

### Abstract

If it bleeds it leads – this is an unfortunate but real mentality in the industry of news media. Reporting practices have led to what is perceived as sensationalism of negative events. The Werther effect establishes the connection between publicized suicide events and a spike in incidents of suicide that follow (see Kim et al., 2013). Given the established behavior of the Werther effect, investigations should seek to understand what impact, if any, media publicizing has on copycat behavior of other life-ending incidents. Recently, active shooter events have become heavily publicized in the media. This begets a logical question: Are there copycat active shooters that seem to be motivated by media? This study served to explore the possible presence of copycat phenomena of contemporary active shooters through media sensationalism. Through the analysis of shooters' written manifestos available through public record we examined references made within their writings to previous active shooters. This relational data was input into social network analysis software (i.e., UCINET) to construct a network visualization. Google Trend analytics were also used to explore whether media portrayals might be driving interest in past active shooters – especially Columbine and Virginia Tech (VT). Findings support the notion of an *idolization effect* in the context of active shooters with the focus being on the large shootings of the past. The need for journalist ethics in active shooting contexts is discussed.

*Keywords:* Werther effect, active shooter, social network analysis, idolization

### Werther Effect in Active Shooter Events? Examining Potential Copycat Behavior

Understanding the extent to which media coverage impacts the behaviors of individuals has long been scrutinized by the social sciences. The impact of media on violence (Felson, 1996) and suicide (Niederkrötenhaler et al., 2009) has been studied by social scientists seeking to understand what the impact of media consumption has on different segments of the population. There has been a growing concern by a variety of publics that victimization of active shooting events is becoming increasingly likely (Schildkraut, Elsass, & Stafford, 2013), which is likely connected to the media's coverage of active shootings as hot-issues (Aldoory & Grunig, 2012). Therefore, research should consider how and if the intersection between active shooter coverage and the potential for copycat behavior is manifested.

This research was motivated by the overarching question: Are there copycat active shooters? Exploring the possible presence of copycat phenomena of contemporary school shooters allows scholars and media professionals to have meaningful dialogues surrounding best practices in dealing with these events. It is possible to explore copycat behaviors because many active shooters leave some type of manifesto, what is referred to as a *legacy token* (Blair, Nichols, Burns, & Curnutt, 2013), that often explains why they felt compelled to go on their rampage. In these manifestos, justifications often have references to the shooters' motivations, and in some cases, inspirations. This work utilizes publicly available manifestos to create a dataset that allows for the investigation of self-declared links between active shooters—that is, inspirations based on previous events. The analysis of shooters' written manifestos available through public record were examined and the references made within these writings to previous active shooters were documented and analyzed using social network analysis and Google Trends analytics ([www.google.com/trends](http://www.google.com/trends)).

**Werther effect**

The Werther effect is founded on the Gothe novel "*The Sorrows of Young Werther*" wherein the main character commits suicide. The novels popularity in Europe was said to have perpetuated the imitation of Werther's suicide. Interestingly, this led to the ban of the book in several countries (Phillips 1974). Since then, the Werther effect has been applied to a variety of modern media platforms to determine the robustness of the effect (Pirkis & Nordentoft, 2011).

Bollen and Phillips (1974) found that suicide rates increase in the months that headlines reflected a suicide story, and the more attention that such stories received, the larger the increase in occurrences. Other authors (Warrick, 2007) suggest that suicides not be explicitly reported. The controversial relationship between suicide and media coverage seems to show an emotionally but devastating link between these phenomena. As previously mentioned, a contemporary problem is the active shooter. Research has shown that approximately one-third of all active shootings occur in schools (Blair & Martaindale, 2013). Moreover, the terms active shooter and school shooter co-occur meaningfully in the news ( $r = .35$ ; Google Trends) with news reports using 'school shooter' outweighing reports utilizing 'active shooter' suggesting a higher emphasis on school related incidents than the broader issue of active shootings. For these reasons we focused specifically on school shootings.

**School shooters**

A school shooter is an individual or group that execute a gun attack on an educational institution including elementary schools, secondary schools, post-secondary schools, or in education-related setting (U.S. Secret Service, United States Department of Education 2004). These attacks are school based and are most commonly planned attacks, not a random site of opportunity (Vossekuil, 2004). Some incidents that have occurred on school campuses were

perpetrated by individuals that did not attend the institution, showing that shooters are not always affiliated with the institution where their act of violence occurs. Rather, the school setting is likely seen as a way for killers to get a lot of public and political attention for their crimes.

Preti (2008) states that, the expression “school shooting” refers to firearm violence occurring in educational institutions, especially the mass murder or spree killing of people within such an institution. The intent of school shooters commonly include both targeted and random victims (Preti, 2008). While some school shooter events conclude with the arrest of the perpetrator(s), others end with the shooter(s) being subdued with deadly force by law enforcement, however a large fraction of school shootings end with the shooter(s) committing suicide (Preti, 2008). For example, between 2000 and 2013 there were 160 incidents classified as active shooter events by the FBI; of those incidents, 40% committed suicide after the event (see FBI active shooter report). As we can see, school shootings often contain some suicidal intention on the part of the perpetrators, who awaited or planned the action with the purpose of committing suicide after the execution of one or, generally, many victims (Preti, 2008). Some could say that a person who enacts an active shooting is on a suicide mission regardless of whether they intend to take their own life – because law enforcement is highly likely to use deadly force to stop the shooter.

Based on what is known about school shootings and those that perpetrate them there are often commonalities between the shooters. These commonalities are further enabled and fueled by the heavy representation given by the media. The media may be enabling and creating a Werther type effect with school shooters by providing extensive coverage of such incidents and primarily coverage of the perpetrator. This logic was the impetus for our first research question:

*RQ1*: Is there a copycat effect occurring between school shooters?

**Media reporting ethics**

In the age of information the demands for the details surrounding high profile events of any nature are elevated. The rush for sensational news fosters an opportunity for loose and unethical practices (Berry, 2013) when the media is covering traumatic or shocking events. Copycat behavior of suicides has been researched in more than fifty different studies and has concluded that coverage practices by the news media leads to a potential increase in the likelihood of similar events occurring (NIMH.com, 2015). This copycat response is attributed to the style, the duration, and the focus of the coverage given to these suicide events (NIMH.com, 2015). The Werther effect predicts that publicizing suicides can increase the potential for copycat behavior to occur. The development and implementation of ethical reporting practices for suicide has aided in minimizing the romanticism and prominent coverage that these events were previously being given by the media.

Based on studies establishing a connection of the increases in copycat suicide behavior (NIMH.com, 2015), in the context of active shooting events it is logical to explore whether the media might be engaging in reporting practices that aid in perpetuating a focus on the active shooter. Exploring this issue might lead to a discussion surrounding the need for the development of ethical standards in the reporting of both violent and sensational crimes, similar to those adopted for suicides (see Pirkis, Blood, Beautrais, Burgess, & Skehan, 2006). Thus, the following research question was asked:

*RQ2: Do journalistic or media practices potentially influence the perpetration of active shooter incidents?*

### **Social Network Analysis**

Social network analysis (SNA) is a method to establish and understand relations between individuals (or nodes) in a network of some type. Applications of SNA are almost limitless. Examples of application in the communication discipline has been to examine bibliometric (citation) behaviors of authors in a networks; the hiring behavior of departments in the discipline have also been examined (e.g., see Barnett, Danowki, Feeley, & Stalker, 2010). In applied mathematics researchers are generally interested in how some item (e.g., information) might flow through some type of network such as a banking database. Here we rely on SNA to see how interest of other shooters might reveal the focus on previous acts through the shooters' manifestos.

Overall, SNA is a robust tool for identifying associations between cases within a dataset to identify different patterns and structures in information. SNA is ideal for identifying key players in a variety of different types of social networks (Borgatti, 2006), making its application to understanding the potential for copycat active shooters an excellent choice. Unlike other tools that may only identify if some relation exists between media and copycat active shooters, SNA provides a tool that shows which actors have the most troubling media portrayals, giving a more targeted tool for creating best practices in preventing any Werther-like effects.

Centrality is a core concept in the use of SNA and it is easily understood. Centrality is best explained as how a node, or actor, is in the *thick of things*. That is, an individual in a network is central if they are connected to more others in the network, or if they can act as a gatekeeper for the flow of the network, or if they are connected to others who are also themselves highly connected. Examples are plentiful for illustrations about centrality and a great deal is published about SNA and centrality; readers interested in an in-depth discussion of these

matters should visit other volumes (e.g., Wasserman & Faust, 1994). For our purposes we were interested in which shooters were referenced by the most other shooters – that is, who were the central shooters known and studied by others. For this reason we rely on degree centrality – which is simply a count of the number of ties an individual (node) has in a network.

### **Method**

To answer the research questions posed the first author analyzed manifestos and other written material by school shooters available publically. Specifically, the website [schoolshooters.info](http://schoolshooters.info) (Langman, 2015) was a useful resource as it compiled a great deal of information about school shootings in one location. The website contains information about past school shootings that are categorized by shooter. A list of shooters from the site was compiled into a spreadsheet and the shooters' names were then placed into a data matrix. This matrix contained the names of the shooters in the columns and all the same names were input across the row headings; this created a matrix that allowed any two shooters to be related in a cell in the matrix (referred to as a co-occurrence matrix). To examine the research questions the authors decided that it was theoretically meaningful to incorporate ten years of documentation about school shootings. That is, the earliest shooter in the matrix enacted his crime in 2005 and the most recent was of February 2015.

For each of the shooters researched documentation from the site [schoolshooters.info](http://schoolshooters.info) was reviewed for any mention of another violent offender. The references of violent offender included: school shooters, mass murders, terrorists, and serial killers. The inclusion of these allow for the relational map to reflect the interest and focus of the school shooter being studied. For example, many of the shooters referenced Adolf Hitler. Other mentions such as locations (high school, college), weapons (gun type, ammunition, or purchase location), music (genre and

artist preference), clothing (brand, style, or purchase location), or date of planned attack were excluded (not used to document a relation) to prevent coincidental or unintentional references from being collected. If the writings of the shooter contained mention of another violent offender, a placeholder was used in the relational matrix to indicate the reference made to that past shooter. After reviewing available documentation for the time period selected for study the completed relational matrix was processed using UCINET social network analysis software (Borgatti, 2002). To explore the first research question the tool was used to conduct centrality scores and to construct a network visualization of the studied shooters. A line showing centrality was added to the visualization to help make reference for viewing the most central persons on the map; this highlights the most frequently referenced offenders. The relational matrix was also used to mathematically calculate quantitative centrality scores for each of the shooters. Specifically, we relied on degree centrality; this centrality is a count of the raw number of connections a node has within the network. Degree centrality allowed us to explore who were the most referenced school shooters within the network.

To explore the second research question, the events linked to the two shooting events with the highest centrality scores were analyzed using Google Trends (see Figure 2). In this analysis, postings from news and media sites referencing Columbine and or Virginia Tech (VT) were visualized such that an occurrence of searches for these terms were shown in correlation to media stories about school shootings (that also referenced the two shooting events). Moreover, Google Trends allows users to see how web searches of terms varies across time – and in this case how these trends pattern themselves around media stories.



## Results

In answering our first research question we created a ranking of the most shooters based on centrality scores output by UCINET. Also, a visualization of the shooter network was created with the software and can be seen in Figure 1. The centrality rankings and network visualization were used to examine if a Werther type effect might be occurring in the context of school shootings. The four most central nodes in the network were the two Columbine shooters (Eric Harris and Dylan Klebold), the VT shooter (Seung HuiCho), and Adolf Hitler. These four killers out-ranked all of the other criminals and were the central most nodes. From these findings and from viewing the visualization it can be seen that a copycat effect that resembles the nature of a recent shooting influencing a shooter to enact their crime is likely not the nature of what is occurring amongst school shooters. Instead it seems that these shooters put much thought and planning into their crimes – as seen by their references to the bigger crimes in the historical lens of these types of killings. The majority of shooters within the network did not make reference of shootings occurring closer to the commission of their own crimes. Instead, they tended to cite Columbine and VT (two most central nodes) in their writings.

To further illustrate the point that Columbine and VT were being cited by most shooters we removed these nodes from the network using a function in UCINET that allows for the removal of any selected nodes from the network. This resulted in a complete collapse of the relational network wherein the shooters became sparsely connected and many small cliques formed in the network—central shooters are the core or backbone of the shooter network based on their references to one another in their legacy tokens.

It does appear that an *idolization phenomenon* is occurring amongst school shooters. That is, shooters are not enacting their crimes because of a previous/recent school shooter, but instead

they are enacting copycat behaviors that are motivated by the *best* or *biggest* shooters from the past. Shooters planning their attacks seem to want to be similar to the well-known shootings such as Columbine or VT. Also, of note is that the shooters write about Adolf Hitler and because of this he was also highly central in the network. We believe that school shooters may be experiencing the need to overcome a perceived injustice or settle a need for a perceived reparation towards others who they believe have wronged them – much like Hitler is known for doing in his speeches and writing (e.g., his book *Mein Kampf*).

Our second research question focused on media and portrayals of shooters – whether this might be adding to the incidence of new shootings. The findings align closely with what we found about a potential idolization effect; that the media also continues to idolize the *big* active shooters in history. The results from the Google Trends revealed that mention of Columbine and VT are republished when similar shooting events occur, further perpetuating the legacy of past-idolized shooters. To continue to mention these events likely influences new Internet searches – shown in the spikes in the data trends (see Figure 2). These responses to media (re)portrayals might instigate new shootings and continue their focus on the more well-known shootings – which likely ends up in their written manifestos.

### **Discussion**

In asking if there is a copycat effect occurring with school shooters, there were many factors to consider. After running the network analysis and accessing the network centrality scores it is shown that there is likely not a Werther type effect or traditional copycat effect occurring with school shooters. Instead, our findings of the network analysis from shooter manifestos (referencing previous shooters) revealed that shooters were more concerned and focused (in their writings) with the well-known shooters and killers. By relying on the

visualization and centrality rankings we conclude that there is an *idolization phenomenon* occurring in our data. While this may be seen as a type of copycat behavior, it is unlike what is found with traditional Werther effects influenced by media (e.g., in the context of suicides). Coleman (2004) previously discussed this type of idolization effect amongst school shooters and stated that the fame given to school shooters is a social problem. This idolization effect is likely being driven by the fame from coverage provided by the media. Evidence for this is shown in the network map (Figure 1).

To answer our second research question we used Google Trends analytics to explore potential correlations in Internet searches surrounding media coverage of active shooting events. What we found aligns with our findings taken from the network visualization. For each event that spiked on the graph (searches of Columbine or VT) there was a recent school shooting that had occurred. At these times there were media reports that made mention or a direct comparison to a larger or more prominent shooting event, further giving fame to the big perpetrators of *classic* active shooting events. In reviewing the network visualization, it becomes clear that every shooter studied made mention of the Columbine school shooters in their written materials analyzed. Together, this relational data with the Google Trends analytics suggests that continual fame is being provided by the media to the perpetrators of the Columbine attack –thus creating an idolization effect. Holding that this is accurate, it is important that ethical journalistic practices be developed to aid in minimalizing the coverage of active shooter events at their occurrence, aftermaths, and into the future. There is a clear need for the development of ethical journalistic practices surrounding the media’s coverage of active shooting events.

Currently there are reporting standards for covering suicides, but similar standards do not exist for reporting active shooter events. Coleman (2004) suggested that the coverage given to

the individuals that commit active shooting crimes is relatable to a type of fame. Based on the nature of school shootings, there is a unique need for a set of ethical standards exclusively for covering school shootings. It is important that guidelines instructing how to cover the event properly without romanticizing or giving fame to the perpetrators of the event are established. In doing so there is potential to reduce the likelihood of a copycat.

### **Limitations & Future Directions**

The data collected for this study goes back ten years. This time frame was selected due to the changes in media and accessibility of information available publically. Expanding the research time frame could possibly provide more relational references, as well as demonstrate any evolutionary trends in how school shooters/active shooters are conveying information in manifestos. However, limited resources prevented the expansion of the dataset for this study. Future work should seek to also compare media modality to determine if any identifiable trends exist between shooters who communicate manifestos via different media channels (e.g., Jared Lee Loughner's YouTube clips as compared to James Eagan Holmes' hardcopy manifesto mailed to the local media).

During the collection of data all available material was reviewed for references to other shooters, however when adding values to the matrix only one mention was recorded. If during collection of references note had been taken as to the number of references for each mentioned shooter, a network analysis could have been produced to illustrate the degree to which a shooter was idolized in a more significant manner. A weighted relation was not recorded during the data collection process due to the exploratory nature of the research questions. In retrospect this research could benefit from data that indicates the number of times a shooter mentions another

shooter. Future research should incorporate the number of times a manifesto mentions any particular shooter – so a weighted network can be developed and analyzed.

Future research should also seek to determine if there are different sub-types of school shooters that can readily be identified via their idolization networks. Information that would differentiate types of school shooters would help inform practices on how best to create early alert systems to prevent future events. Also, media mentions of shooters should be more finely delineated in future investigations. For example, researchers might code the various types of portrayals and reporting in various channels of media as this might aid in better understanding the influence media might have on copycat behaviors. Potential school shootings might be identified based upon a variety of factors. Here we examined their writings specifically, but there are many variables that could help predict the commission of these crimes.

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Figure 1. Network Visualization

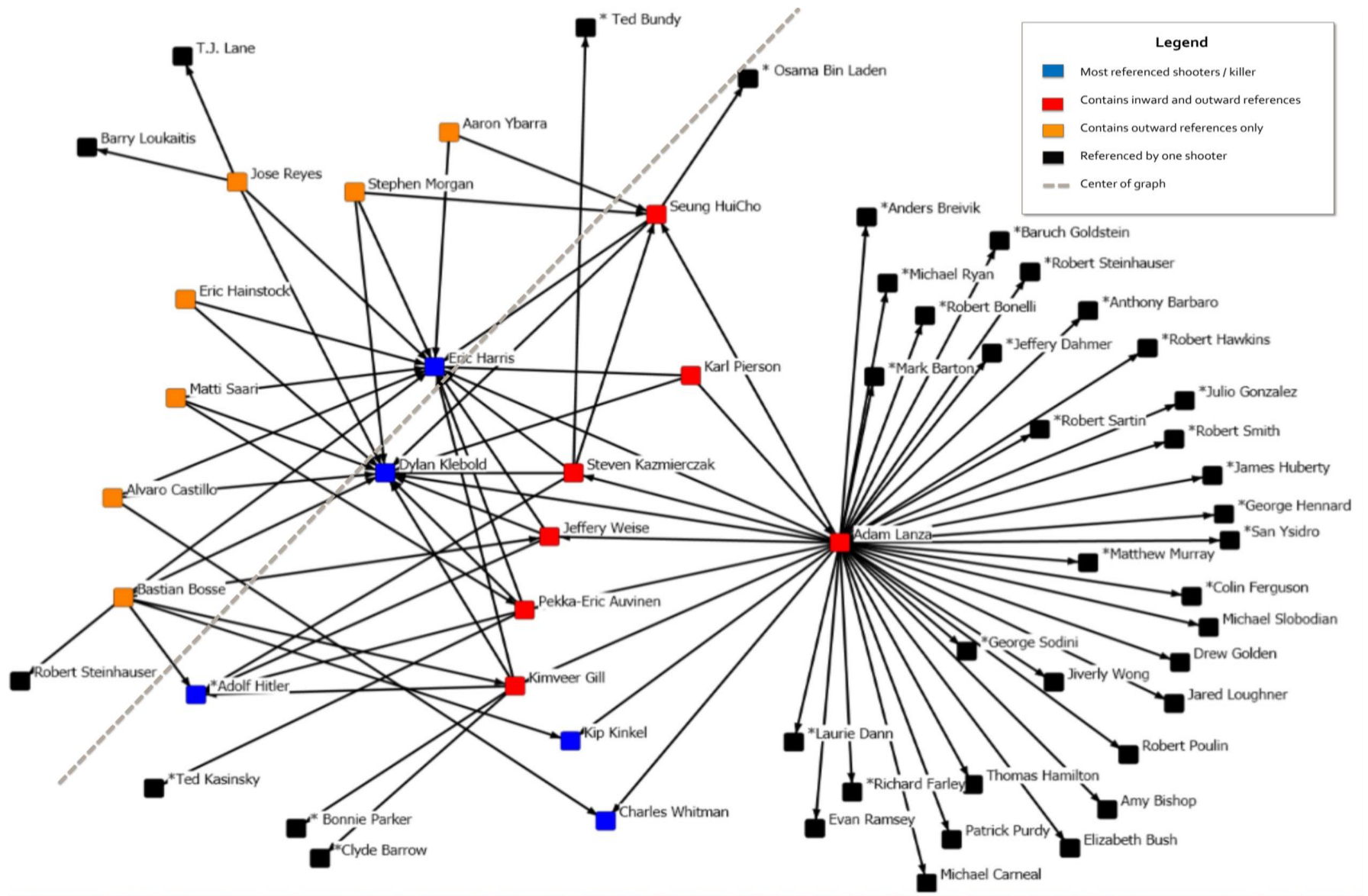




Figure 2. Network Visualization of School Shooters

