentions/coded mentions at time zero ( $M_{T0}$ ) and public opinion one month later ( $M_{T0+1}$ ), the next set of correlations tested the relationship between mentions/coded mentions and public opinion in the same month, or both at  $M_{T0}$ . Further, the last set of correlations tested the relationship between mentions/coded mentions at  $M_{T0}$  and public opinion in the previous month ( $M_{T0-1}$ ). If the causal pattern flows from media mentions at  $M_{T0}$  to public opinion at  $M_{T0+1}$ , the relationship between mentions/coded mentions and public opinion both taken at  $M_{T0}$  should be weaker than the one found at  $M_{T0}$  and  $M_{T0+1}$ . If the relationship between mentions/coded mentions and public opinion at  $M_{T0}$  and  $M_{T0-1}$  were found to be more strongly positive than the relationship between mentions/coded mentions and public opinion at  $M_{T0}$  and  $M_{T0+1}$ , this would suggest the inverse of this study’s proposed hypothesis. Ultimately, using this model, it will be possible to test the direction and strength of the relationship between mentions/coded mentions to determine if media mentions of mass shootings influence public opinion on the importance of gun control, and whether this causality flows in the direction this study would expect.

## DATA

Table 3 provides the correlation between total mentions of mass shootings per month and the percentage of people who answered that gun control was the most important problem facing the country in the Gallup polls. Correlations are shown for  $M_{T0}$ ,  $M_{T0+1}$ , and  $M_{T0-1}$ .

**Table 3: Total Mass Shooting Mentions and Public Opinion on the Importance of Gun Control**

| <b>Total Mentions</b> | <b>Gun Control Importance <math>M_{T0+1}</math></b> | <b>Gun Control Importance <math>M_{T0}</math></b> | <b>Gun Control Importance <math>M_{T0-1}</math></b> |
|-----------------------|---|---|---|
| Pearson Correlation   | .658**  | .573**  | .339**  |
| Sig. (1-tailed)       | .000  | .000  | .005  |
| N                     | 57  | 57  | 57  |

Note: \*\*. Correlation is significant at the 0.01 level (1-tailed).

Table 4 presents a correlation matrix of the total coded mentions grouped by month. These coded mentions were correlated with  $M_{T0}$ ,  $M_{T0+1}$ , and  $M_{T0-1}$  in order to test hypotheses two through seven.

**Table 4: Correlations between Coded Mentions of Mass Shootings and the Public's Opinion on the Importance of Gun Control**

|                               | <b>Gun Control Importance <math>M_{T0+1}</math></b> | <b>Gun Control Importance <math>M_{T0}</math></b> | <b>Gun Control Importance <math>M_{T0-1}</math></b> |
|-------------------------------|---|---|---|
| <b>GL</b> Pearson Correlation | .832**  | .704**  | .533**  |
| Sig. (1-tailed)               | .000  | .000  | .000  |
| <b>MI</b> Pearson Correlation | .613**  | .595**  | .451**  |
| Sig. (1-tailed)               | .000  | .000  | .000  |
| <b>SH</b> Pearson Correlation | .188  | .133  | .042  |
| Sig. (1-tailed)               | .081  | .162  | .379  |
| <b>V</b> Pearson Correlation  | .351**  | .272*   | .107  |
| Sig. (1-tailed)               | .004  | .020  | .215  |
| <b>CS</b> Pearson Correlation | .604**  | .500**  | .463**  |
| Sig. (1-tailed)               | .000  | .000  | .000  |
| <b>G</b> Pearson Correlation  | .633**  | .582**  | .280*   |
| Sig. (1-tailed)               | .000  | .000  | .017  |

Note: N=57

\*\*. Correlation is significant at the 0.01 level (1-tailed).

\*. Correlation is significant at the 0.05 level (1-tailed).

## DISCUSSION

### *Total Mentions Correlated With Public Opinion*

Analyzing the correlations conducted in the study provides more evidence for the influence of newspaper mentions of mass shootings on public perceptions of gun control. The relationship between total mentions of a mass shooting in the five newspapers grouped by mentions per month and the percentage of the public that viewed gun control as the most important problem in the

following month was positive and statistically significant. The Pearson's Correlation Coefficient was .658, which was statistically significant at the .001 level. This strongly suggests that as newspaper mentions of a mass shooting increase, so does the public's view on the importance of a problem gun control is; this result is extremely unlikely to have been found by chance.

The flow of causality is uncertain, though. The subsequent correlations done when public opinion is at  $M_{T0}$  and  $M_{T0-1}$  are weaker than the correlation done at  $M_{T0+1}$ , but they are both still fairly strong and significant at the .01 level. Winter and Eyal's (1981) estimated that it takes 4 to 6 weeks, or about one month, for the news media's influence to take effect on public opinion. However, one would expect the relationship to dissolve when correlating opinion at  $M_{T0-1}$  and newspaper mentions at  $M_{T0}$  because this would assume that public opinion shifts before the mass shooting occurs.

The fact that the relationship is still positive and statistically significant when the time lag is removed might indicate that public opinion may also influence how much the news media covers mass shootings. Influence between public opinion and newspaper coverage could be a two way street. Although, this correlation is weaker than the other two, it is possible that this positive relationship could indicate the presence of an intervening variable influencing both public opinion and the number of newspaper mentions. Therefore, while the initial correlation appeared to confirm the primary hypothesis, the direction of causality is not entirely clear. This study suggests not only that newspaper mentions of mass shootings play a role in setting the agenda for public opinion on the importance of gun control, but that public mood may influence what the news covers.

#### *Coded Mentions Correlated with Public Opinion*

When breaking the total mentions down into coded mentions, there is a noticeable variation in the correlation between newspaper coverage in  $M_{T0}$  and public opinion on the importance of gun control in  $M_{T0+1}$ . As predicted in H2, the "gun legislation" (GL) frame easily had the strongest correlation, with a Pearson's Correlation Coefficient of .832, statistically significant at the .001 level. As hypothesized, articles that focus on gun legislation have a stronger relationship with public opinion in the month following the coverage than all other frames.

Monthly groupings of articles coded for the "mental illness" (MI) frame were not as strongly correlated with public opinion as was predicted in H3, but still had a strong, positive, statistically significant relationship with public opinion on the importance of gun control. The Pearson's Correlation Coefficient of .613, significant at the .001 level, made articles using the MI frame the third most influential frame of the six studied. This means that, contrary to expectations, articles that reference the mental illness subtopic of gun control in regard to mass shootings are not the second most influential at leading public opinion on gun control, though they may still be very influential in framing gun control perceptions.

Contrary to H4's prediction that the "shooter profile" (SH) would be the third strongest, monthly groupings of articles coded for the SH frame turned out to have no statistically significant relationship with attitudes on gun control. In fact, it was the only frame that had no statistically significant relationship with public opinion. As such, the SH frame appears to be unimportant in setting the agenda on public views on gun control.

The monthly groupings of articles coded for the "victim profile" (V) frame also did not fall in their expected correlation strength ranking. Though H5 predicted the frame would be the fourth strongest correlation of all the frames, it instead turned out to be the weakest among those that had a statistically significant correlation. The correlation between groupings of articles employing the V frame had a Pearson's Correlation Coefficient of .351, statistically significant at the .01 level. While the V frame is not as useful for predicting how important gun control is to the public as the other statistically significant frames, it still may have some use in setting the agenda for public opinion on gun control.

Monthly groupings of articles taking the "changing security" (CS) frame correlated more strongly than expected with public opinion in the month following the shooting. H6 predicted that articles employing a CS angle to mass shootings would have a weaker relationship than all frames except the G frame, but the correlations showed that those articles have the fourth strongest correlation of all the frames, with a Pearson's Correlation Coefficient of .604 statistically significant at the .01 level. This correlation coefficient was almost as strong as the MI frame. Consequently, this shows that the CS frame may have a connection with higher percentages of people viewing gun control as a more important issue, regardless of whether CS articles reference gun control directly. It appears that merely reference changing rules of any sort in terms of mass shootings may impact how important people view gun control to be.

The monthly groupings of the "general mention" (G) frame, which were predicted in H7 to have the weakest correlation, are shown in this study to have the second strongest correlation. Groupings of the G frame at  $M_{T0}$  were correlated with the percentage of people who view gun control as important at  $M_{T0+1}$  with a coefficient of .633, statistically significant at the .01 level. This means that, even though general mentions appear in cursorily related articles, just mentioning a mass shooting frequently may raise public awareness enough to lead the public to view gun control as more important. Contrary to the prediction H7, this research shows that the G frame has the second strongest correlation, making it a more useful predictor for public opinion on the importance of gun control. The final strength-ranking for the frames was then:  $GL > G > MI > CS > V > SH$ .

Again, causality is not entirely clear in each of these correlations, as public opinion at  $M_{T0+1}$  also has a strong, positive, statistically significant relationship with GL, MI, CS, and G articles grouped at  $M_{T0}$ . Newspaper coverage may not set the agenda for public opinion completely; it may

be influenced by the public as well. When a higher percentage of the public views gun control as important, the news media may respond by focusing more attention on related stories, like mass shootings. While the majority of these frames, excluding SH, demonstrate that these newspapers may play an agenda-setting role for public opinion, the many positive, statistically significant relationships between mentions at  $M_{T0}$  and public opinion at  $M_{T0+1}$  indicates that the public's valuing of gun control may lead what newspapers cover as well. In fact, it is even possible that the news media and public opinion could be locked in its own cycle. When public opinion views gun control as more important, news sources could be more likely to cover mass shootings, which could then make the public more likely to view gun control as an important issue, etc. However, this question is outside the scope of this study.

### CONCLUSION

There are some obvious drawbacks to this study, primarily that correlations cannot demonstrate true causality. However, the statistically significant correlations suggest there is a powerful relationship between the two, and that the news may have an agenda-setting effect in its coverage of mass shootings, similar to previous studies mentioned in the literature. Additionally, it is possible that the newspapers used for this study are not as generalizable as one would assume, though that seems unlikely since they are all large, national, widely circulated newspapers (both online and in print) that tap into and reflect the public consciousness.

A larger drawback of this analysis is found in the Gallup Poll Most Important Problem Question results. There are many instances where the percentage of people who respond that gun control is the most important problem facing the nation is a tenth of a percent, half of a percent, or some other fraction of a percent. Consequently, those instances where the percentage of people who respond to the question with "gun control" reaches 6 percent seem very large by comparison. While the study showed newspaper mentions in  $M_{T0}$  to have strong, positive, and statistically significant correlations with public opinion at  $M_{T0+1}$ , the substantive significance of the results is lacking. An increase in newspaper mentions of a mass shooting may relate to the public viewing gun control as a more important issue, but whatever influence increased mentions has may only alter public opinion by a few tenths of a percent. Newspaper coverage may have a statistically significant relationship with public opinion in this instance, but it may not impact it all that much.

What this study does show, however, is that discourse surrounding mass shootings has a relationship with the public viewing gun control as more important. Even if more media mentions do not correlate with drastic alterations in public opinion, the statistical significance of the correlations suggests that news media mentions of mass shootings should not be discounted as part of public opinion formation on the importance of gun control. This study also demonstrates that it is not just



general news discourse that matters; the manner in which the news media covers mass shootings changes the relationship.

Further, this study showed that mass shooting mentions in a month have a stronger correlation with opinion in the month following these media mentions. But public opinion may still have some impact on what newspapers decide to cover. Future studies might look more extensively at how public opinion may lead news media mentions, or to see if there is an interacting variable that influences both newspaper mentions of a mass shooting and public opinion on the importance of gun control, such as discourse from interest groups or politicians.

The lack of these considerations in this study should not detract from what was found. This study shows that newspaper discourse on mass shootings has a statistically significant relationship with public opinion on the importance of gun control, meaning it should be an important consideration when thinking of how public opinion on gun control is formed. Moreover, this study showed that how mass shootings are covered is important in determining the strength of that relationship. This study, by demonstrating the importance of the relationship between news discourse on mass shootings and public opinion on the importance of gun control, opens up possibilities for future studies on the formation of public opinion in regards to gun control and mass shootings. The results of this research show that news discourse on mass shootings, as Cooley (1909) said, may be crucial to the organization of the public mind.

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