

The Connection between Media and Scholarly Reports on Rampage School Shootings

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Abstract

Mass shootings at primary and secondary schools command an immense amount of media coverage, due to their rarity and lethality. As these tragic events unfold citizens frequently demand answers, and the media – who is frequently the entity framing the circumstances surrounding these events – are tasked with providing responses to those questions. It is at this juncture that sensationalized information, or simply misinformation, can impact the internalization of perceptions regarding these rare occurrences. Subsequent externalizations from that sensationalized or faulty information – especially policy aimed at prevention – then has the potential to be impacted by that information. This study aimed to examine the factors that mainstream news articles and scholarly journal articles attribute to impacting the occurrence of rampage school shootings. This was done through a content analysis of eight of the most circulated print newspapers and newsmagazines, as well as the entire population of peer reviewed journal articles that discussed the phenomenon. Triangulation of the findings uncovered that there were differences in the factors the two types of sources discussed, as well as in how similar factors were discussed. Implications for these differences were then discussed through analyzing enacted policies that are intended to prevent these tragedies from occurring.

Keywords: Content Analysis, School Violence, Rampage School Shootings, Social Construction, School Policy

Introduction

When a mass shooting occurs in the United States, one of the most frequent questions people ask is “why”. It is understandably difficult for people to comprehend how an individual could pick up a gun and kill multiple people, especially when the perpetrator is a child and they target individuals at their school. Due to the extreme nature of the attacks the media quickly attempts to answer the public’s questions by speculating on various motives and details. Subsequently, those speculations are broadcast to the general public, who then must digest the information in order to arrive at their own opinion for how these types of tragedies can occur, as well as what should be done to prevent them. This intersection between the producers and consumers of media provides an important focal point of inquiry for researchers seeking to understand the relationship between the reporting of news and the public’s perceptions of events such as multiple victim shootings. The relevance of this relationship is particularly critical when one considers the potential impact that public opinion may have on policy and prevention.

Rampage School Shootings

A subgroup of school shootings that has proven to be particularly difficult to understand has been the rampage school shootings in primary and secondary schools that were typified by several incidents that occurred in the 1990s (e.g. Columbine High School shooting). Historically, one of the largest obstacles in studying this type of school shootings is the case definition problem (Harding, Fox, and Mehta, 2002).

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This problem consists of, “defining the relevant universe of cases that can realistically be called *rampage school shootings*” (p. 177). This problem demonstrates the importance of clearly describing the parameters being used in research involving school shootings. Over time school shootings have been defined differently, making comparisons between studies incredibly difficult. McGee and DeBernardo (1999), Newman et al. (2004), and the FBI report on school shootings (Vossekuil et al., 2001) all utilized slightly differing definitions of what constituted a school shooting. As a result of those discrepancies, they included different cases in their studies, which led to variation in how they discussed the phenomenon. Muschert (2007a) attempted to address the case definition problem by proposing the existence of five types of school shootings: Targeted shootings, government shootings, terroristic shootings, mass shootings, and rampage school shootings (see Muschert, 2007 for a thorough overview).

This research project focuses solely on rampage school shootings, so it is imperative that the definition for that type of school shooting be explained in a clear and concise manner. Rampage school shootings were defined by Newman et al. (2004) in their comprehensive case studies of the school shootings in Jonesboro, AR and Paducah, KY. In order to meet criteria for a rampage school shooting, they stated that an event must meet a few criteria: ...take place on a school-related public stage before an audience; involve multiple victims, some of whom are shot simply for their symbolic significance or at random; and involve one or more shooters who are students or former students of the school. (Newman et al., 2004, p. 50). Although only developed in the last few years, the utilization of this definition has allowed subsequent research into this phenomenon to address the historical case definition problem in studying rampage school shootings. With these parameters Newman et al. (2004) identified 29 rampage school shooting incidents. Their definition will serve as the definition that will be utilized throughout this article.

Table 1. Rampage Middle/High School Shooting Cases

Shooter(s)	Location	Year
Anthony Barbaro	Orlean, NY	1974
Patrick Lizotte	Las Vegas, NV	1982
David Lawler	Manchester, MO	1983
James Alan Kearbey	Goddard, KS	1985
Kristofer Hans	Lewiston, MT	1986
Nicholas Elliot	Virginia Beach, VA	1988
Eric Houston	Olivehurst, CA	1992
Wayne Lo	Great Barrington, MA	1992
Scott Pennington	Grayson, KY	1993
Toby Sincino	Blackville, SC	1995
Jamie Rouse	Lynnville, TN	1995
Barry Loukaitis	Moses Lake, WA	1996
Evan Ramsey	Bethel, AK	1997
Luke Woodham	Pearl, MS	1997
Michael Carneal	Paducah, KY	1997
Joseph Todd	Stamps, AR	1997
Mitchell Johnson	Westside, AR	1998
Andrew Golden	Edinboro, PA	1998
Andrew Wurst	Springfield, OR	1998
Kip Kinkel	Springfield, OR	1998
Shawn Cooper	Notus, ID	1999
Eric Harris	Littleton, CO	1999
Dylan Klebold	Littleton, CO	1999
T.J. Solomon	Conyers, GA	1999
Seth Trickey	Fort Gibson, OK	1999
Charles Williams	Santee, CA	2001
Jason Hoffman	El Cajon, CA	2001
Jeff Weise	Red Lake, MN	2005
James Newman	Reno, NV	2006
Alvaro Castillo	Hillsborough, NC	2006
Asa Coon	Cleveland, OH	2007
Total	29	

Cases listed in Newman et al., (2004); Newman and Fox (2009)

The bulk of scholarly literature on school shootings has concentrated on three areas: a) the aftermath and clinical issues involved with mass killings (Fein & Isaacson, 2009; Hasz & Regardie, 2002), b) the prevention of such occurrences in the future (Chaney, Hunt, & Schulz, 2000; Vossekui et al., 2001), and c) the precipitating factors of the attack (Kimmel & Mahler, 2003; Langman, 2009; Levin & Madfis, 2009). This research project focused on the latter of those areas since policy and prevention are typically geared towards addressing a phenomenon as it is understood, and in regards to rampage school shootings the media plays an important role in how the phenomenon is comprehended. Media coverage of school shootings has been frequently utilized to explore various issues related to school shootings, such as media framing (Chyi & McCombs, 2004; Muschert & Carr, 2006), fear (Frymer, 2009), and assigning blame for the tragedies (Scharrer, Weidman, & Bissell, 2003). The impact of media reports on perceptions, and the ability of the media to aide in the construction an individual's reality are well established (for examples see Herda-Rapp, 2003). That ability to define a phenomenon and construct the reality around it, as well as the likelihood of media to exaggerate or sensationalize certain factors surrounding events (Menifield, Rose, Homa, & Cunningham, 2001), makes the media's portrayal of an event a critical component to the general perception regarding the occurrence. Muschert (2007b) and Roth and Mehta (2002) proposed that while there may truly exist an objective reality surrounding precipitating factors of rampage school shootings, differing reports by the media may lead to the construction of a more subjective reality about the factors surrounding school shooting events. That construction of rampage school shootings illustrates the utility in examining media reports surrounding school shooting events, since the media undoubtedly constructs or influences the perceived reality around these high profile attacks (Muschert, 2009).

To date, there has been a dearth of studies that have examined media reports of school shootings and concentrated on factors that may have impacted the shootings (Herda-Rapp, 2003). Also, due to the purpose of those studies, they only included a limited number of rampage shootings. Muschert (2009) addressed this issue and discussed the need for future research to continue to examine media reports, while also focusing on increasing the number of school shooting cases examined in order to gain a more complete understanding of the phenomenon. Therefore, media reports continue to be a viable data source for the many remaining questions regarding school shootings, especially when great care is taken to include rampage school shooting incidents that have been previously overlooked. Therefore, the purpose of this study was two-fold. First, it aimed to analyze the factors commonly attributed to school shootings by the media, as well as how those factors compared to peer-reviewed journal articles. Second, it aimed to examine any discrepancies between media and scholarly reports, which when examined through a social construction framework could impact the enactment of policy related to the prevention of the phenomenon.

Theory

Rampage school shootings are extremely rare events, and have occurred in less than half the states in America (see Table 1). Therefore, it is reasonable to assume that most people do not experience the phenomenon directly, instead experiencing it vicariously. For an experience to be transmitted to individuals who did not directly experience an event, the general public must be able to interact with information related to the phenomenon. Only then can individuals internalize and subsequently externalize information about the phenomenon. In regards to rampage school shootings, two sources available for the public to gain information from are the national media and researchers who study the social issue. Therefore, the theory utilized for this study was Social Construction since it not only addresses the unique characteristics of the phenomenon (e.g. rare, experience vicariously, lack of previous filters), but also provides a framework for the discussion of findings and relating them back to the prevention of the phenomenon through policy. As mentioned above, another unique aspect of rampage school shootings is that not many prior incidents of school violence can be drawn upon to act as filters for information about the phenomenon. For example, this type of school shooting challenges the typical objectivation of murders in schools being committed by minority groups in large urban schools (Schiele & Stewart, 2001). In reality, a large portion of rampage school shootings occur in rural locations (Rocque, 2012; Seaton, 2007). Therefore, if an individual attempted to "retroject" (Berger & Luckmann, 1967, p. 61) these incidents through filters which expected a minority perpetrator in an urban school, there would be some internal confusion. Retrojecting can be understood as the process of projecting experiences through filters previously established by an individual. Then the person would have to internalize and process the new information in order to develop new filters that fit with the unique characteristics of the phenomenon.

It is at this juncture that the available information from print media and scholars would have the greatest potential to impact perception about rampage school shootings. For example, if the media takes a leading role in framing and defining the phenomenon, the information transmitted by them has the potential to become the reified "truth" as there are few previous filters available to block potentially faulty information from being internalized. Any subsequent externalizations (i.e. policy) would therefore be based on possible misinformation, or at the very least sensationalized information. This project does not attempt to answer whether reports from mainstream media or scholarly articles actually impact public perception, since there already is theoretical and empirical support for that assertion (Adoni & Mane, 1984; Gamson & Modigliani, 1989; Vasterman, 2005).

However, this project takes the next step of discovering exactly what factors are connected with the occurrence of rampage school shootings. To date, there have been various research projects utilizing the media to better understand rampage school shootings (Burns & Crawford, 1999; Chyi & McCombs, 2004; Danner & Carmody, 2001; Frymer, 2009; Markward, Cline, & Markward, 2001; Muschert, 2009; Muschert & Carr, 2006), but none have looked into perpetration factors associated with the phenomenon. The findings from this study will therefore provide a bridge between what is said about the phenomenon, and what impact that information may have on prevention through policy. The methodological tool utilized for this study was content analysis. The connection between content analysis and social construction is strong (Binder, 1993; Gamson, Croteau, Hoynes, & Sasson, 1992; Gamson & Modigliani, 1989; Lipschultz & Hilt, 1999), and will allow for an in-depth analysis of the findings. Essentially, the theory allows the findings to be "retroject[ed]" (Berger & Luckmann, 1967, p. 61) back into the social construction paradigm, and allows the author to discuss the implications of the findings in a meaningful way so that they have real world applicability.

Data and Methods

The examination of media and scholarly reports on school shootings lends itself to the use of content analysis (Muschert, 2007b). Due to the level of media consumption surrounding these events, media reports serve as a useful tool in examining the perceived reality of rampage school shootings. For example, the Columbine High School shooting was, "the third most closely followed story of the 1990s" (Muschert & Carr, 2006, p. 26). Perceptions surrounding rampage school shootings are critical to understand since they can lead to detrimental social policies which paradoxically were intended to help students feel safe at school, but instead are based in fear (Hyman & Perone, 1998). The data for this study consisted of 250 media reports that were chosen from a stratified random sample of eight of the most circulated newspapers and news magazines in the United States of America. They consisted of: *Newsweek*, *US News and World Report*, *New York Daily News*, *Houston Chronicle*, *New York Times*, *San Jose Mercury*, *Washington Post*, and *USA Today*. As can be seen by the selection of newspapers and news magazines, an attempt was made to represent different parts of the country.

The sampling procedure for the mainstream print news consisted of five steps:

1. Articles were gathered from the Lexis-Nexis database to create the sampling pool. The keywords used included the shooters name, in addition to the term "school shooting". Also, the location of the incident, in addition to the term "school shooting" was used to check for any articles that do not name the perpetrator but still discuss the incident. Finally, the generic term "school massacre" and "rampage school shooting" was used to check for articles that may discuss the phenomenon without discussing specific cases.
2. Duplicate articles were removed.
3. Random sampling of each incident. An attempt was made so that each of the 29 incidents had at least 10 news articles randomly sampled to represent the incident. Since there were not 10 articles available to represent some shootings, all which were available were included. Since articles may discuss more than one incident, a single article may fit for inclusion with different incidents. These articles were available for each mentioned incident during the sampling of each shooting step. This variation from randomly selecting articles from all shootings is purposefully done and justification for it is provided below.
4. Articles included in step three were eliminated from the sampling pool so the remaining articles had an equal probability of being selected.

5. Remaining sampling completed. Following step four, news articles continued to be sampled until 250 articles were selected for analysis. This number was not selected arbitrarily, and was based on the saturation of Columbine based articles that occurred. Essentially, any additional sampling of news articles would only have resulted in additional articles about Columbine, and would not have provided any new information. Justification for this also follows below.

Due to the deviation from equal probability random sampling, some explanation and justification should be provided. An argument can be made that if a researcher holds true to the theoretical underpinnings of social constructionist thought, the saturation with Columbine that occurred should not matter. The theory would posit that the incidents causing saturation in the media are exactly what should be explored the most, even to the oversight of the least covered incidents, because the popular events are exactly the ones that are defining the phenomenon. That argument is logical and would seem to hold true on most accounts. However, it does not take into account the uniqueness of the phenomenon, or the eternally shifting construction of the social issue. The first justification for the sampling method is based on the uniqueness of rampage school shootings. The events are incredibly rare, and have various differences between them. Therefore, having at least 10 news articles allowed the researcher to notice any differences between how perpetration factors were discussed depending upon the event. Those differences have the possibility of yielding valuable information about how certain characteristics of rampage school shootings lead to a greater amount of media attention, or even discussion about perpetration factors.

The second argument for the use of the sampling method is the theoretically supported idea that the construction of perpetration factors has the possibility to change over time. If all rampage school shootings had occurred over a relatively short period of time, the argument against random sampling each shooting might be stronger. However, the events have occurred over a long period of time, and attempts at prevention have also shifted through time. For example, The Gun Free School Act (1993) was enacted before Columbine, yet the application of the policy was substantively changed post Columbine (Mongan & Walker, 2012). Therefore, if no attempt is made to account for all of the shootings, or changes that may have occurred through time are not examined, valuable information may be overlooked. Put another way, not accounting for possible changes over time could lead to findings that perpetuate the issues that this project aimed to combat. Even if Columbine is seen as the defining event (Larkin, 2009; Muschert, 2007b; Muschert, 2009), national news reports prior to this point of time (e.g. April 20, 1999) would illustrate attempts to construct the reality around the precipitating factors even before the defining event. For these reasons, attempts to sample from every shooting are justified and theoretically supported.

There was no sampling from scholarly journal articles since the entire population of articles was examined. Articles were only excluded if they met any of the exclusion criteria, which were: book reviews, not mentioning keywords used, or exclusively discussed collegiate rampage school shootings. Keywords utilized for scholarly articles were the same that were used for media. However, since the entire population of scholarly articles was attempted to be gathered, an additional step of examining reference pages was also completed in order to include articles that may have been overlooked during the initial collection of articles. The coding was done by one main coder and two additional co-coders. The additional coders were included in order to establish inter-rater reliability. Krippendorff's alpha was used to calculate inter-rater reliability instead of percent agreement, Cronbach's alpha, or intra-class correlation because it has been shown to satisfy the five critical components of a good reliability index for content analysis (for further discussion see Krippendorff, 2004). Krippendorff's alpha can range from 0 to 1, with one equating to absolute reliability and zero being the complete absence of reliability. Determining inter-rater reliability is crucial in content analysis because as Lacy and Riffe (1993) stated, "All content analyses should report intercoder and intracoder reliability levels to show that the instrument is consistent across coders and time" (p. 129).

Another important component to describe in content analysis is how the coding categories are derived, and an explanation for what they are (Riffe, Lacy, & Fico, 1998). Since there is a general dearth of research into perpetration factors of rampage school shootings, two methods were used to derive the categories for the study. Initially, a pilot study was completed with a smaller sample, in which open coding was utilized. This provided a basis for the categories that would be used in the full study. Also, throughout the study all coders were allowed to open code if they believed that there was a category that was not represented.

These two approaches, along with the use of Krippendorff's alpha to test inter-rater reliability were used to establish the categories, as well as confirm whether coders agreed that the categories were appropriate. As a note, categories were not mutually exclusive, and it was possible for categories to have some overlap between them.

Table 2: Categories that will be used for Analysis*

Content Analysis Category	Definition
Year of publication or print	The year in which the article or news story was printed.
Printed source	For media sources the printed source is what newspaper, news entity, or magazine the article was located in. For scholarly articles the printed source is the journal the article was printed in.
Number of pages	The total number of pages of the article or printed media. Since transcripts are being used, the number of pages in the transcript will be counted. In addition to whole pages, an article that is less than a page can be counted as $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$.
Number of Paragraphs [^]	The total number of paragraphs of the article or printed media.
Violent Media	This category consists of the discussion of violent music, movies, video games, or television.
Masculinity	Any discussion of masculinity, male roles, or the impact being male had on the shooting. Also, comments that are homophobic (by shooter, other students, or the printed source) are counted in this category.
Cultural Scripts	This category consists of the discussion of the shooting being associated with the violent culture of America.
Access to guns	The discussion of the accessibility of guns. Also, references to a gun culture will be counted in this category.
Delinquency	The discussion of delinquent or illegal behavior by the shooter. Also, any reference to the shooter being a sociopath since that is not a DSM-IV-TR diagnosis.
Bad parenting / parenting roles	The discussion of how parenting impacted the shooters, or the report that they were either good or bad parents.
Bullying	The discussion of physical, social, mental, or emotional bullying of the shooter. May overlap with masculinity due to the form of teasing referred to as "gay baiting". Those cases will count for both the categories of bullying and masculinity.
Biological predisposition	The discussion of the shooters having a biological predisposition to murder, or extreme acts of violence. This category also covers the reference that genetic or physical illness had an impact on the shooting.
Hierarchy in school	This category covers the discussion power differences between certain peer groups in the school, or the existence of a hierarchy in the school culture.
Mental Illness	This category consists of the discussion of the shooter having a diagnosable mental illness prior to the shooting. Mental illness that was diagnosed post-shooting will not be counted.
Sex of Shooter	The sex of the shooter is discussed as a relevant factor.
Substance use	This category consists of the discussion of substance use, abuse, or dependence of the shooters.
Expert Advice	This category is counted if the article contains a quote from a person who is portrayed as knowledgeable in the topic, or the mentioning of the author consulting an expert.
Peer/Marginalization	Discussion of peer groups or being marginalized from a peer group.
Informational	Any paragraph that does not qualify for any of the other categories.
Satanism/Occult	This category consists of the discussion of the occult or Satanism.
Racist	The discussion of the perpetrator(s) being racist.
Rejection	The rejection or loss of a girlfriend or significant other.
School	This category consists of the discussion of school grades as a pertinent factor.
Copycat	The discussion of a shooting being a copy, or just like a previous rampage school shooting.

Findings and Discussion

The initial purpose of this content analysis study was to examine differences between media and scholarly sources. Usually the easiest way to examine any differences would be through the use of simple t-tests. However, due to a major violation of the assumption of normality, which was unable to be corrected through transformations, t-tests could not be used. A non-parametric statistical tool (e.g. Mann-Whitney U) was also attempted to be used, but due to the extreme deviation from normality, there still remained a substantial risk of type I errors. Another attempt was made to statistically measure differences by condensing the data into dichotomous variables in order to use Chi-Square to test for differences.

However, that information was misleading, due to the removal of variability that occurred when the data was condensed. For those reasons, triangulation of findings instead of statistical analyses was used to avoid type I errors that might emerge with the use of statistical analyses. Three pieces of data (percentage, rank, and rate) were used to provide a means for triangulating the findings in a way that further supports the arguments provided, even if they cannot be fully tested statistically. In regards to content analysis, Krippendorff (2004) has discussed the importance of triangulating findings whenever possible, as it adds additional support to the conclusions drawn from the study. So while it is a limitation of the findings, the method used is methodologically supported. As mentioned in the methods section, inter-rater reliability was calculated using Krippendorff's alpha (α). The overall inter-rater reliability for the analysis was excellent ($\alpha=0.896$), and is likely due to the methods used for training the co-coders, as well as the appropriateness of the categories. Even with all coders having the option for open coding, they all were in agreement with the categories used for coding. None of the coder pairs that were examined for inter-rater reliability were under $\alpha=.800$. These findings indicate two important things. First, the categories used for the content analysis were well developed, appropriate, and thorough. Second, and arguably the most important, subsequent findings and discussion are further supported due to the coders essentially viewing the articles in a similar manner. This is of critical importance when discussing findings, due to the argument being made that people will internalize specific information, which then could impact externalizations such as policy. It is a much stronger argument to state that people will read an article and internalize certain categories if inter-rater reliability greatly exceeds the minimum accepted standard.

There were a total of 435 articles analyzed, which consisted of 185 scholarly articles and 250 media articles. The top categories discussed in the print newspaper articles by rate of appearance were: (1) guns ($\bar{x}=0.10$, $SD=0.22$), (2) media ($\bar{x}=0.06$, $SD=0.18$), (3) school ($\bar{x}=0.04$, $SD=0.04$), (4) mental illness ($\bar{x}=0.03$, $SD=0.10$), (5) cultural scripts ($\bar{x}=0.02$, $SD=0.10$), parenting ($\bar{x}=0.02$, $SD=0.11$), and bullying ($\bar{x}=0.02$, $SD=0.11$). See Table 3 for additional rates of categories. Percentages of appearance were also calculated, and the top five factors in the print news articles were: (1) Guns (24.8%), (2) Media (23.6%), (3) Mental Illness (15.6%), (4) Bully (12.8%), and (5) Peer (12.0%). See Table 4 for a complete listing of percentage of appearance for both scholarly and media articles.

	Raw				Rates				
	Mean	SD	Skew	Kurt	Mean	SD	Skew	Kurt	%
Media	1.14	4.02	5.66	37.18	0.06	0.18	4.00	16.38	23.6
Masculinity	0.03	0.45	15.38	240.06	0.00	0.02	15.76	248.96	0.8
"Gay Bait"	0.02	0.25	15.81	250.00	0.00	0.01	15.81	250.00	0.4
Cult Script	0.38	1.79	7.28	61.16	0.02	0.10	7.60	64.04	10.0
Copy Cat	0.11	0.60	10.12	126.41	0.01	0.10	9.17	89.53	6.4
Guns	1.41	4.12	4.44	23.15	0.10	0.22	2.73	6.64	24.8
Delinquency	0.11	0.44	4.71	24.20	0.01	0.04	5.96	39.08	7.6
Parenting	0.36	1.86	8.79	94.52	0.02	0.11	9.42	104.03	9.2
Bullying	0.22	0.96	10.03	127.23	0.02	0.11	7.40	60.13	12.8
Biology	0.00	0.63	15.81	250.00	0.00	0.00	15.81	250.00	0.4
Hierarchy	0.06	0.45	10.50	126.66	0.00	0.03	9.13	88.60	3.6
Mental Illness	0.54	3.76	13.92	207.38	0.03	0.10	6.28	48.08	15.6
Sex	0.02	0.17	9.29	94.13	0.00	0.00	10.44	120.92	1.6
Substance Use	0.04	0.23	6.92	51.06	0.00	0.03	12.91	181.48	2.8
Expert Advice	0.82	2.60	4.42	22.02	0.04	0.11	3.52	13.18	NA
Animal Abuse	0.01	0.11	9.02	79.96	0.00	0.00	10.58	114.57	1.2
Peer	0.20	0.69	5.16	32.46	0.01	0.04	7.01	63.03	12.0
Satanism	0.05	0.26	5.41	31.49	0.00	0.01	5.52	32.28	4.4
Racist	0.06	0.30	5.35	29.41	0.00	0.02	10.92	139.60	4.4
Rejection	0.06	0.40	9.18	102.26	0.00	0.02	11.09	143.99	4.0
School	0.05	0.34	8.50	84.65	0.04	0.04	6.84	48.56	3.2
Info	12.39	11.64	1.93	6.04	0.33	0.33	-1.03	-0.23	93.2

Categories that could be described as cultural factors appeared to play the largest role with both types of sources examined. Three of those controversial factors with high percentages of appearance in both media and scholarly sources were bullying, violent media, and access to guns.

Violent media refers to the tendency of sources to place blame on violent media such as video games, music, and movies. Almost 50% of the scholarly articles at least mentioned violent media as a factor that impacts the occurrence of rampage school shootings, whereas only about 25% of media articles discussed the factor. In regards to the rate of discussion of violent media, news and scholarly articles were nearly identical (\bar{x} =0.06, SD =0.18; \bar{x} =0.06, SD =0.13, respectively). Specifically, about 6% of news and scholarly paragraphs discussed violent media as a factor that impacts the occurrence of rampage school shootings. Put another way, about a quarter of print news articles and a half of scholarly articles mentioned violent media, but articles from both sources spent a great deal of space discussing the impact of the factor on the phenomenon.

Table 4: Percentage of Appearance and Rank of Categories

Factor	Percentage of Appearance (Rank)	
	Media	Scholarly
Guns	24.8 (1)	44.3 (3)
Media	23.6 (2)	48.1 (2)
Mental Illness	15.6 (3)	35.7 (7)
Bullying	12.8 (4)	51.4 (1)
Peer	12.0 (5)	42.7 (4)
Cultural Script	10.0 (6)	36.8 (6)
Parenting	9.2 (7)	38.4 (5)
Delinquency	7.6 (8)	20.5 (11)
Copypat	6.4 (9)	5.4 (17)
Satanism	4.4 (10)	8.6 (16)
Racist	4.4 (11)	11.9 (15)
Rejection	4.0 (12)	14.6 (13)
Hierarchy	3.6 (13)	31.9 (8)
School	3.2 (14)	3.8 (18)
Substance Use	2.8 (15)	16.2 (12)
Sex	1.6 (16)	21.1 (10)
Animal Abuse	1.2 (17)	2.7 (20)
Masculinity	0.8 (18)	23.8 (9)
Biology	0.4 (19)	3.2 (19)
Gay Bait	0.4 (20)	13.0 (14)

Table 5: Scholarly Discussion of Categories

	Raw				Rates				
	Mean	SD	Skew	Kurt	Mean	SD	Skew	Kurt	%
Media	2.39	6.28	6.06	49.51	0.06	0.13	3.74	14.80	48.1
Masculinity	1.61	4.77	4.08	19.10	0.04	0.11	4.81	27.90	23.8
"Gay Bait"	0.36	1.64	8.27	80.30	0.01	0.03	7.20	59.29	13.0
Cult Script	1.54	3.35	3.26	12.37	0.04	0.08	3.73	18.02	36.8
Copy Cat	0.19	1.33	10.08	113.75	0.00	0.03	10.41	121.51	5.4
Guns	1.43	3.10	3.71	15.79	0.03	0.08	5.69	44.64	44.3
Delinquency	0.39	1.00	4.00	20.67	0.01	0.02	3.71	17.52	20.5
Parenting	1.71	4.04	4.08	20.26	0.04	0.08	2.97	9.64	38.4
Bullying	2.58	4.38	2.41	6.37	0.06	0.11	3.28	13.24	51.4
Biology	0.03	0.18	5.32	26.61	0.00	0.00	7.24	55.19	3.2
Hierarchy	2.09	5.24	3.63	15.47	0.04	0.12	4.92	30.84	31.9
Mental Illness	1.50	4.26	6.53	56.56	0.03	0.06	4.35	23.94	35.7
Sex	1.02	3.45	5.57	39.25	0.03	0.08	4.56	23.01	21.1
Substance Use	0.25	0.84	7.06	65.62	0.01	0.02	3.90	17.00	16.2
Expert Advice	NA	NA	NA	NA	NA	NA	NA	NA	NA
Animal Abuse	0.04	0.29	7.96	69.57	0.00	0.00	6.82	49.29	2.7
Peer	2.52	5.88	4.27	25.07	0.05	0.10	3.15	11.86	42.7
Satanism	0.16	0.68	6.90	59.95	0.00	0.01	4.97	26.69	8.6
Racist	0.38	1.70	7.37	66.50	0.01	0.03	7.68	67.93	11.9
Rejection	0.51	1.81	5.40	35.43	0.01	0.04	5.66	41.08	14.6
School	0.06	0.37	6.61	46.42	0.00	0.01	11.71	147.59	3.8
Info	35.48	29.47	1.73	3.97	0.72	0.28	-0.80	-0.52	98.9

Availability of guns performed similarly to how violent media performed. About 44% of scholarly articles mentioned the availability of guns as a factor that impacts rampage school shootings, as compared to only about 25% of print news articles. However, unlike violent media, there appeared to be some difference in the rate of discussion between the two sources. Scholarly articles discussed the availability of guns in about 3% of paragraphs ($\bar{x}=0.03$, $SD=0.08$), compared to about 10% of paragraphs in news articles ($\bar{x}=0.10$, $SD=0.22$). What this illustrates is that although 44% of scholarly articles mentioned availability of guns as a factor, the discussion was rather cursory since only about 3% of paragraphs actually mentioned the factor. However, with news articles only a quarter of them discussed the factor, but 10% of paragraphs discussed the factor. Put another way, the data indicates that scholarly sources did not overlook the importance of the availability of guns. However, researchers appeared to only briefly discuss the availability of guns, and then spent the majority of the article discussing other factors. Media not only mentioned the availability of guns as an important factor in impacting the occurrence of rampage school shootings, but also devoted a larger amount of print space to discussing the factor. Since amount of space in an article dedicated to a factor can serve as a proxy for the importance of the factor to the source, the data hints at the likelihood that print news views the availability of guns as a more important factor than scholarly sources despite scholarly articles mentioning the factor more frequently.

Another frequently discussed factor was the impact that bullying has on rampage school shootings. Bullying was the only factor that over half of the scholarly articles mentioned (51.4%). Only about 13% of print news articles mentioned the factor, and about 2% of paragraphs discussed the factor ($\bar{x}=0.02$, $SD=0.11$). With the rate of discussion being three times greater in scholarly articles ($\bar{x}=0.06$, $SD=0.11$), bullying plays a prominent role in the scholarly exploration of rampage school shootings. Although scholarly articles discussed bullying more frequently and at a much higher rate, scholarly discussion of the factor was also different in regards to the content of that discussion. For example, researchers would explore the roots of bullying (e.g. masculinity), as well as specific types (e.g. gay baiting). In regards to gay baiting, the factor was discussed in 13% of scholarly articles, but mentioned in less than 1% of the print news articles. With masculinity, almost 24% of scholarly articles discussed the factor, as compared to less than 1% of the print news articles. The more elaborate exploration of bullying in scholarly articles provides a much clearer picture of how the factor impacts the occurrence of rampage school shootings. Put another way, scholars appear to agree that – in regards to rampage school shootings – not all bullying is created equal. That connection between gender harassment (e.g. gay baiting) and rampage school shootings is more important to understand than simply a generic connection between bullying and the phenomenon.

Some categories analyzed could be described as school environment factors, and they also played prevalent roles in both scholarly and news discussion of rampage school shootings. For example, peer group and marginalization, and school hierarchies were two factors that appeared to play a larger part in scholarly discussion than print news discussion. The discussion of peer groups and marginalization was discussed in 42.7% of scholarly articles as compared to just 12% of news articles. Although this factor ranked as almost equally important (per percentage of appearance) in both sources, the rate of discussion further illustrates the difference in importance of this factor. Journal articles discussed this factor in about 5% of paragraphs ($\bar{x}=0.05$, $SD=0.10$), as compared to just 1% of paragraphs in news articles ($\bar{x}=0.01$, $SD=0.04$).

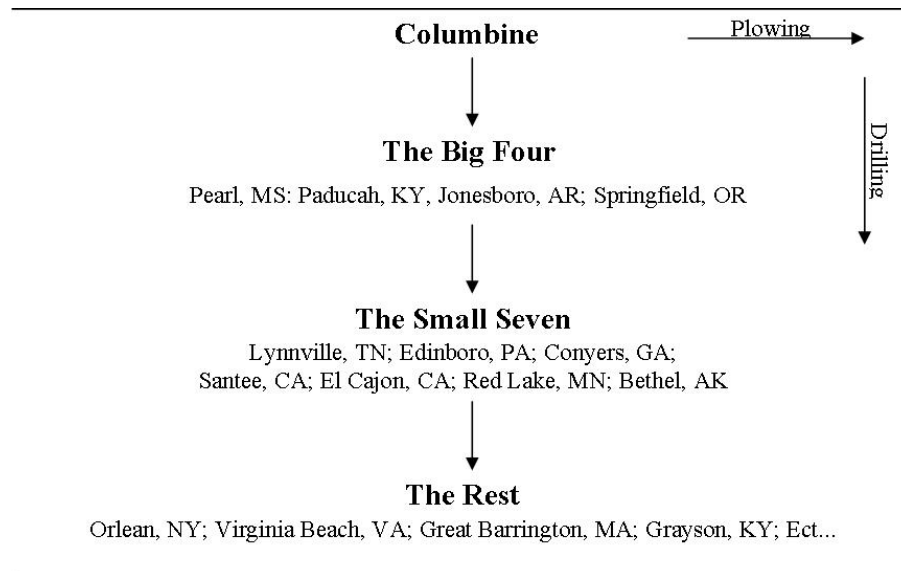
Another important school environment factor, which was discussed quite differently between journals and print news, was the role played by school hierarchies. This is an important factor, as it is one of the factors that can be impacted at the local level if it is identified as an important contributor to the occurrence of rampage school shootings. Only about 4% of news articles mentioned this factor, but more importantly it was discussed in less than 1% of news paragraphs ($\bar{x}=0.00$, $SD=0.03$). However, about 32% of journal articles mentioned school hierarchies, and 4% of paragraphs discussed the factor ($\bar{x}=0.04$, $SD=0.12$). This discrepancy suggests that the discussion of school hierarchies and their impact on rampage school shootings was essentially skipped over by the print news sources, despite its prevalence in scholarly discussions of rampage school shootings. The dearth of discussion of this factor in the print news can have reverberating repercussions with policy and prevention.

Hierarchy of Rampage School Shootings

Not only did media and scholarly sources differ with the factors discussed, there also appeared to be a hierarchy of knowledge in regards to rampage school shootings. The vast majority of information has revolved around the Columbine shooting, with the remaining shootings naturally clustering into groups according to the decreasing amount of attention they received. With this in mind, a heuristic for making sense of the implications of this may be explored by considering the differences between processes of plowing and drilling. Plowing involves the breaking of soil from the top most level, but does not aim to uncover anything more than a few inches below the surface. On the other hand, drilling is the process that starts at the surface and continues to move through layers and layers of material that lie far beyond that which is initially exposed. In regards to rampage school shootings, the top level consists of Columbine, with The Big Four, The Small Seven, and The Rest residing at respectively lower levels (Figure 1). The analysis showed that the majority of information about school shootings has involved the plowing of Columbine information; whereas, only a small number of the research articles have attempted to drill to the second level, and a much lower number attempted to drill down to the third level. Finally, it was exceedingly rare for any articles to attempt to drill down to the lowest level of the phenomenon, despite the fact that 62% of all rampage shootings are located in this lowest level.

Even though there has been the repeated plowing of information regarding Columbine, it is likely that there is still a great deal of knowledge to be gained from continued research on that shooting. However, that research should not occur to the exclusion of efforts to drill down into the lower levels of the phenomenon where factors associated with twenty-eight other rampage school shootings hold equally valuable information for consideration. For the academic community to continue to speak accurately and thoroughly about how rampage school shootings have been defined and constructed as a phenomenon, we must not only possess a breadth of knowledge, but also depth of understanding.

Figure 1. Hierarchy of Knowledge Based on Rampage School Shooting Events



Discussion

Due to space constraints it is impossible to fully explore the various ways that the findings of this study could impact or be examined through various lenses, such as: Policy, prevention, newsmaking criminology, threat and risk assessment, moral panics, and problem definition. However, an attempt to explore the findings of this research project through at least one of those lenses is important. It would be prudent and a fruitful endeavor for future papers to further explore these other areas. Therefore, subsequent discussion will focus on the practical impact these findings could have on policy. As a point of clarity, policy is defined throughout the remainder of this article as an adopted course of action. The influences on perception regarding what factors are associated with the occurrence of rampage school shootings has the ability to not only impact prevention on the local level, but also national policy that is directed towards preventing these tragedies from occurring.

This policy attention is likely due to the extreme nature of the phenomenon, as well as the media salience that these events command (Muschert, 2009, Muschert & Carr, 2006). Put another way, rampage school shootings are extremely violent and frequently draw a large amount of media attention. A problem again arises when factors that are associated with the phenomenon by the media are not factors that are deemed important by scholarly sources, or when factors are blamed by the media and have yet to be fully examined by researchers. This is a major issue since effective prevention must rely on accurate information about a phenomenon. Therefore, when policy is pursued or enacted due to internalized misinformation, there is a real risk that the policy will not prevent people from dying due to rampage school shootings, which is the paramount goal of the policies directed at this phenomenon. Arguably one of the most evident historical policies that can be used to illustrate reactions to rampage school shootings are zero tolerance policies that became entrenched in American schools following the Columbine High School shooting (Mongan & Walker, 2012).

As was explored by Mongan and Walker (2012), zero tolerance policies were passed before the defining event of Columbine, but they did not become entrenched in school districts, especially in rural areas, until after that defining rampage school shooting event. This sudden adoption of zero tolerance policies was due to the moral panic that was created during the 1990s, when many of the high profile rampage school shootings occurred. Due to the extreme nature and apparent randomness of the phenomenon, pressure was put on policy makers to protect students at school (Mongan & Walker, 2012). The reaction was to adopt an extremely hyper-vigilant policy (e.g. zero tolerance) that would pounce on any indication a person was plotting against students at school. However, zero tolerance has not only been shown to fail with the prevention of rampage school shootings, but may actually provide a final stressor that increases the risk of an incident occurring (Mongan & Walker, 2012). Those policies also do not account for the nature of the phenomenon, which is more akin to a tactical strike than just snapping at school. Perpetrators generally do not bring their guns to school before the attack, which is when zero tolerance would be helpful, and have even attacked post-suspension or expulsion (e.g. Springfield, OR; Red Lake, MN).

Another current and ongoing example of how factors perpetuated by the media receive policy attention despite their perceived irrelevance in much of the scholarly research involves the factor of violent media consumption. This is illustrated by the recent shootings in Newtown, Connecticut. For example, Zakaria (2012) wrote on the policy shift that occurred after the shooting: Vice President Joe Biden was meeting video game representatives yesterday as the Obama administration and the U.S. public grapples with the question of gun crime – and why it is so much more prevalent in America than other rich countries. The oft-debated premise behind such talks is clear. Young males weaned on a diet of violent and graphic images, it is argued, are more likely to engage in deadly violence themselves. (para. 1 – 2) This quote illustrates that one of the most prominent members of the executive branch, supported by the President of the United States, was exploring the impact that violent media consumption had on the occurrence of rampage shootings. This is a critical shift in policy that is important to explore, due to the power that the Executive Branch can have in the creation of policy. Another cultural issue heavily pursued during this timeframe, and one that is continuing to be pursued, is the role of gun availability. In regards to this factor, the President has already utilized his Constitutional power of enacting executive orders due to the belief that gun availability impacts the occurrence of rampage shootings (for example see White House, 2013). These orders consisted of several “executive actions” intended to address loopholes deemed important by the President.

In regards to the impact that media attention can have on policy directed specifically towards violent media consumption, another example can be seen with a policy that was attempted to be enacted in California. In 2005, California attempted to enact a policy prohibiting the sale and rental of violent video games to minors (California Assembly Bill 1179, 2005). This policy was subsequently challenged by the Entertainment Merchants Association (EMA). The challenge ultimately made it to the United States Supreme Court (*Brown v EMA*, 2011), where the Justices teased apart the difference between the appearance of a connection between violence and violent media, as perpetuated by some scholars and the media, and a connection that is based on rigorous scientific analysis. Justice Scalia wrote the opinion of the court and noted that: The State's evidence is not compelling. California relies primarily on the research of Dr. Craig Anderson and a few other research psychologists whose studies purport to show a connection between exposure to violent video games and harmful effects on children. These studies have been rejected by every court to consider them, and with good reason:

They do not prove that violent video games *cause* minors to *act* aggressively (which would at least be a beginning). Instead, “[n]early all of the research is based on correlation, not evidence of causation, and most of the studies suffer from significant, admitted flaws in methodology.” *Video Software Dealers Assn.* 556 F. 3d, at 964. They show at best some correlation between exposure to violent entertainment and minuscule real-world effects, such as children’s feeling more aggressive or making louder noises in the few minutes after playing a violent game than after playing a nonviolent game...the *same* effects have been found when children watch cartoons starring Bugs Bunny or the Road Runner, *id.*, at 1304, or when they play video games like Sonic the Hedgehog that are rated “E” (appropriate for all ages) (p. 12 – 13) While not allowing minors to purchase or rent violent video games is arguably not a life altering policy, it is still an exemplar for how policy makers can attach onto factors and subsequently attempt to pass policies to prevent phenomenon like rampage school shootings from occurring.

Conclusion

In conclusion, this study set out to examine the way that rampage school shootings have been portrayed by mainstream print news and scholarly journal articles. Analyses of the data uncovered differences in terms of the factors that are propagated from both sources. Utilizing the framework of social construction, the findings of this project explored how the differences in discussion of factors can impact policy when the media concentrates on specific hot-button factors. While there were a few limitations of the study that impacted the extent to which the data could be statistically analyzed, there was still a great deal of information that was able to be gleaned from the data. Overall, this study helps pull together the research on the phenomenon of rampage school shootings, and provides a platform for future research to build upon.

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