



Reducing Media-Induced Mass Killings: Lessons From Suicide Prevention

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Abstract

A mass killing is a complex behavior that is the product of a range of variables. Recent research suggests one such variable by showing that when a mass killing occurs there is a heightened chance of another occurring in the near future. This increase in probability has been referred to as contagion and one possible mechanism for contagion may be generalized imitation. Generalized imitation requires the presence of some model to prompt imitation, and we suggest media reporting methods as a prominent model inspiring future mass killings. This article analyzes mass killings as the culmination of a sequence of thoughts and actions that are influenced by environmental events including media reports of mass killings. We then evaluate media reporting guidelines and research related to the prevention of suicide and other imitational behaviors to identify reactive and proactive strategies that could minimize the likelihood of one mass killing inducing another.

Keywords

mass killing, media guidelines, generalized imitation, suicide, contagion, intervention strategies

When a mass killing occurs there is often extensive media coverage that follows a predictable pattern of reporting (Murray, 2017). In the initial moments after a mass killing, when few details are known, media reports express shock and focus on details of the crime scene. Dramatic footage of carnage and flashing police lights are repeatedly broadcast (e.g., NBC News, 2016). Victims, bystanders, and those who knew the killer are interviewed, and their reactions are captured with lingering close-ups of

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shock, rage, and sorrow (e.g., San Diego News Video, 2017). Once identified, the face and name of the killer are prominently and repeatedly displayed. Professionals and pundits suggest possible motives or attempt to diagnose the perpetrator (e.g., Katersky & Kim, 2014). Reporters describe the tragedy and the events leading up to the killing in exhaustive detail (e.g., Mischke, 2016). Ultimately everyone expresses a resolve that something must be done to prevent mass killings from reoccurring. In the United States, however, there is a high probability that a similar tragedy will occur again in the near future (Kissner, 2016; Towers, Gomez-Lievano, Khan, Mubayi, & Castillo-Chavez, 2015).

To fully understand a mass killing and develop effective strategies to decrease the likelihood of future events, it is necessary to identify specific variables that caused the tragedy to occur when and how it did. To that end, the purpose of this article is three-fold: First, we will explore basic assumptions regarding the action of engaging in a mass killing. We suggest that the thoughts and actions involved in a mass killing are best understood as having identifiable causes (i.e., they are not random) and that they are influenced by learning over the individual's life span. Second, we argue that the way media outlets report a mass killing can function as a variable that promotes additional mass killings. Finally, we identify specific strategies, both reactive and proactive, that media outlets can employ to minimize the likelihood of future mass killings.

Identification of Causal Variables

Although an assumption of causation is present for most behavior (i.e., people attempt to discern motives and ascribe clear causes that explain specific actions), there are some exceptions. When behavior is extreme and deviates significantly from the norm, or when it occurs unexpectedly and without any obvious precursors or warning signs, some people suggest that the behavior essentially had no meaningful or measurable cause. Others take a similar but somewhat more nuanced position that the behavior's cause is so mysterious and inexplicable that it could never be discerned (Best, 1999; Madfis, 2017). This is sometimes the reaction, for example, to suicide when individuals who take their own lives have no reported history of mental illness, do not express obvious anger or sadness, and have no clear crisis in their lives that would suggest a clear behavioral cause (Maris, Berman, & Silverman, 2000). In other cases, some people who commit mass killings are described as having simply "snapped," as was an explanation put forward for the 2017 Las Vegas mass killer (e.g., Rodger, 2017) and was stated directly in the suicide note of the 2007 Omaha mall shooter, despite the fact that mass killers do not just snap and impulsively commit their crimes (Levin & Madfis, 2009). A similar lack of cause is insinuated when a behavior is described as having "no motive" (e.g., Gass, 2016). The implication is that the actions were almost free from causation and occurred independent of what we know about the individual's biology, learning history, social context, or present circumstance.

In addition to theoretical and philosophical problems of assuming that behavior is inexplicable or without cause (see Baum, 2005, for a discussion), there are two distinct

practical problems raised by this assumption. First, to suggest any actions in a sequence leading up to an extreme behavior had no meaningful cause immediately ends further inquiry into the action. If we accept that a person's actions happened "out of nowhere," there is little need to continue investigating, as we have conceded that the cause is unknowable. This ultimately weakens our understanding of the person's actions. Second, this perspective significantly limits our ability to develop practical interventions to mitigate that behavior in the future. For instance, if we accept the problematic trope that a mass killer simply "snapped" (e.g., O'Reilly, 2017) there is nothing to be done in the future, except hope that other people do not snap as well. Thus, accepting that a person's actions do not have a discernible cause or were not influenced by any identifiable factors is not only inconsistent with empirical data (Madfis, 2017) but also problematic for both understanding and prevention purposes.

The alternative perspective is that everything a person does, whether thoughts or observable actions, has multiple causes that could, at least in theory, be identified. Ultimately, behavior is the product of the interaction between the individual's biology, environment, history of experiences, and temporally proximal events (Baum, 2005; Chance, 2014). For example, when someone completes a suicide, there can be many different causal factors that influenced the decision to kill oneself, including family history, mental health struggles, access to weapons, knowledge of suicidal behavior, exposure to suicidal behavior, societal attitudes toward suicide, recent crisis events, and more (Abrutyn & Mueller, 2014; Maris et al., 2000; Mesoudi, 2009; Phillips, 1974; Stack, 2000). In addition, beyond the decision to intentionally die, the suicidal behavior itself is the product of many smaller thoughts and actions that each have their own causes and shape the details of where, when, and how the person completes suicide.

Similarly, a mass killer's attack behavior is never solely attributable to single cause, even if one factor stands out, such as weapons availability, reported mental illness, family conflicts, work or school problems, social strains, or ideological motives (Langman, 2015; Lankford, 2016b; Levin & Madfis, 2009; Newman, Fox, Roth, Mehta, & Harding, 2004). The individual's personal characteristics and unique life experiences shaped his or her overall patterns of thoughts and actions, which are also influenced by events that occurred relatively close in time to the action of interest. For example, a mass killer's preference for a particular gun may have been shaped by a history of seeing guns on television or in the movies, experience using or researching different guns, and more (Langman, 2015; Lankford, 2016b; Laverne, 1997; Newman et al., 2004). Going out and actually obtaining a gun, however, is likely influenced jointly by this history as well as by more temporally proximal environmental factors or events that prompted him to obtain the gun when he did. This may have been the individual's exposure to a news report, or having experienced a recent crisis event, or having visited a friend's house where firearms were present, or having recently obtained funds to purchase a firearm. Notably, the perspective that all of a person's actions have causes encourages increased investigation, understanding, and intervention development. If a causal factor can be identified and altered or controlled, the resulting behavior could potentially be altered or controlled as well.

Generalized Imitation

For humans, an important causal factor is the behavior of others. One aspect of this is generalized imitation, which has been studied extensively in the fields of psychology and behavioral sciences (e.g., Baer, Peterson, & Sherman, 1967; Brown, Peace, & Parsons, 2009; Kymissis & Poulson, 1990). For the purposes of this article, we use the term *generalized imitation* to refer to situations in which an individual engages in a novel behavior as a result of either observation of a similar behavior or being provided a description of a similar behavior. The imitative behavior may or may not share formal similarity to the model and may occur at a later time. Any complex behavior, including imitation, is likely influenced by myriad sources of control such as rule governance (Skinner, 1957; behavior controlled by a verbal statement; e.g., “Everyone at work is incompetent”), joint control (Lowenkron, 1998; behavior controlled by an event and preserved by rehearsal of a verbal statement; e.g., repeating to oneself, “One day I’m going to make them pay”), and derived relational responding (Sidman, 1994; acting in a specific way based on how one event relates to another; e.g., “Everyone at work is incompetent” and “incompetent people need to be taught a lesson” therefore “I need to teach everyone at work a lesson”). However, generalized imitation is at the heart of complex imitation and explains how people can learn to imitate actions they see and hear (e.g., Anderson & Bushman, 2002; Eron, Huesmann, Lefkowitz, & Walder, 1972).

At the level of the individual, it is difficult to predict exactly who or what behaviors are likely to be imitated without extensive information about that person’s history of experiences. At the level of the group or society, however, there are factors that have been identified as increasing the likelihood of imitation. In general, people are more likely to imitate a model who (a) is similar to themselves, particularly in terms of age and sex; (b) is of an elevated social status; (c) is seen being rewarded; and (d) is seen as competent (Akamatsu & Thelen, 1974; Flanders, 1968). Furthermore, imitation can occur even when the person is only provided with a description of another person’s performance (Bandura & Mischel, 1965).

Generalized imitation has been demonstrated across a variety of problematic behaviors including airplane hijackings (Holden, 1986), smoking (Christakis & Fowler, 2008), jaywalking (Russell, Wilson, & Jenkins, 1976), binge eating (Crandall, 1988), rudeness in the workplace (Rosen, Koopman, Gabriel, & Johnson, 2016), and other behaviors such as aggressive behavior in children (e.g., Eron et al., 1972).

Generalized Imitation, Suicide, and the Role of the Media

However, perhaps the most well-studied example of generalized imitation is that of suicidal behavior. Following a high-profile suicide there is evidence of a temporary increase in suicide rates (Gould, Wallenstein, Kleinman, O’Carroll, & Mercy, 1990; Haw, 2013). This is referred to as a *point cluster* when this increase is geographically bound (i.e., the increase appears only in the neighborhood or community of the original suicide; Gould, Wallenstein, & Davidson, 1989; Gould, Wallenstein, & Kleinman,

1990) and a *mass cluster* when it is not geographically bound (i.e., the increase appears beyond the location of the original suicide; Phillips, 1974; Stack, 2000). Both point and mass clusters are partly the product of the variables that cause generalized imitation (Mesoudi, 2009); however, the mode of transmission may be different. For example, in a point cluster, one suicide in a high school community may increase the overall suicide rate within that community. Although in this case there may be media coverage of the suicide (e.g., from local news stations and newspapers), there is also likely direct contact between the community and those involved in the incident or its broader aftermath. A mass cluster, by comparison, refers to an overall increase in the rate of suicide following an individual suicide where the increase is not only in the immediate vicinity. Given the lack of geographic boundaries with mass clusters, the media likely play a prominent role in inducing imitational suicide (Haw, Hawton, Niedzwiedz, & Platt, 2013; Mesoudi, 2009).

The earliest example of media-induced imitational suicide extends as far back as the publication of *The Sorrows of Young Werther* by Goethe during the 18th century. In the novel, Werther falls in love with a woman he cannot have and ultimately shoots himself after he is rejected. Following the publication of the novel, there were reports of an increase in suicides across Europe, with people dressing like Werther, using similar methods of suicide, or having copies of the book in their possession. Consequently the book was banned in several European countries (Jack, 2014), and imitational suicide is now often referred to as the “Werther effect” (Phillips, 1974).

Similarly, in the late 1990s, a popular British drama *Casualty* aired an episode where a character attempted suicide through drug overdose. This airing was associated with an increase in overdose using the same drug used in the episode (Hawton, Deeks, & Altman, 1999). More recently, Netflix aired the series *13 Reasons Why* that explores the suicide of a fictional teen female. In the season finale, the teen is shown completing suicide, with the camera capturing the act and aftermath. After the show’s release, researchers noted an increase in Internet searches related to suicide (Ayers, Althouse, Leas, Dredze, & Allem, 2017). Perhaps most alarming, many of the search queries were focused on suicide ideation (e.g., “how to kill yourself”), reflecting imitation of actions. Overall, evidence suggests that when mass media highly publicize suicide events, or when people are exposed to suicides (real deaths or fictional accounts), there is often a subsequent increase in suicides or suicide-related behavior (Niederkrötenhaler et al., 2012; Phillips, 1974; Phillips & Carstensen, 1986; Stack, 1987, 2005). Although media coverage is not the only variable that could influence these subsequent suicides (Mueller, 2017), it is nonetheless an important one.

Given the finding that that some suicides may be imitative, various organizations such as the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) have issued guidelines and recommendations for media reporting on suicide. For example, the WHO (2017), pointing to a large body of research on imitative suicide, recommends that media reports (a) refrain from using sensational language or normalizing suicide, (b) avoid unnecessary repetition of the story, (c) use neutral rather than emotionally charged photos, (d) refrain from detailing the method of death, and (e) take particular care when the suicide involved a celebrity. Although

these guidelines are not uniformly followed, there is evidence that when media adheres to these and similar guidelines there tends to be a decrease in imitative suicide (Etzersdorfer & Sonneck, 1998; Niederkrotenthaler & Sonneck, 2007).

Media-Induced Mass Killing

As with high-profile suicides, when a mass killing occurs, there appears to be an increased risk that similar behaviors will occur. Some studies have found that following an initial mass killing or active shooting, another incident will occur within the next 13 to 14 days, on average (Kissner, 2016; Towers et al., 2015). Essentially, one attack appears to induce another—there is an imitative or “contagion” effect. Other research has shown that many mass shooters have cited previous attackers as sources of inspiration and copied their language, clothing, attack methods, or other behaviors (Langman, 2017), which seems very similar to the behavior of the suicidal people who copied *The Sorrows of Young Werther*.

When a person engages in a mass killing, the imitation of a model is neither the only variable responsible for the behavior nor always a relevant variable. There are a variety of other factors that may play a role as well, such as weapons availability, mental illness, family conflicts, work or school problems, social strains, or ideological motives (Langman, 2015; Lankford, 2016b; Levin & Madfis, 2009; Newman et al., 2004). However, when temporal clustering of mass killings is demonstrated (i.e., mass killings appear “contagious”; Kissner, 2016; Towers et al., 2015), the action may be considered imitative.

Although mass killing reporting guidelines have been offered through campaigns such as “No Notoriety” and “Don’t Name Them”—and scholars have suggested the importance of altering how the media covers these incidents (Lankford & Madfis, 2017; Meindl & Ivy, 2017; Murray, 2017)—media outlets appear to have largely ignored the recommendations. For example, in describing the Las Vegas mass shooting, CNN published an article titled “When Bullets Rained Down on Las Vegas” (Ahmed & Chiamonte, 2017) that included images of the mass killer and multiple videos of bloodied concert attendees fleeing the scene, which heaped fame and notoriety onto the behavior of the attacker. Fox News (2017b) provided a minute-by-minute time line of the attack and aftermath, providing a detailed model for other would be attackers. Other sources, such as *The Washington Post*, raised the attacker from relative obscurity to national infamy by including not only pictures of the Las Vegas shooter but also extensive descriptions of the shooter’s life as well as comparisons with other mass killers (Liston, Wan, Somashekhar, & Davis, 2017).

Particularly in the case of mass shooters, media outlets often select images that portray the shooter as dangerous or menacing (e.g., Hausam, 2015; McMahan, 2015), which are often desirable qualities for future killers. Sometimes these photos are staged and created by the perpetrator themselves for media release. Shooter manifestos (e.g., Li, 2015; McMahan, 2015) and life stories are often published that serve to point out similarities between shooters and others who may have similar ideas, histories, or experiences. Finally, repeated coverage of the attacker serves to increase the

shooter's social status and repeated mention of body counts demonstrates their competence. Taken together, these media reporting tactics transform an otherwise obscure individual into a model to be imitated by individuals in similar circumstances or with similar motivations and may increase the likelihood of an imitative mass killing.

Decreasing the Likelihood of Imitative Mass Killings

The WHO media reporting guidelines for suicide are effective because they operate directly on the factors that increase the likelihood of imitation, such as similarity, social status, reward, and competency. When stories of suicide are frequently repeated, it serves to highlight similarities between the people who killed themselves and others. The use of sensational language and emotionally charged photos can be seen as rewarding the behavior with excessive attention and focus. When the deceased person is a celebrity, the model is of an elevated social status. Finally, detailing the method of death provides specific information on the behavior of someone who could be viewed as competent and in control.

Intervention Strategies Derived From Generalized Imitation

When imitative mass killing is analyzed as a sequence of actions partly induced by media reports of other mass killings, strategies to decrease the likelihood of imitation come into focus. These strategies could broadly be categorized as reactive and proactive.

A reactive media strategy is one enacted during or shortly after the occurrence of a mass killing that alters the way a mass killing event is reported. For example, withholding the name and photo of a mass killer could be considered a reactive strategy as it can only go into effect after a mass killing has already taken place. A proactive media strategy is one that could be enacted prior to the occurrence of a mass killing event. A media campaign designed to prevent mass killing or precursor behaviors would be an example of a proactive strategy. Importantly, all media outlets (legacy, social, new) can play a role in the implementation of both the reactive and proactive strategies.

Reactive Strategy: Altering Reporting Practices

Media-induced imitated mass killings could be decreased by altering reporting methods and adopting or adapting guidelines for reporting suicides (e.g., the WHO Reporting Guidelines). Table 1 provides guidelines for media reporting of a mass killing event. Each of the suggestions, adapted from suicide prevention recommendations, addresses the various factors that could induce imitative mass killing.

Although adherence to these recommendations would potentially decrease imitated mass killings, there are barriers to adoption. Media outlets operate in a competitive market and must maintain viewership. Following our reporting guidelines would

Table 1. Guidelines for Reporting a Mass Killing.

To avoid when reporting	Description, rationale, and recommendations
Avoid language, description, or visual presentation that sensationalizes mass killing.	Using dramatic language can increase the perceived reward for imitating similar behavior and draws unnecessary attention to the act. Sensational visual presentation (e.g., scrolling "Breaking News" banner) can create unnecessary excitement. Instead, reports should be presented in a neutral and matter-of-fact manner and visual elements should be toned down.
Avoid explicit description of the perpetrator's methods.	Reporting details of the perpetrator's methods may induce similar action or establish the individual as a competent model. Instead, describe the event in broad, nonspecific detail.
Avoid undue repetition or excessive reporting of the event and consider prominence of placement in the context of other news.	Do not allow the story to consume the news cycle. Excessive repetition can increase perceived attention and notoriety for engaging in similar behavior. Instead, repeat the story only as much as necessary to inform the public.
Avoid using video footage or photographs of the event.	Dramatic footage or images of the aftermath should be avoided. These media have questionable news value, can be construed as reward, and can serve as powerful models when coupled with additional information. Instead, use stock images or images with neutral emotional content.
Avoid presenting simplistic explanations for the behavior (e.g., he was angry or troubled).	Simplifying the explanation of a mass killing may promote similar behavior from other people in similar circumstances. Instead, refrain from speculating on cause or indicate the behavior is complex with no single, clear cause.
Avoid elevating mass killing or the perpetrator.	Describing the perpetrator in terms that set him or her apart (e.g., "a lone wolf") or that are traditionally perceived to be negative (e.g., "a thug") can be perceived as positive by some individuals. Reports of community reactions such as grief may also contribute to perceived reward. Displaying the perpetrator's image or name may be seen as rewarding. Instead, report on concrete details in nonjudgmental or nonemotional ways. Do not report the perpetrator's name or image.
Avoid presenting mass killing as a tool or means to accomplish certain ends.	Describing a mass killing in context of the desired outcome or as a tool to achieve a certain end may suggest that engaging in similar behavior is an effective response under similar conditions. Instead, report only the details of the event and withhold motive. If motive is necessary to the story, do not dwell on the motive.
Avoid describing a mass killing as part of an increasing trend.	Describing mass killing as "on the rise" can normalize the behavior and may induce others to engage in similar behavior. Instead, if reporting on trends is newsworthy, such reports should be detached from coverage of any specific mass killing event. Carefully evaluate the data before suggesting any trends.

(continued)

Table 1. (continued)

To avoid when reporting	Description, rationale, and recommendations
Avoid publishing manifestos, writings, pictures, or videos left by the perpetrator.	Disseminating such information may signal that a mass killing is an effective way to spread a message. Instead, indicate that information was retrieved and is being analyzed by law enforcement professionals. Do not disseminate this information unless absolutely necessary.
Avoid dramatic live press events following a mass killing.	Live press events often follow mass killings. These events often sensationalize and increase the overall excitement of the event. These events do not need to be live. Instead, rely on press releases instead of live events.
Avoid quoting/ interviewing police, first responders, witnesses, or victims about the causes of mass killing or to recount graphic detail of the event.	Quotes that recount the carnage of a mass killing could disseminate misleading information, provide unfiltered details that serves as an effective model, or sensationalize and emotionally charge the story. Instead, seek input from experts when necessary and present in an emotionally neutral way.

allow for a news story to remain informative, but the guidelines are designed to make the report somewhat “bland,” with the goal of minimizing attention or fame associated with the event. Media outlets may therefore be reluctant to adopt these guidelines given that informative but uninteresting stories may negatively affect viewership when other more sensational reports are available. Furthermore, it is unlikely that adoption of our guidelines could be mandated.

One solution could be to compel adoption through public pressure. It could be possible, for example, to rank media outlet adherence to the guidelines through a rating scale linked to our recommendations. This ranking could be published to inform the public regarding the extent to which different media outlets responsibly report mass killings. This ranking could also allow these same outlets to self-evaluate reporting methods and monitor guideline adherence. Rankings could also be distributed to advertisers who partner with media outlets. Finally, social media platforms could voluntarily implement a policy regarding uploading content and use a similar scoring system to evaluate user content.

Proactive Strategy: Mass Media Campaign

Mass media campaigns have been used to effectively impact a variety of negative behaviors ranging from tobacco and alcohol use (Wakefield, Loken, & Hornik, 2014) to suicide (Acosta, Ramchand, & Becker, 2017). Although these behaviors are quite distinct from mass killings, they do share similarities in that they are complex actions that can be influenced by the conditions that promote generalized imitation (Abrutyn & Mueller, 2014; Christakis & Fowler, 2008). Furthermore, suicide may be a partial

motivation for mass killings by some perpetrators (Lankford, 2015). Given these behavioral similarities, it may be possible to develop an effective anti-mass killing media campaign by adapting some of the key features of other effective media campaigns.

Effective suicide prevention campaigns emphasize that the behavior is preventable, tailor the message to a specific audience, do not glorify or romanticize suicide, intentionally withhold personal information of the decedent, do not present suicide as unexplainable, do not present suicide as reasonable, do not present suicide as solely the result of one cause such as depression, do not depict the specific act, and perhaps most important for mass killing, do provide specific warning signs associated with the behavior and indicate what steps should be taken if warning signs are observed (Acosta et al., 2017). Furthermore, campaign messages are carefully crafted to ensure the behavior is not viewed as a social norm or to be expected. For example, an effective message should refrain from indicating that “many people engage in this unwanted behavior” because inherent in this message is that “many people engage in this behavior” (Cialdini, 2003), which may further promote imitation.

There are additional components that would not be appropriate for suicide prevention campaigns but may prove effective for an anti-mass killing campaign. One such component is associating the behavior itself with undesirable outcomes. This strategy has been effective in antismoking campaigns such as the CDC’s *Tips From Former Smokers* campaign (TIPS). A primary component of this campaign is the release of short video clips that visibly present a variety of negative health outcomes such as cancer, asthma, premature birth, and gum disease. A former smoker suffering from the negative health outcome narrates the video and concludes with a tip linked to the specific smoking-related outcome.

In the *Terrie’s TIPS* ad (CDC, 2012b), for example, Terrie provides tips about “getting ready in the morning” following throat cancer resulting in a loss of teeth, hair, and the necessity of a laryngectomy. An image of a young smiling Terrie is presented and then immediately followed by the current Terrie being shown putting in false teeth, donning a wig, and putting a hands-free valve into her stoma. She concludes with “and now you’re ready for the day.” The video closes with a link to the CDC for tips on quitting smoking. Since beginning in 2012, TIPS has proven effective in reducing the number of new smokers as well as increasing the number of current smokers who intend to quit (Davis et al., 2018).

There are several qualities that make the TIPS campaign effective. First, the undesirable behavior is associated with specific and persistent negative outcomes. Rather than just stating that smoking results in death, the videos depict people living with the long-term consequence of the behavior. Similar strategies have been effectively used in antilittering campaigns where linking the behavior with shameful or embarrassing outcomes has been effective (Grasmick, Bursik, & Kinsey, 1991). The goal of these campaigns is not simply to increase knowledge or awareness regarding the behavior but also to identify specific negative outcomes and link them as direct consequences of the behavior to be changed.

Lankford (2016a) suggests that some individuals who engage in a mass killing do so to obtain attention or fame as a direct outcome of the behavior. In crafting an effective media campaign targeting mass killing, one goal would be to disrupt the relation between the behavior and fame by linking the behavior with unpleasant outcomes instead. Rather than depicting the mass killer as aggressive, dangerous, or menacing (all qualities that may be appealing to some individuals), mass killers may be portrayed as weak, cowardly, or ineffectual (qualities most people tend to find undesirable). For example, when media outlets imply that a mass killer avoided punishment through either suicide or “suicide by cop,” as was suggested of the Las Vegas shooter (e.g., Fox News, 2017a), it may imply that the killer was highly competent throughout and up to the conclusion of the event. Although it would probably be better to avoid speculation altogether, to the extent it is necessary to imply a motive for the suicide, it could be portrayed as the final act of a helpless person or an instance where the killer lost control of the situation. Additionally, it may be possible to alter the way mass killers are perceived by highlighting negative characteristics of mass killers in general. For example, nearly one fifth of public mass killings are precipitated by a domestic dispute (Krouse & Richardson, 2015). If this information needed to be reported to the public, it might be framed as an example of mass killers lacking sufficient control over their own behavior or being immature or juvenile in their actions. Ultimately the goal is to change the way the mass killer and the killer’s behaviors are portrayed by the media. Rather than depicting the killer as a vicious loner who took the lives of many people while devastating a community and avoiding justice through suicide, for example, the killer could be portrayed as an impulsive nobody who lacked the strength to handle his own problems and who ultimately engaged in a violent tantrum.

If media outlets were to adopt this strategy, care would need to be taken to avoid implying these descriptions represented actual causes of behavior. The goal of such a campaign would be to repeatedly link the killers with negative qualities and demonstrate that mass killings are only effective at producing undesirable outcomes. It is important to note here that the types of outcomes people find rewarding are idiosyncratic and what is undesirable for one person may be desirable for another. For example, although many people may want to avoid bringing shame on their families, this may not be the case for many who commit mass killings. Familicide is one of the most common forms of mass killing (Stone, 2015), so stressing the discomfort a mass killing might bring on a family may not be an effective deterrent. Efforts should therefore be made to link the behavior with outcomes that would be most unpleasant to individuals likely to perpetrate a mass killing in the first place. Such tailoring of messages has proven effective in suicide prevention campaigns (Acosta et al., 2017) and could be replicated with mass killings.

In developing an anti-mass killing campaign it would be crucial that the development, design, piloting, and ultimate dissemination be carefully monitored. One method that could be followed to guide campaign development and rollout is The RAND/UCLA Appropriateness Method (Fitch et al., 2001), which synthesizes scientific evidence and literature with expert opinion to determine whether a campaign adheres to best practices. The RAND/UCLA Appropriateness Method checklist has been successfully used to

evaluate suicide prevention campaigns (Acosta et al., 2017) and could be adapted to mass killings.

Although the media are implicated in inducing generalized imitation of mass killings, they could also play an important role in an anti-mass killing campaign. Not only could various media outlets assist in the development of the campaign, but all media outlets (legacy, social, new) would be essential in its dissemination. Social media in particular would play an important role and would likely need some additional guidance. In general, media campaigns are more effective at changing a viewer's behavior if that viewer sees the campaign is changing the behaviors of peers (Paek, Gunther, McLeod, & Hove, 2011). Given the immediate feedback that is afforded by social media platforms such as Facebook and Twitter, the effectiveness of the campaign could be greatly amplified. On the other hand, unmoderated discussion forums have proven problematic in suicide prevention campaigns (Acosta et al., 2017), so dissemination on social media would need to be closely monitored.

Conclusion

Mass killings are tragic and complex events that have a deleterious impact on the victims, surrounding community, and broader society. Given the complexity of the behavior, it is unlikely that there is any single solution; rather, decreasing mass killings will likely require an ongoing, multifaceted, and ever-evolving approach. The finding that mass killings may be imitated, and the recognition of the role the media play in inducing imitative actions that may lead to mass killing, should be viewed as a mixed blessing. On one hand, it is unfortunate that media reporting methods may spur more violence. On the other, this finding points to several avenues of intervention, and these same media outlets can be an important part of the effort to curb future violence. When a mass killing does occur, media outlets can reactively intervene by adhering to our proposed guidelines and modifying their reporting methods. These same outlets can also proactively intervene by being part of an effort to develop and disseminate campaigns aimed at directly minimizing the likelihood of future mass killings.

Importantly, the cost of these reactive and proactive efforts is relatively minimal compared to the economic and human costs of a mass killing. The cost of changing reporting methods lies primarily in the temporary potential for readership or viewership loss. This cost would be offset, however, if multiple media outlets adopt the reporting guidelines, as there would be limited sensationalized options for viewers. The cost of a mass media campaign is initially somewhat steep, but by focusing on a large audience and accounting for repeated views, the overall amount per head would be relatively low. Consider, for example, that the economic cost of the shooting at the Pulse nightclub is estimated to be somewhere between \$385 to \$390 million when including the expenses of medical treatment, police response, employer losses, and the dollar value of the lives lost (Suarez, 2016). In comparison, the TIPS campaign cost roughly \$48 million. If just one major mass killing is prevented, the monetary savings would likely cover the cost of developing and distributing an entire anti-mass killing media campaign.

There are some limitations with the analysis and recommendations we have provided. First, the focus of the current analysis is solely on media influence on imitative mass killing. Not all mass killings are imitated (Lankford & Tomek, 2017), and not all mass killings are influenced by media. At a broader level, there are myriad variables that affect mass killings and many additional avenues for intervention. To more effectively reduce all mass killings, a broader understanding is necessary. Our goal in this article is to provide recommendations based on what is generally understood now, with the expectation that further refinements and advancements will come with increased knowledge on the subject.

A second limitation is that the recommendations and suggestions within this article are formulated through a conceptual analysis of mass killing. There is limited direct empirical research to validate the recommendations we have provided. If our recommendations are to be adopted, it is essential that their effects be monitored from the onset to assess outcomes. There are multiple examples of antismoking campaigns that actually increased smoking (see e.g., CDC, 2012a), so an anti-mass killing campaign must be developed based on current research with its effects closely measured.

Ultimately, a mass killing is the final result of a sequence of thoughts and actions. Each part of the sequence, and the mass killing itself, is influenced by both historical and more immediate environmental causes. One such variable is the way media handle coverage of a mass killing event, and our analysis suggests that common reporting practices can produce imitative mass killings. This same factor has been implicated in imitated suicide. Given this shared mechanism for transmission, it may prove fruitful to model mass killing interventions on strategies that have proven effective for suicide prevention. Imitated suicides have been reduced through adherence of reporting guidelines and mass media campaigns, and we propose the same be implemented to reduce imitated mass killings.

Although a complete account of the experiences and variables that lead to a specific mass killing are presently out of reach, psychologists and behavioral scientists are in a unique position to extend the analysis of behavior to discover variables of broad import. The continued study of mass killing in context of the individual's history of experiences and present circumstances will undoubtedly lead to discovery of additional variables and prompt further refinement. A functional explanation of mass killing is not an easy task, but it is possible. Given the tragedy and devastation inflicted by a mass killing, it is a task worth undertaking.

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