Fame-seeking mass shooters in America: Severity, characteristics, and media coverage

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KEYWORDS: Mass shooting; fame; mass media, gun violence, school shooting

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Abstract

The current study examines the severity, characteristics, and coverage of fame-seeking mass shootings in the United States from 1966 to 2018. Specifically, this research highlights the rate of incidents and casualties, provides a comparison of fame-seeking shootings against all other mass shootings, and examines the media's coverage of the phenomenon. Findings illustrate a rise in incidents and casualties at the turn of the century. Fame-seeking perpetrators were overwhelmingly males who often perceived themselves as victims. They were more likely than other types of mass shooters to be young white students, with signs of mental illness, suicidal tendencies, and grandiose behaviors. They were also more likely to target schools and use a combination of weapons. Additionally, fame-seeking shooters were more likely to receive media coverage than their counterparts, thereby reinforcing their initial motivations. A discussion of findings highlights important implications for scholars, practitioners, and media outlets covering the phenomenon.

Keywords: Mass shooting; fame; mass media, gun violence, school shooting

1. Introduction

In May 2018, a 17-year-old student[1] opened fire on classmates at his Texas high school, killing ten and injuring thirteen. Prior to the incident, he posted a picture on Facebook with a message, "BORN TO KILL." During the shooting, he wore a black trench coat similar to the iconic attire worn by the Columbine shooters (Turkewitz & Bidgood, 2018). Upon arrest, he told investigators he wanted to let some people live "so he could have his story told" (Politi, 2018). Within a few hours after the shooting, the perpetrator was identified and his name and picture were made public to audiences around the globe. The excessive media coverage fulfilled one of his stated goals in perpetrating the shooting: mass distribution of his story and achievement of a unique type of fame.

In an era of media spectacle, producing sensational acts of violence and terror is one way to guarantee maximum media coverage and achieve celebrity (Duwe, 2000; Kellner, 2008; Silva & Capellan, 2019). Scholars suggest fame-seeking mass shooters succumb to grandiose behaviors which motivates them to seek notoriety and glory through killing (Langman, 2018; Lankford, 2016a; Larkin, 2009). These shooters seek out media attention to fulfill their desire for infamy, and the media is often complacent in providing them a platform (Lankford, 2018a; Serazio, 2010). For example, mass shooters received more coverage during the month after their attack than famous American celebrities, Super Bowl champions, and Academy Award winners (Lankford, 2018a). As a result of this extensive coverage, Lankford (2016a) suggests fame-seeking incidents will continue to grow and involve record setting victim counts. Therefore, it is important for research to continue investigating the fame-seeking mass shooting phenomenon.

To date, academic works examining fame-seeking mass shootings have been largely qualitative (Bushman, 2018; Lankford & Madfis, 2018) and exploratory (Serazio, 2010;

[1] In line with the "no notoriety" campaign, this study does not include any of the perpetrators' names.

O'Toole, 2014; Lankford, 2016a), predominantly focused on a few high-profile incidents involving perpetrators who explicitly stated their desire for fame. For instance, these works routinely examine the Columbine perpetrators, who discussed whether "it would be better if Steven Spielberg or Quentin Tarantino directed the film about them" (Langman, 2015). However, previous scholarship has often overlooked perpetrators with less explicit signs of celebrity seeking. For example, the perpetrator of a 2008 mass shooting at Northern Illinois University referenced previous mass shooters in detail and routinely expressed admiration for the methods of previous perpetrators prior to committing the attack (Vann, 2009). While this may not appear an obvious sign of fame-seeking, this perpetrator paid close attention to mass shootings that had generated significant media coverage, such as the Columbine and Virginia Tech incidents, and reportedly sought to emulate those attackers during his attack (Vann, 2009). Previous studies have discussed contagion, copycat criminality, and warning signs for fame-seeking perpetrators (Langman, 2017, 2018; Lankford & Madfis, 2018). Despite this, they rarely provide an in-depth quantitative assessment of the phenomenon. Additionally, while many studies have emphasized the media's potential impact on fame-seeking perpetrators, there is currently no research that assesses the actual coverage of this specific mass shooting typology.

The purpose of this work is to collect knowledge on fame-seeking mass shootings and provide a comprehensive quantitative assessment of the phenomenon. The current study examines the severity, characteristics, and coverage of fame-seeking mass shootings in the United States from 1966 to 2018. This research highlights the rate of incidents and casualties, provides a comparison of fame-seeking shootings against all types of mass shootings, and examines the media's coverage of the phenomenon. The insights gained from this investigation

provide important implications for future scholars researching the problem, practitioners seeking to develop prevention strategies, and media outlets covering the mass shooting phenomenon.

2. Literature Review

2.1. Fame-seeking Mass Shootings

At the turn of the century, there has been a suggested rise in mass shootings (Capellan, 2015a; Capellan & Gomez, 2018; Silva & Capellan, 2019). Although a contentious issue, this perception of an emerging threat has contributed to an increase in mass shooting scholarship, which is often focused on perpetrator motivations (Silva & Greene-Colozzi, 2018) and typologies, including terrorist, workplace, and school shootings (Lankford, 2013; Silva & Capellan, 2018). Incidents that do not fit within these typologies are often characterized as rampage (i.e. general and/or "other") mass shootings (Lankford, 2013; Silva & Capellan, 2018). As a result, strategies for understanding and addressing the problem may be limited by failing to consider alternative types of mass shootings that could offer valuable contributions to security, policy, and prevention development (Silva & Greene-Colozzi, 2018). To address this, recent scholarship has introduced a new type of mass shooter: fame-seeking perpetrators.

Fame-seeking mass shooters are differentiated from other mass shooters by their explicit desire for infamy (Langman, 2018; Lankford, 2016a). This idealization of celebrity through violence is often attributed to the media attention given to violent role models. The lasting celebrity of certain mass shooters serves as a subcultural indicator to potential fame-seeking perpetrators that sensationally violent offenders are glorified, rather than despised, thereby breaking the social taboo against mass shootings (Langman, 2017). Since mass shooting perpetrators frequently experience social isolation and real or perceived peer rejection (Twenge & Campbell, 2003), they may view the ensuing media attention as rightful recognition from a

previously dismissive society (Langman, 2017). As the fame-seeking typology has emerged as a distinct characterization from other mass shooters, academic attention to this subgroup has intensified and predominantly focused on: (1) psychological characteristics, and (2) the relationship with the mass media.

2.2 Fame-seeking Characteristics

Studies have suggested a few background characteristics of fame-seeking shooters. Lankford (2016a) finds fame-seeking shooters often suffer from some form of mental illness[2] (i.e. clinical depression, schizophrenia, posttraumatic stress disorder), which may contribute to social marginalization (Lankford, 2016a; Twenge & Campbell, 2003) and increased rates of suicidal ideations (Lankford, 2018b). However, the act of suicide alone counters fame-seeking shooters' inflated perceptions of self (Kellner, 2008), as studies have indicated that many fame-seeking shooters display narcissistic traits (Bushman, 2018; Kellner, 2008; Twenge & Campbell, 2003). For example, Bushman (2018) examined the fame-seeking Columbine perpetrators' statements highlighting their ego-driven need for respect and remembrance. Lankford (2016a) suggests fame-seeking shooters often display grandiose behaviors. This combination of social marginalization and grandiose behaviors contributes to perceptions of victimization and feelings of under-appreciation, disrespect, or mistreatment (Lankford, 2016a).

While previous studies offer insight into the mindset of fame-seeking shooters, they are largely rooted in the same handful of high-profile examples (e.g. Columbine and Virginia Tech), and ultimately fail to consider the fame-seeking phenomenon at large. Additionally, they do not provide comparisons to other mass shootings to determine what makes fame-seeking perpetrators unique. Lankford (2016a) attempted to address this issue by comparing fame-seeking shooters (*n*

[2] This should not be taken as evidence that mental illness in any way causes mass shootings. Duwe (2013) reports that approximately half of mass shooting perpetrators have a history of mental illness (i.e. half do not), and Swanson (2011) adds that mentally ill individuals who commit rare acts of violence often have comorbid substance abuse.

= 18) with other rampage (i.e. mass) shooters (n = 201) drawn from a variety of open-source mass shooting databases. He identified a significant difference in perpetrator age, with fame-seeking shooters averaging 20.4 years old, and other shooters averaging 34.5 years old. He also identified a significant difference in the number of victims killed and wounded across groups. Fame-seeking shooters killed an average of 7.2 victims, while other shooters killed an average of 3.0 victims. Fame-seeking shooters also wounded an average of 8.0 victims, while other shooters wounded an average of 3.9 victims.

Lankford's (2016a) initial exploratory study provides a strong foundation for quantitatively assessing fame-seeking mass shootings. Despite this, Lankford's (2016a) work does not analyze many of the perpetrator characteristics suggested in previous research on fame-seeking shooters (e.g. mental health, grandiose behaviors, perceived victimization, etc.), or in analyses of the mass shooting problem at-large (e.g. race, education, criminal history, etc.). Similarly, Lankford (2016a) – along with all other examinations of fame-seeking shootings – is limited by only considering the number of casualties (i.e. fatalities and injuries), and overlooking other incident characteristics routinely included in assessments of the mass shooting phenomenon (e.g. location, weapon, conclusion, etc.). Finally, he has a relatively small sample size of rampage shootings in comparison to other studies of the phenomenon with similar definitions and timelines (Capellan, 2015b, Capellan & Gomez, 2018; Schildkraut & Elsass, 2016; Schildkraut, 2018; Silva & Capellan, 2018). Similar limitations also extend to mass media assessments of the fame-seeking problem.

2.3. Media Coverage of Mass Shootings

The mass media and mass shooters are involved in a symbiotic relationship (Silva & Capellan, 2019). The news media requires sensational and violent forms of homicide to satiate

the public's fascination with violence (Duwe, 2000; Jewkes & Linnemann, 2018). Alternatively, mass shootings by definition require a public stage before an audience (Krouse & Richardson, 2015; Newman et al., 2004). The news media widens the breadth of the audience and reinforces the goals of certain types of perpetrators (i.e. fame-seeking, terrorist, etc.) (Silva & Capellan, 2019). Lankford and Madfis (2018) highlight the consequences of media coverage of mass shootings finding it: (1) gives them what they want; (2) increases their competition to maximize victim fatalities; and (3) leads to contagion and copycat effects. These issues are particularly important when considering fame-seeking shooters' primary goal of gaining infamy.

First, fame-seeking shooters require media attention to fulfill their desire for notoriety. The American premise that "there is no such thing as bad publicity" suggests the distinction between fame and infamy is disappearing (Lankford & Madfis, 2018). Fame-seeking perpetrators recognize that one of the few ways to ensure media celebrity is through violent actions against random individuals in a public setting (Lankford, 2016a; Silva & Capellan, 2019). These random acts of violence influence the public perception that a mass shooting could happen to anyone, anywhere, anytime - subsequently drawing the public to media information surrounding mass shootings (Silva & Capellan, 2019). Additionally, the public tends to be fascinated by crime news involving sensational acts of violence (Duwe, 2000), and news outlets cater to the audiences' interests, summed up as, "giving the public what it wants" (Jewkes & Linnemann, 2018). Taken together, this suggests that the media, and by extension the general public, is complacent in providing fame-seeking shooters their desired platform for notoriety.

Second, media coverage increases perpetrators' competition to maximize victim fatalities. Given the public's fascination with violence, studies find one of the most important homicide incident characteristics influencing the salience of coverage is the number of victims

(Chermak & Gruenewald, 2006; Duwe, 2000; Schildkraut, Elsass, & Meredith, 2018; Silva & Capellan, 2019). This supports the generally accepted media axiom, "if it bleeds, it leads" (Lawrence & Muller, 2003). Silva and Capellan (2019) find one of the most significant indicators of mass shooting newsworthiness is the number of deaths and injuries, and similarly, Duwe (2000) and Dahmen (2018) report that mass shooters with high victim counts are more likely to be discussed in major national newspapers and receive more prominent photographic coverage than their victims. Mass shooters may be aware that media coverage is dependent upon high rates of victimization (Lankford, 2016a; Lankford & Madfis, 2018), and consequently, might attempt to outdo previous victim counts, consistent with Lankford's (2016a) suggestion that fame-seeking shooters are continually trying to raise the bar and carry out the worst mass shooting in history.

Finally, studies indicate media coverage impacts (directly or indirectly) the rate of incidents. For example, Towers et al. (2015) find excessive news media coverage of mass shootings produces a "contagion effect," whereby news media contributes to more mass shootings and possible copycat crimes. As noted, studies have suggested fame-seeking perpetrator attributes include grandiose behaviors, mental illness, and perceived victimization. Scholars suggest these attributes may contribute to copycat behaviors resulting from heroic idolization, perceived personal similarities, and infatuation (Langman, 2017, 2018; Lankford, 2018b). Langman (2018) suggests that identification and publicity of a violent role model not only legitimizes violent ideology, but also provides a template for action and the opportunity for innovation. For example, online fan communities celebrating mass shooters have existed on the Internet since the Columbine attack, and some of them have been visited by subsequent mass shooting perpetrators (Langman, 2017; Oksanen, Hawdon, & Räsänen, 2014; Paton 2012).

Similarly, many mass shooting perpetrators express admiration for serial killers, Nazi ideology, or characters from particularly violent movies (e.g., *Natural Born Killers*), frequently adorning themselves with symbols of these role models during their attacks (Lankford, 2016a; Langman, 2017).

Despite research highlighting the consequences of media coverage of mass shootings (Schildkraut et al., 2018; Silva & Capellan, 2019), there are currently no quantitative examinations of the media coverage of fame-seeking perpetrators. Given that fame-seeking perpetrators may actively seek to outdo previous mass shooters in order to achieve infamy, comparing the media coverage for fame-seeking versus non fame-seeking perpetrators is a critical step toward understanding the extent of media complicity in fulfilling these shooters' ambitions for infamy.

3. Current Study

Mass shooting scholarship suggests an enormous impact from media coverage on the mass shooting phenomenon. Despite this, only a handful of studies have examined the specific mass shooter typology with the closest relationship with media coverage: fame-seeking mass shooters. To date, studies investigating fame-seeking mass shootings have been primarily qualitative and exploratory assessments of the phenomenon. The current study addresses previous limitations by providing a comprehensive quantitative analysis of the fame-seeking mass shooter scholarly field of inquiry. Specifically, this research examines the severity, characteristics, and coverage of fame-seeking perpetrators from January 1st 1966 to May 18th 2018. To address this, three research questions are provided:

RQ1: What is the rate of fame-seeking incidents and casualties?

RQ2: Do fame-seeking perpetrator and incident characteristics differ from other mass shooters?

RQ3: Do fame-seeking attacks receive more media coverage than other mass shootings?

4. Methodology

4.1. Mass Shooting Definition

This study follows previous definitions of what is often referred to as a mass "public" shooting. In line with previous research, a mass shooting was defined as an incident of targeted gun violence, carried out by one or more perpetrators, in one or more public or populated locations within a 24-hour period (Newman et al., 2004; Schildkraut & Elsass, 2016). In addition to this, at least some of the victims needed to be chosen at random and/or for their symbolic value (Newman et al., 2004; Schildkraut & Elsass, 2016). Qualifying incidents did not include state sponsored violence (e.g. war and police shootings), profit-driven criminal activity (e.g. drug trafficking and gang shootings), or instances of familicide (Capellan & Gomez, 2018; Krouse & Richardson, 2015; Schildkraut & Elsass, 2016; Silva & Capellan, 2019). Finally, only mass shootings with four or more fatalities and/or injuries were included.[3] This is rooted in the popular four or more death-toll criteria (Fox & Levin, 2003; King & Jacobson, 2017; Krouse & Richardson, 2015), but includes the perpetrator's death and all injuries in the victim-counts. This allows for a more expansive sample size without diluting the value of results. In other words, this definition provides a targeted assessment of the mass shooting problem, instead of a sensationalized analysis of the gun violence problem at-large.

4.2. Data Sources

[3] This victim-criteria means some of the incidents included in this study are referred to in certain studies as "active shootings". However, active shootings can also include incidents where none of the victims are chosen at random (see Silva & Greene-Colozzi, 2018 for an in-depth discussion of the differences between "mass" and "active" terms and the contentious nature of defining the phenomenon). As such, to ensure definitional clarity and consistency, this work only refers to incidents as mass shootings.

Data was collected from open-source material, beginning with previous mass shooting, active shooter, and gun violence datasets. This included journal articles (Langman, 2017, 2018; Lankford, 2013, 2015, 2016a), books (Schildkraut, 2018), dissertations (Capellan, 2015b; Schildkraut, 2014), government reports (Blair & Schweit, 2014; Kelly 2012; FBI, 2016, 2018), and news outlets (Follman, Aronsen, & Pan, 2018; Lott, 2015, 2018). Cases that were not relevant to the study were dropped (e.g. "attempted" incidents with less than four victims), and this provided the foundation for the incident database. Specific search terms (e.g. mass shooting, random shooting, deranged shooting, etc.) were also employed in seven different search engines (Lexis-Nexis, Proquest, Yahoo, Google, Copernic, News Library, and Google Scholar) to identify other incidents that may have been over-looked in previous datasets. These datasets and open-source materials were also used to develop comprehensive case files that were then used to identify the information surrounding the variables used in this study.

Since this study is also interested in determining the media's coverage of fame-seeking perpetrators, the *New York Times* (*NYT*) was used to gauge media coverage of the phenomenon. The *NYT* was chosen because it is the most commonly used news source in media assessments of mass shootings (Chyi & McCombs, 2004; Muschert & Carr, 2006; Schildkraut & Muschert, 2014; Schildkraut et al., 2017; Silva & Capellan, 2018, 2019). This is because the *NYT* is: (1) the most well-regarded news-source in the US (Benoit, Stein, & Hansen, 2005; Lule, 2001); (2) representative of national coverage at-large (Benoit et al., 2005; Denham, 2014; Golan, 2006; Lule, 2001); and (3) a reliable indicator of issue salience (Althaus & Tewksbury, 2002; Botelho, 2011; Landriscina, 2012). Additionally, the *NYT* is particularly useful for this extensive time-period analysis, because it has been identified as a consistent means for determining issue salience for over half a century (Chernomas & Hudson, 2015). Data was collected using

Proquest's New York Times Historical Database. The names, keywords, and notable characteristics from each of the mass shooting incidents were used to search for articles. This study included all *NYT* coverage dedicated to each incident over the entire 53-year period.

4.3. Fame-seeking Criteria

Once all of the data was collected, fame-seeking shooters were identified. In line with previous research (Langman, 2017, 2018; Lankford, 2016a, 2018), this study defines a fame-seeking perpetrator as any mass shooter who expresses their desire for notoriety and/or role model idolization as a motivation for their attack. Evidence was drawn from perpetrators' words and actions before/during/after an incident, suicide notes, manifestos, homemade videos, police evidence, and online profiles. Fame-seeking criteria includes: (1) direct statements about becoming famous (including statements made by friends, family, and psychiatrists quoting them); (2) seeking media notoriety via submitted legacy tokens (e.g. letters or videos sent or requested to be sent to the media); (3) posting on media platforms right before/during the incident to capitalize on the interest they plan to receive after the attack; and (4) mentioning role models with a history of violence including famous fictional figures (e.g. the characters from *Natural Born Killers*) or actual mass murderers/shooters (e.g. the Columbine perpetrators).

It is critical to address the importance of including the final criteria as a means for expanding previous assessments of the phenomenon. Research has indicated many mass shooters demonstrate an acute awareness of their historical and contemporary counterparts, and may idolize, emulate, or seek to outdo previous mass shooters (Bushman, 2018; Langman, 2017; Lankford, 2016a; Paton, 2012). For instance, Paton (2012) identified similarities in recorded narratives and physical actions in videos created by mass shooting perpetrators prior to their attacks, noting that these individuals referenced each other as idols. Furthermore, Lankford's

(2016a) analysis of fame-seeking rampage shooters predicted that perpetrators seeking infamy are likely to compare themselves to previous mass shooters and even attempt to 'outdo' their predecessors' and contemporaries' casualties. Consistent with these findings that perpetrators hoping for fame will look to past mass shootings for inspiration and motivation, this study broadened the definitional criteria for inclusion by considering those perpetrators alluding to violent role models to be fame-seeking. When identifying potential fame-seeking perpetrators, there was a critical interpretation and distinction made between just role-modeling, and role-modeling for the purpose of seeking attention. Appendix Table A1 provides the identified fame-seeking perpetrators and the evidence for their inclusion in this study.

4.4. Operationalization of Variables

The open-source materials provided detailed information pertaining to the perpetrators and incidents. Perpetrator characteristics began with the offender's *sex* (0 = female, 1 = male). The offender's *age* is measured as age in years at the time of the attack. Offender *race* is a categorical variable that measured the racial/ethnic background of the offender (0 = White, 1 = Black, 2 = Hispanic, 3 = Asian, 4 = Middle Eastern, 5 = Native American). *Education status* is an ordinal variable measuring education level during the attack (1 = middle school, 2 = some high school, 3 = completed high school, 4 = some college, 5 = completed Associates Degree and/or Bachelor's Degree, 6 = completed Master's Degree and/or Doctorate Degree). *Employment status* measures type of employment at the time of the attack (0 = unemployed, 1 = blue-collar, 2 = white-collar, 3 = student). *Criminal history* is binary coded (0 = no criminal history, 1 = criminal history), and considers any previous involvement with the criminal justice system (e.g. arrest, prison, etc.) This variable does not include minor offenses (i.e. traffic violations), but does include if an offender was arrested and charged with a relatively minor

crime (i.e. disturbing the peace, trespassing, etc.). *Substance abuse history* is binary coded (0 = no substance abuse history, 1 = substance abuse history), and considers any previous substance abuse both before and during the incident.

Offender's *history of mental illness* is coded as (0 = no history of mental illness, 1 = mild mental illness, 2 = severe mental illness). While mental illness can be difficult to determine, this work follows previous studies using open-source data to identify examples or statements that suggested and/or confirmed the perpetrator suffered from mental illness (Capellan, 2015a; Silva & Capellan, 2019). However, this research also expands previous studies by accounting for the severity of mental illness. Mild mental illness refers to a relatively less severe mental health issues (i.e. persistent depressive disorder, anxiety, etc.). Alternatively, severe mental illness refers to more serious mental health issues (i.e. schizophrenia, bi-polar disorder) that were considered one of the primary motivations for the attack. A similar strategy was used to identify previous *suicidal ideations* (0 = no suicidal ideations, 1 = suicidal ideations), which could include discussion of wanting to commit suicide or previous suicide attempts. Statements from the offenders themselves, family members, witnesses with close knowledge of offenders, law enforcement investigators, experts, or previous scholars were used to determine *grandiose behaviors* (0 = no grandiose behaviors, 1 = grandiose behaviors). This could include a large-ego, overinflated image of own self-importance, a god-complex, and statements/writing fabricating life accomplishments (Bushman, 2018; Lankford, 2016a). A similar strategy was used to identify *social marginalization* (0 = not socially marginalized, 1 = socially marginalized) suggesting perpetrators were loners, bullied, teased, did not have close friends/family, or felt socially isolated (Lankford, 2013; Leary et al., 2003). *Actual victimization* (0 = no actual victimization, 1 = actual victimization) refers to physical, emotional, and or sexual victimization that contributed

to their actions. Alternatively, *perceived victimization* (0 = no perceived victimization, 1 = perceived victimization) refers to perceptions of exaggerated (i.e. a product of their own thoughts) under-appreciation, disrespect, discrimination, persecution, or general mistreatment to themselves or a larger group (Lankford, 2016a, 2018b).

The incident characteristics began with *location*, a categorical variable that recorded the type of location where the mass public shooting took place (0 = school, 1 = workplace, 2 = religious institution, 3 = government institution, 4 = open-space, and 5 = outside) (Schildkraut et al., 2017; Silva & Capellan, 2018). *Region* is a categorical variable that recorded the region of the United States where the mass shooting occurred (0 = Northeast, 1 = Midwest, 2 = South, 3 = West). The *weapons used* measures the type of firearms employed during the attack (0 = handgun, 1 = rifle, 2 = shotgun, 3 = combination of firearms). *Weapons obtained illegally* (0 = weapons obtained legally, 1 = weapons obtained illegally) is binary coded and considers whether any of the weapons used during the attack were obtained illegally (i.e. straw-purchasing, stolen, etc.).[4] *Fatalities* and *injuries* were count variables that measured the number of victims that died and that were injured during the attack. *Conclusion* is a categorical variable that measured how the attack ended (0 = offender was arrested, 1 = offender was killed, 2 = offender committed suicide).

Finally, the news variables measured any coverage and the salience of coverage (Chermak & Gruenewald, 2006; Schildkraut et al., 2017; Silva & Capellan, 2018, 2019). *Coverage* was measured using a binary variable (0 = no coverage, 1 = 1 or more articles) to determine whether or not an incident received any coverage. *Salient coverage* was

[4] If a perpetrator used numerous weapons, and only one was obtained illegally, then the variable is coded as yes (i.e. 1 = obtained illegally). Additionally, "illegal" is based on state laws. If a loophole was used to obtain the weapon, but it did not violate any state laws, it was coded as a legal purchase. For instance, the Virginia Tech shooter was coded as legally obtained, because he did not violate any state laws during the purchase of his weapons, despite the fact that his previous mental health history should have prevented him from obtaining them.

operationalized using a continuous variable measuring the number of articles an incident received.

5. Analytic Strategy

To address the research questions, this study begins by examining the incident and casualty rate of fame-seeking mass shootings (R1) using a temporal analysis of changes over time. Next, chi-square analyses and t-tests are used to explore the differences in perpetrator and incident characteristics between fame-seeking and all other mass shootings (R2). Finally, descriptive statistics, chi-square analyses, and t-tests are used to determine if the media is contributing to the social problem by providing fame-seeking perpetrators with their desired level of notoriety (R3).

6. Results

6.1. Research Question 1

Incident and casualty rate. Figure 1 identifies the number of fame-seeking mass shooters who carried out attacks from 1966 to May 18th, 2018. Overall, there were 45 shooters during the analyzed time period. Figure 1 illustrates the rise in fame-seeking shooters over the past 52 years with 1 shooter in the 60s, 1 shooter in the 70s, 2 shooters in the 80s, 12 shooters in the 90s, 11 shooters in the 00s, and 18 shooters in the first eight years of the 10s. While the majority of attack years only involve a single shooter, the peak fame-seeking years were 1999 (n = 5), 2001 (n = 4), and 2014 (n = 5). In addition to identifying the number of shooters, it is also vital to evaluate the level of violence and victimization.

INSERT FIGURE 1 HERE

Figure 2 identifies the number of fatalities (n = 284) and injuries (n = 376) occurring over the same period of time. This figure illustrates the dramatic rise in per incident victimization at

the turn of the century. In other words, 83% of fatalities (*n* = 235) and 71% of injuries (*n* = 268) occurred between 2000 and 2018. Interestingly, the peak years for shooters were not the same as the peak years for casualties (fatalities + injuries), which include 2007 (*n* = 71), 2016 (*n* = 103), and 2018 (*n* = 73). These findings, illustrating the recent rise in incidents and casualties, suggest support for Lankford's (2016) finding that incidents will continue to grow and involve record setting fatalities, so perpetrators can ensure notoriety. As such, it is important to continue exploring fame-seeking perpetrators by comparing them to other mass shooters.

INSERT FIGURE 2 HERE

6.2. Research Question 2

Comparing characteristics. Table 1 provides a comparison of fame-seeking (*n* = 45) and all other mass shooting perpetrators (*n* = 263), identifying a number of significant differences in characteristics. Not surprisingly, there was no significant difference in offender sex, since 93.3-97.3% of all offenders were male. However, there was a significant difference in perpetrator age, with fame-seeking shooters averaging 22 years old and non-fame-seekers averaging 37 years old. There were also significant differences in the race/ethnicity of fame-seeking and non-fame-seeking mass shooters. While both groups were majority white, fame-seeking perpetrators were more likely to be white (80%) than their counterparts (58.2%). Additionally, there was a significant difference in their levels of education and employment status. Non-fame-seeking shooters were better educated than fame-seeking perpetrators. However, it is important to acknowledge that this difference may arise from the preponderance of fame-seeking shooters who are young, and not because they fail to complete their educations. Non-fame-seeking perpetrators were also more likely to be unemployed (35%) or blue-collar workers (48.7%), while the majority of fame-seeking shooters were students (51.1%). Both types of shooters did

not often have a criminal history or substance abuse problem. However, fame-seeking perpetrators were significantly more likely to suffer from mental illness (66.7%), suicidal tendencies (42.2%), and display grandiose behaviors (86.7%). Additionally, they were more likely to be socially marginalized (42.2%) and experience actual victimization (17.8%). Finally, both fame-seekers and non-fame-seekers often experienced perceived victimization.

INSERT TABLE 1 HERE

Table 2 offers a comparison of fame-seeking and other mass shooting incident characteristics. In line with the perpetrator findings that fame-seekers were often younger students, fame-seeking shooters also chose schools (62.2%) as targets significantly more often than their counterparts (14.8%), who were more driven to target the workplace (33.1%) and open-spaces (29.7%). Fame-seeking incidents occurred most often in the West (46.7%) and least often in the Northeast (8.9%). Fame-seekers were significantly more likely to use a combination of weapons (44.4%) and obtain their weapons illegally (51.1%) (e.g. stealing from a relative, straw-purchasing, etc.). Again, this is presumably because many were too young to purchase the weapon on their own, since they often did not have a criminal history that may have prevented them from owning a weapon. Surprisingly, while fame-seeking shooters had a higher average of deaths (6.67 Avg.) and injuries (8.89 Avg.) than their counterparts (deaths 3.76 Avg., injuries 6.61 Avg.), there was not a significant difference. Finally, both incident types most commonly resulted in suicide (48.9-41.4%), however, there was a significant difference in the incident conclusion with only 2 fame-seekers killed (4.4%).

INSERT TABLE 2 HERE

6.3. Research Question 3

Media coverage. The final research question is concerned with the level of media exposure fame-seeking shooters were receiving. As noted, media coverage was measured using *NYT* articles to determine whether or not an incident received any coverage, as well as the salience of coverage (i.e. the number of articles dedicated to each incident). Table 3 provides a comparison of fame-seeking and other mass shooting *NYT* coverage. Fame-seekers were more likely to receive any *NYT* coverage (95.6%) than their counterparts (74.1%). Additionally, they received significantly more *NYT* articles (50.1 Avg.) than other mass shooters (9.2 Avg.).

INSERT TABLE 3 HERE

It is important to consider that media coverage is often skewed by a few high profile incidents (Silva & Capellan, 2019). As such, it is worth highlighting the most high profile mass shootings over the analyzed time-period. Table 4 illustrates the top ten most news producing mass shootings. Unsurprisingly, Columbine (a fame-seeking attack) has generated the greatest number of articles. However, findings also illustrate five of the ten most news-producing attacks were perpetrated by fame-seekers. In fact, the Columbine, Sandy Hook, Tucson, Virginia Tech, and the Orlando shooters received 38% of all the articles dedicated to all mass shootings from 1966-May 2018. These findings highlight the enormous level of media coverage dedicated to a few high profile fame-seeking shooters, and the potential implications this can have on perpetrator glorification and role modeling.

INSERT TABLE 4 HERE

7. Discussion

To date, this work provides the most comprehensive examination of fame-seeking mass shooting attacks by examining the severity, characteristics, and coverage in the United States from 1966 to 2018. The first research question considered the number of incidents and casualties

over the analyzed time-period. This study suggests a substantial rise in fame-seeking attacks, fatalities, and injuries at the turn of the century. This highlights the importance of scholarship investigating fame-seeking mass shootings and the development of strategies for addressing the problem. In order to develop security measures and policy approaches, it is necessary to consider the characteristics that make fame-seeking perpetrators unique.

The second research question was concerned with fame-seeking perpetrator and incident characteristics in relation to other mass shooters. Findings support previous research identifying fame-seeking perpetrators (as well as all mass shooters) as overwhelmingly male (Lankford, 2016a). Additionally, this work supports research suggesting fame-seeking shooters tended to display grandiose behaviors and perceive themselves as victims (Bushman, 2018; Lankford, 2016a). This study further extends previous scholarship by finding fame-seekers were more likely to suffer from mental illness and suicidal ideations.[5] On the surface, suicidality appears contrary to the goal of fame-seeking, as perpetrators are not present to experience the fame. However, a great deal of previous research has identified a link between suicidality and mass shootings (Lankford, 2015; Lankford, 2016a; Lankford & Madfis, 2018; Mullen, 2004; Newman et al., 2004). Lankford (2016a) discusses several examples of fame-seeking shooters who committed or planned to commit suicide, explaining that "…the fact that they may die during their attacks does not detract from the appeal of postmortem fame. In fact, these individuals are often attracted to the Hollywood-glorified notion of 'going out in a blaze of glory'" (p. 124). Fame-seeking perpetrators were also more likely to be socially marginalized, and while still

[5] Mental illness has a relatively high prevalence among the general population, with the United States Department of Health and Human Services estimating approximately 18.5% of Americans suffer from a mental illness in a given year (Substance Abuse and Mental Health Services Administration, 2017). Thus, it is important to remember that the presence of a psychiatric diagnosis is not a sufficient way to predict whether an individual will commit a mass shooting. In other words, while this study identifies mental illness as a risk factor for fame-seeking mass shooting perpetrators, it should be acknowledged that this finding could contribute to mental illness stigma, and advise caution in interpretation of this relationship.

relatively uncommon, they were more likely to experience actual victimization. This aligns with Leary et al.'s (2003) finding that school shooters often suffer from social marginalization and rejection. Interestingly, this research is the first study to find the majority of fame-seeking shooters were white youth targeting schools. This suggests previous school shooting scholarship can provide valuable insight for thwarting future attacks.

Mass shooting prevention efforts in schools have highlighted a range of assessment and intervention techniques aimed at creating safer and more socially connected environments (Bonanno & Levenson, 2014; Levin & Madfis, 2009). Many of these strategies employ proactive mechanisms that seek to improve the emotional climate of schools through anti-bullying policies, enhancing communication among students, facilitating open dialogue between students and teachers, and identifying and monitoring lonely ostracized youth (Bonanno & Levenson, 2014). Unlike other locations, such as commercial and entertainment facilities, schools are uniquely capable of implementing institutional policies directed specifically at reducing mass violence. Teachers, counselors, and resource officers are increasingly trained to assess potentially dangerous students (Baird, Roellke, & Zeifman, 2017), and this work provides further information about offender characteristics that can help expand their toolbox for evaluation.

Findings indicate fame-seekers were more likely to obtain their weapons illegally than non-fame-seekers. While little data exists regarding perpetrator decision making with respect to weapon obtainment, a possible explanation for this finding may be the younger age of fame-seeking shooters. On average, fame-seekers were 15 years younger than their non-fame-seeking counterparts, and were significantly less likely to have a criminal record that would deter legal obtainment. While the link between young age and illegal weapon attainment is a difficult conclusion to support without direct evidence from the shooters themselves, it presents a

potential explanation for why almost half of the fame-seekers used illegal means to procure a firearm, and only 25% of general mass shooters used illegal avenues.

Future research into firearm obtainment among mass shooters will clarify this relationship and provide the necessary policy implications for gun control. Control of firearms remains a controversial issue in the United States (Winkler, 2011), with some research suggesting firearm restrictions are associated with decreased mass shooting incidence and victim rates (Lemieux, 2014). However, the results of this study demonstrate fame-seeking perpetrators were more likely to use illegal means to garner weapons, introducing the troubling possibility that these particular shooters would not be deterred by stricter legislation limiting legal firearms sales. Further, the method of illegal weapon obtainment, ranging from straw purchases to stealing from family and friends, complicates standard formal (e.g. policing guns shows) and informal (e.g. educating adults to secure firearms) attempts to monitor illegal exchanges of weapons.[6] Since many of these fame-seeking perpetrators target schools, a more feasible prevention solution may be site-specific interventions. For example, metal detectors and the presence of security personnel at school entrances may help to deter these perpetrators by rendering their preferred target less accessible. These measures provide a temporary but practical form of crime prevention, and importantly, can be readily implemented in schools - whereas monumental changes to United States guns laws tend to be slow and arduous. While a nuanced discussion of guns and mass shootings is well beyond the scope of this paper, the results of the current study show implementing stricter gun laws will impact only a subset of the individuals who commit mass shootings.

[6] Importantly, these findings should not be taken as evidence that nationwide and/or state-specific gun control legislation does not work to prevent mass shootings or gun violence generally. Rather, for fame-seeking perpetrators, prevention efforts may be better directed toward securing school sites and attending to students' emotional well-being.

Despite their inability to obtain weapons legally, relative to other mass shooters, fame-seeking perpetrators were more likely to use a combination of weapons. This may be because they were modeling previous high profile shooters who used a number of weapons to carry out some of the most deadly attacks. This raises the issue suggested by Lankford (2016a) that fame-seekers have incurred a greater number of fatalities and injuries, and will attempt to incur more fatalities than past offenders. Surprisingly, this study did not find a statistically significant difference between fatalities and injuries produced by fame-seekers as compared to other mass shooters. Nonetheless, it is important to highlight that while there was not a significant difference, there still was a meaningful difference in fatalities and injuries.

Specifically, casualties from fame-seeking attacks were nearly doubled in comparison to non-fame-seeking attacks. This suggests that fame-seekers may be behaving in the manner predicted by Lankford (2016a), in that they are trying to incur more casualties than previous shooters by using combinations of weapons. Appropriate measures need to be considered for reducing the rates of victimization for these more dangerous attacks. Since most fame-seekers are targeting schools, the higher victim rate may be countered by improved school safety drills that essentially remove the number of available targets from these perpetrators. As the rate of all mass shootings increases, more schools are implementing lockdown and shelter-in-place drills, as well as integrating active shooter survivability into school safety plans (Musu-Gillette et al., 2018). These techniques can effectively protect targets even if the perpetrator has the firearm capability to incur a high number of casualties.

Finally, this work finds fame-seeking perpetrators almost always either committed suicide (in line with their suicidal ideations) or survive. One interpretation of the latter is that

fame-seekers may wish to revel in the attention they receive in the aftermath of the attack.[7] The final research question examined the level of media coverage afforded to fame-seekers. This is the first study to find fame-seeking shooters were more likely to receive any coverage, as well as salient levels of coverage, in relation to other mass shooters. This suggests a media bias toward perpetrators who actively seek out fame. This may indicate that the media is not responding to the characteristics of the event itself, like casualties or location, but is instead devoting attention to fame-seekers, at least in part, because of the fame-seeking behaviors they exhibit before and during the attack.

Notably, however, past research identifies fatalities and injuries as the primary influence on mass shooting newsworthiness (Schildkraut et al., 2017; Silva & Capellan, 2018). Although data from this study shows that fame-seeking and non-fame-seeking mass shooters result in statistically equivalent casualties, there was a meaningful difference in casualties, with fame-seekers incurring more. Regardless of the casual factor motivating the overenthusiastic media response, this finding has serious implications for societal and media reactions to mass shootings. Whether in response to greater casualties or specific fame-seeking behaviors, the media is helping to fulfill the fame-seekers desires by publishing an abundance of articles.

Importantly, a few high profile fame-seeking incidents appear to be dominating the media coverage dedicated to the phenomenon. This reinforces the position that media coverage is glorifying perpetrators and developing role models for future offenders to idolize. The results of this study highlight the need for further discussion around how the media can help to discourage copycats and fame-seekers through anonymized narratives. In many ways, the media controls

[7] However, absent an interview with the perpetrator, this conclusion is difficult to substantiate based on open-source data collection. Additionally, as noted, those who commit suicide may also wish to garner posthumous fame. For instance, in the Columbine "Basement Tapes", the perpetrators often discussed their desire for celebrity after their planned attack and suicide.

both what issues the public views and how this information is framed (Chyi & McCombs, 2004), setting the tone for public perception and discourse. Articles featuring extensive life histories and pictures of perpetrators launch those individuals to celebrity status despite the authors' intentions (Lankford & Madfis, 2018), and may be more likely to focus on details that will enhance readership or fulfill publicly held myths about mass shooters, such as the perpetrator's mental health or family life (Wilson et al., 2016). Scholars and news outlets have suggested ways to avoid glorifying mass shooting perpetrators (i.e. "minimize harm") while still disseminating information. For example, the "No Notoriety" campaign illustrates the need to limit use of the shooter's name to once per article as a reference point, never in the headlines, and no photo above the fold (Becket, 2018). However, this highlights the delicate balance that must be taken, given that scholars are often dependent on media coverage to identify information about these events. The use of open-source media coverage as the main source of mass shooting scholarship introduces the potential limitations of this research. Additionally, future research should not only detail strategies for avoiding perpetrator glorification (see Lankford & Madfis, 2018), but also determine their effectiveness in reducing the fame-seeking problem.

8. Limitations and Future Research

Mass shooting studies are predominantly limited by definitional, temporal, and data collection issues (Silva & Greene-Colozzi, 2018). The current study attempted to overcome these limitations by providing a comprehensive fame-seeking definition, a temporal examination of the entire "second wave" of mass shootings (see Schildkraut & Elsass, 2016), and a detailed open-source data collection process. Nonetheless, these limitations may still be influencing the results of this study.

When considering the definition, this work identified 45 mass shooters as seeking notoriety through direct statements, submission of legacy tokens, social media presence, and violent role modeling. Prior research detailing idolization of previous mass shooting perpetrators among current fame-seeking perpetrators has provided a theoretical precedent for including role-modeling within the definitional criteria for fame-seeking (Bushman, 2018; Langman, 2017; Paton, 2012). As such, this work attempted to link previous scholarship in a quantitative assessment of the phenomenon. However, imitative behavior may be considered less convincing evidence of fame-seeking than explicit statements or legacy tokens. Future research should continue to explore role modeling as a form of fame-seeking, as well as alternative perpetrator characteristics that can provide a more detailed outline of the fame-seeking typology. The examination of pre-incident fame-seeking behaviors is especially relevant to prevention and intervention. For example, statements posted on social media and public blogs about desires for celebrity through violence or adulation of violent role models provide a window of opportunity for intervention that was not present before the global expansion of the Internet. Characterizing the frequency of these behaviors among fame-seeking shooters and the proximity of such behaviors to the mass shooting incident will supplement previous scholarship modeling the stages leading up to a mass shooting (Levin & Madfis, 2009) as well as establish new parameters for threat assessment efforts.

When using open-source data analysis, an additional limitation surrounding characteristic coding is the conversion of complex information into binary codes (i.e., 0=absent, 1=present). Although a common approach for assessing this type of data (Capellan, 2015a; Lankford, 2013; Newman et al., 2004; Silva & Capellan 2018a, 2018b), it is important to acknowledge that some context is lost during coding, particularly for the variables measuring social marginalization and

grandiose behaviors. These variables are likely to vary according to the individual, both in terms of severity and relevance to the mass shooting incident. As such, future research should consider measuring these variables on a continuum, rather than a binary scale, to provide a more in-depth understanding of perpetrators' backgrounds. This study attempted to utilize such an approach for mental illness, however, future research should continue to expand upon methods for measuring difficult to assess psychological variables on a continuum.

This work also used an extensive temporal analysis by including over 50 years of fame-seeking and non-fame-seeking mass shootings. Findings indicate 29 of the 45 fame-seeking attacks occurred after the turn of the century. However, these findings may be skewed by time period effects, or the idea that older incidents are more difficult to identify, which can then suggest an inaccurate increase over time (Silva & Greene-Colozzi, 2018). Despite this, the current study also found more incidents happened in the last eight years than the previous ten (i.e. after Columbine, when extensive media and scholarly attention was given to mass shootings). This highlights the importance of continuing research into understanding fame-seeking shooters in an effort to subvert this rising problem. Nonetheless, it also is important to provide a balanced assessment and contextualization of the problem in relation to the phenomenon at-large. In other words, this rise aligns with an overall rise in all types of mass shootings. Additionally, similar to other mass shooting studies, this extended time period analysis finds that the tendency for bad years for fame-seeking shootings (i.e. 1999, 2001, 2014) will eventually be followed by good ones (Fox & DeLateur, 2014; Silva & Greene-Colozzi, 2018).

Similarly, open-source data is influenced by publicity effects, or the idea that the less publicity an incident receives, the less likely it is to be identified for a new dataset (Silva &

Greene-Colozzi, 2018). As such, studies have identified significantly different accounts of the mass shooting problem, depending on the number of open-source material being referenced. For example, Lankford's (2016a) fame-seeking study sample included 219 perpetrators, while the current study identified 308 mass shooters. While this work used a slightly longer time-period (i.e. 2 ½ years), this would not account for the drastic difference; especially when considering Lankford's (2016a) study included "attempted" mass shootings (i.e. less than four or more killed and/or injured), and this work only included mass shootings with four or more victims. This suggests that as new information emerges, and the number of available datasets continues to grow, studies will need to be re-examined to ensure the reliability of initial results.

Finally, the inclusion of attempted (i.e. failed/foiled plots) mass shootings is another important consideration for future research. One of the greatest areas of mass shooting contention is the victim criteria, or the number of fatalities and injuries needed to be included in a mass gun violence dataset (Silva & Greene-Colozzi, 2018). Studies have differed in their decision to include "attempted" mass shootings (see: Capellan & Gomez, 2018; Schildkraut et al., 2017; Silva & Capellan, 2018b), or only attacks with four or more victims (see: Fox & DeLateur, 2014; Krouse & Richardson, 2015). While harder to find, including failed and foiled mass shootings may provide insight into strategies for reducing the levels of victimization (see: Mandala & Freilich, 2017). For example, Lankford (2016a) included the 2006 Orange High School shooter and the 2006 Weston High School shooter in his fame-seeking analysis, which were not included in this study, because they did not fulfill the victim-threshold. A quantitative comparative examination of four or more victims and failed / foiled attacks could provide important insight into what facilitates or impedes a fame-seeking shooting, thereby providing important information for practitioners, policymakers, and future security measures.

Appendix A

INSERT APPENDIX TABLE A1 HERE

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Figure 1. Number of fame-seeking mass shooters (n = 45) by year (1966-May2018)

Figure 2. Number of deaths and injuries from fame-seeking attacks by year (1966-May2018)

Table 1. Comparison of fame-seeking and other mass shooting perpetrator characteristics

	Fame-seeking shooters (*n* = 45)		**Other mass shooters (*n* = 263)**		
Background Characteristic	***n***	***Percent***	***n***	***Percent***	***X^2/T-test***
Sex					2
Female	3	6.7	7	2.7	
Male	42	93.3	256	97.3	
Age		22 (Avg.)		37 (Avg.)	-9.9***
Race					12.2*
White	36	80	153	58.2	
Black	2	4.4	64	24.3	
Hispanic	3	6.7	22	8.4	
Asian	3	6.7	9	3.4	
Middle-Eastern	1	2.2	13	4.9	
Native American	0	0	2	0.8	
Education status					14.1*
Middle school	2	4.4	5	1.9	
Some high school	20	44.4	55	20.9	
Completed high school	14	31.1	142	54	
Some college	5	11.1	30	11.4	
AA/BA	3	6.7	22	8.4	
MA/PhD	1	2.2	9	3.4	
Employment status					64.4***
Unemployed	12	26.7	92	35	
Blue-collar	9	20	128	48.7	
White-collar	1	2.2	24	9.1	
Student	23	51.1	19	7.2	
Criminal history	11	24.4	103	39.2	3.6
Substance abuse history	11	24.4	67	25.6	.03
Mentally ill					7.6*
No	15	33.3	146	55.5	
Mild	15	33.3	58	22.1	
Severe	15	33.3	59	22.4	
Suicidal	19	42.2	38	14.4	19.7***
Grandiose behaviors	39	86.7	55	20.9	78.3***
Socially marginalized	19	42.2	57	21.7	8.7**
Actual victimization	8	17.8	13	4.9	10**
Perceived victimization	22	48.9	112	42.6	.621

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 2. Comparison of fame-seeking and other mass shooting incident characteristics

	Fame-seeking shooters (*n* = 45)		**Other mass shooters (*n* = 263)**		
Incident Characteristic	***n***	***Percent***	***n***	***Percent***	***X^2/T-test***
Location					55***
School	28	62.2	39	14.8	
Workplace	3	6.7	87	33.1	
Religious	3	6.7	12	4.6	
Government	0	0	19	7.2	
Open-space	8	17.8	78	29.7	
Outside	3	6.7	28	10.6	
Region					
Northeast	4	8.9	32	12.2	4.2
Midwest	5	11.1	51	19.4	
South	15	33.3	95	36.1	
West	21	46.7	85	32.3	
Weapons used					9.1*
Handgun	15	33.3	149	56.7	
Rifle	6	13.3	26	9.9	
Shotgun	4	8.9	20	7.6	
Combination	20	44.4	68	25.9	
Weapons obtained illegally	23	51.1	67	25.5	12.2**
Fatalities		6.67 (Avg.)		3.76 (Avg.)	3.1
Injuries		8.89 (Avg.)		6.61 (Avg.)	0.4
Conclusion					7.7*
Arrested	21	46.7	96	36.5	
Killed	2	4.4	58	22.1	
Suicide	22	48.9	109	41.4	

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Comparison of fame-seeking and other mass shooting *NYT* coverage

	Fame-seeking shooters (*n* = 45)		**Other mass shooters (*n* = 262)**		
Coverage	***n***	***Percent***	***n***	***Percent***	***X^2/T-test***
Any coverage	43	95.6	195	74.1	10**
Total articles		50.1 (Avg.)		9.2 (Avg.)	2.4**

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4. Ten most news producing mass shootings

Incident	Year	Fame-Seeking	Total Articles
Columbine High School Shooting	1999	Yes	482
Sandy Hook Elementary School Shooting	2012	Yes	247
Colorado Theater Shooting	2012	No	210
San Bernardino Shooting	2015	No	203
Tucson Shooting	2011	Yes	202
Virginia Tech Shooting	2007	Yes	193
Orlando Night Club Shooting	2016	Yes	172
Charleston Church Shooting	2015	No	160
Fort Hood Shooting	2009	No	159
Las Vegas Shooting	2017	No	150

Appendix

Table A1. List of fame-seeking mass shooters in the US, 1966 – May 2018 (*N*=45)

Year	Incident Name	Fame-seeking Evidence
1966	Rose-Mar College of Beauty shooter	See Lankford (2016)
1979	Cleveland Elementary School shooter	See Lankford (2016)
1985	Pennsylvania Mall shooter	Made statements about how "good" other spree killings were, specifically referencing the 1984 San Ysidro McDonald's massacre and saying it "should happen again". Prosecutor argued she was obsessed with fame, and that she committed the killings because she wanted to become a "famous criminal" (Latrobe Bulletin Staff, 1986; Mayer, 1990).
1988	Oakland Elementary School shooter	Stated he was copying the Winnetka School shooter. He also kept a magazine article about the incident and read it daily until his own attack. Additionally, he was fascinated with a serial killer who killed 30 men/boys and buried some of the bodies under his house, and asked his grandmother the morning of the shooting, "Would you live in a house with thirty bodies buried under it?" (Langman, 2017; NYT, 1988)
1991	University of Iowa shooter	Left behind 5 letters outlining his grievances, with instructions to mail them to the news media to garner more attention (Marriot, 1991).
1992	Simon's Rock College of Bard shooter	See Lankford (2016)
1996	Frontier Middle School shooter	Told a friend that it would be "pretty cool" to go on a killing spree like the lead characters in "Natural Born Killers" (Egan, 1998).
1997	Bethel Regional High School shooter	See Lankford (2016)
1997	Pearl High School shooter	See Lankford (2016)
1998	Parker Middle School Dance shooter	Informed a classmate that he wanted to emulate the Westside Middle School shooters, stating he "was going to do something like that someday," and, "that Jonesboro thing, that would be like me bringing a gun to the dinner dance." (AP, 2000; Langman, 2017).

1998	Thurston High School shooter	Idolized Westside Middle School shooters. Watched some of the Westside Middle School shooting coverage at school and said, "Hey, that's pretty cool". Two months later he carried out the attack (Frontline, 1998).
1999	Columbine High School shooter I	See Lankford (2016)
1999	Columbine High School shooter II	See Lankford (2016)
1999	Heritage High School shooter	See Lankford (2016)
1999	Wedgwood Baptist Church shooter	Told a reporter that he fantasized about serial killers, and days before the shooting, complained to a newspaper; "I want someone to tell my story; no one will listen to me; no one will believe me" (Kolker & Slater, 1999).
1999	Fort Gibson Middle shooter	According to a psychiatrist who evaluated him after his attack, he "was strongly influenced by media accounts of the April 20, 1999, rampage [Columbine]. . . He started wondering what he would do if he were placed in the role of the perpetrators that were previously depicted on the TV and media" (Langman, 2017).
2001	Santana High School shooter	Reportedly told up to a dozen people he was going to "pull a Columbine" (Langman, 2017; McCarthy, 2001).
2001	Granite Hills High School shooter	A classmate stated he, "made a reference to the Columbine massacre in class earlier this year and simulated guns with his hands" (Fox, 2001; Langman, 2017).
2001	Chicago Pub shooter	During the shooting shouted, "I am a Natural Born Killer" in reference to the film (AP, 2001; Kantzavelos, 2001).
2001	Burns Security shooter	Forced a hostage to tape a video in which he suggested he wanted to "go down in ... history", that he was going to put on "a hell of a show", and that the slayings "should be good enough to last about a week on the news. It's time to feed the news media" (Bailey & Fields, 2001).
2002	University of Arizona shooter	Sent a letter to various news outlets in anticipation of coverage. He ended the letter with, "As the curtain closes I will exit the stage for a well-deserved rest" (Holguin, 2002).
2005	Red Lake High School shooter	Wrote a short story mentioning other

		school shooters including the Columbine perpetrators. Additionally, he openly admired Hitler on a neo-Nazi forum under the username "Todesengel," which is German for "Angel of Death" (Langman, 2017).
2005	Tacoma Mall shooter	According to prosecutors, Maldonado denied intending to actually shoot anyone but was trying to draw media attention. Court documents say he told detectives he had been humiliated during a difficult childhood and that recent problems made him want to be "heard" and to "show the world his anger" (Heffter, 2005; Page, 2005).
2007	Virginia Tech shooter	See Lankford (2016).
2007	Westroads Mall shooter	See Lankford (2016)
2007	YWAM and New Life shooter	Searches of Murray's home computer found he had researched other perpetrators of violence and school shooters those including those involved in Columbine and Virginia Tech. Right before the shooting, he posted online, "I'm going out to make a stand for the weak and the defenseless ... this is YOUR Columbine" (Langman, 2017; Osher, Migoya, & Meyer, 2007).
2008	Northern Illinois University shooter	The official report stated he, "spoke persistently and admiringly of Adolph Hitler, Jeffrey Dahmer, Ted Bundy, and other mass murderers." He also examined the methods of the Columbine and Virginia Tech killers. He openly discussed his fascination with school shootings with his friends, and expressed admiration for how the Virginia Tech shooter chained the doors and how the Columbine shooters planned to create confusion with the propane-tank bombs (Langman, 2017).
2011	Tucson shooter	See Lankford (2016).
2012	Sandy Hook shooter	See Lankford (2016)
2013	Ridgecrest Spree shooter	Prior to the shooting, posted on Facebook: "To all my friends…got tired of cops [lying] and putting me in jail. I just killed two snitches. U wanted me dead, now I will when these pigs find me and like a

		movie I will go" (Slifer, 2013).
2013	Sparks Middle School shooter	Researched specific school shooters, as well as searched "Top 10 evil children" and "Super Columbine Massacre Role Playing Game" on family computer. Also had images on his phone of the Columbine shooters (Langman, 2017; McAndrew, 2014).
2014	Maryland Mall shooter	Visited websites devoted to many different mass shootings and downloaded a video game where he could pretend to be the Columbine shooters. Additionally, took a picture of himself at the incident location, right before he began the attack, and posted the photo to his public Tumblr (Langman, 2017; Slifer, 2014).
2014	Fed-Ex shooter	Wrote in a journal: "These … idiots have no idea what I'm writing ... I wish I could kill all of them, but there's just not enough time and so much to do. And, like [the Columbine shooter – name redacted], I think I'll have some followers. Maybe a few at least. All I have to say to them is kill those that stand in your way." In his journal, he described [Columbine shooters] as heroes, writing about Columbine in 2012, "Crime, huh ... The only crime was that the death toll wasn't higher" (Archbold, 2014; Langman, 2017).
2014	Isla Vista shooter	See Lankford (2016)
2014	Las Vegas Far-Right shooter I	Neighbors and friends reported that the Las Vegas shooters idolized the Columbine perpetrators and spoke of plans to carry out a Columbine attack (Golgowksi & Kemp, 2014).
2014	Las Vegas Far-Right shooter II	Neighbors and friends reported that the Las Vegas shooters idolized the Columbine perpetrators and spoke of plans to carry out a Columbine attack (Golgowksi & Kemp, 2014).
2015	CBS News shooter	See Lankford (2016)
2015	Umpqua Community College shooter	See Lankford (2016)
2016	Orlando Nightclub shooter	During the attack, he searched "Pulse Orlando" and "shooting" online for references to the massacre; posted on

		Facebook 5 separate times during the attack, and called Orlando News Station during the shooting (Blinder, Robles, & Perez-Pena, 2016; Zimmerman, 2016).
2017	Pennsylvania Supermarket shooter	Referenced future attack several times on Twitter, including, "I guess I should finally tell you; tonight's video will be my final production.... I'll tell you why later tonight. There's a lot going on...". Also posted an animated image of the Columbine perpetrators with the hashtag #heroes. His suicide note said: "Be on the lookout on WNEP.com for headlines pertaining to 'Tunkhannock'" [the shooting location] (AP, 2017; Schmidt, 2017).
2017	Freeman High School shooter	He admired the Columbine and Sandy Hook perpetrators but believed he could do it better, and they were not smart because they killed themselves in the end. A notebook with a diagram of Freeman High School, a large reticle (crosshairs) with a quote reading, "Did you figure out my name yet?" Another note investigators found listed several former mass shooters including a "Latest Edition NAMELESS," which refers to the suspect's alter ego, according to records (Clouse, 2017; KTVB Staff, 2017).
2017	Texas First Baptist Church shooter	Expressed admiration for one of the Columbine perpetrators, and in reference to the Charleston Church shooting, asked friends, "Isn't it cool? Did you watch the news?" Friends also stated, "he would say he wished he had the nerve to do it, but all he would be able to do is kill animals" (Stewart, Oppel, Jr., & Kovaleski, 2017).
2018	Marshall County High School shooter	He described the shooting as an "experiment" to see how society would respond. His phone had memes about previous school shootings. He posted a Snapchat message prior to the shooting apologizing "for the kids that I may hurt in 42" - a reference to the date of the shooting: the sum of the month + date + year is 42. (Markgraf, 2018).

2018	Parkland shooter	Posted on a YouTube video about the 1966 University of Texas tower shooting, "I am going to [do] what he did", and elsewhere on YouTube, commented, "Im going to be a professional school shooter" (Chen, 2018; Lee & Jarvie, 2018).
2018	Santa Fe High School shooter	Posted a picture on Facebook of a T-shirt with "Born to Kill" on it, along with images a trench coat (Turkewitz & Bidgood, 2018).

Highlights:

- Fame-seeking incidents and casualties have been on the rise since the turn of the century
- Perpetrators are often young white males targeting schools
- Fame-seeking shooters are more likely to receive media coverage than their counterparts

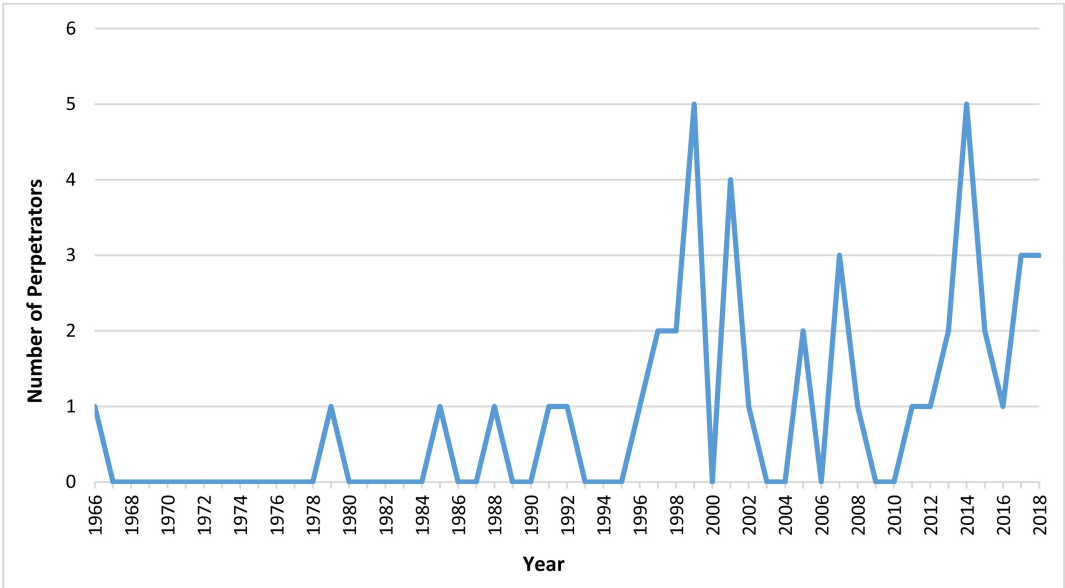
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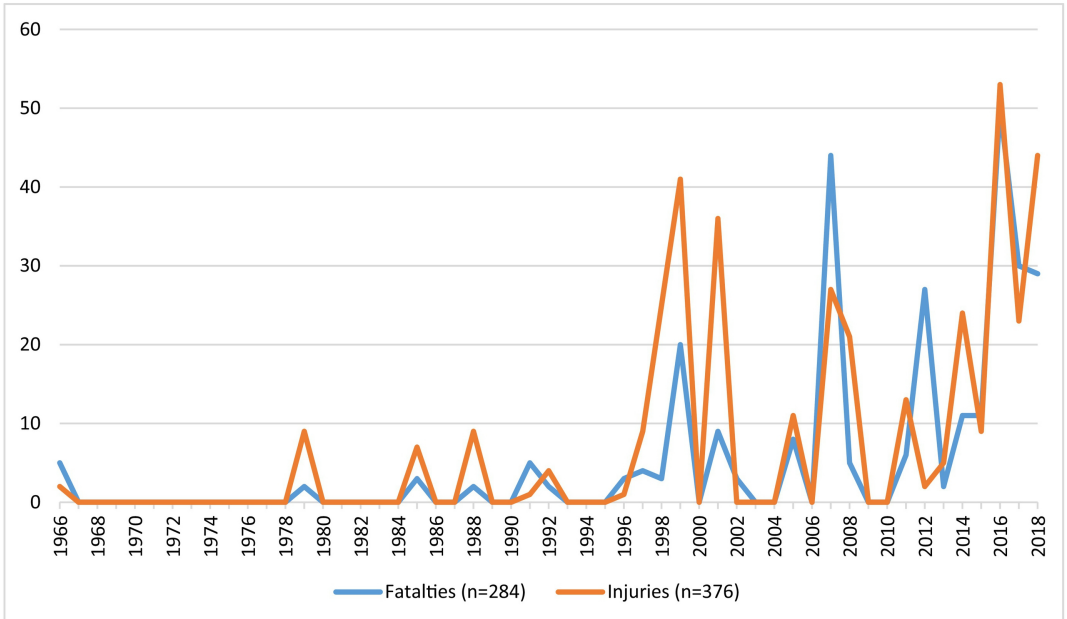
Figure 1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Fatalties (n=284)
Injuries (n=376)

Figure 2