

Mass Shooter Bias: Public Perception of  
Crime Facilitates Counter-Stereotypic Outcomes

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MASS SHOOTER BIAS

Mass Shooter Bias: Public Perception of  
Crime Facilitates Counter-Stereotypic Outcomes

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### Abstract

Extensive research depicts a stereotypic association of aggression and criminal activity with African Americans, such as participants perceiving ambiguous behaviors as more threatening and aggressive when committed by Black targets and identifying crime-relevant objects faster when primed with Black targets (Eberhardt, Purdie, Goff, & Davies, 2004; Sinclair & Kunda, 1999). Within the past decade, there has been an increase in the number of mass shootings in America. With the rise in this violent crime, which is often perpetrated by White males, there is potentially a new association between White targets and aggression in the context of a mass shooting scenario which runs counter to the previously established stereotype linking aggression to Black perpetrators. Therefore, a study was conducted to identify whether this association between White targets and mass shootings exists and what other attributes are associated with the stereotype of mass shooters. Participants completed an online survey that asked them to rate the likelihood that motivational characteristics and personality traits were related to the criminal they read about. Subjects also rated the likelihood that males from four different racial/ethnic groups committed the individual or mass shooting they read about. Results found that White males were rated most likely to be the mass shooter and to be motivated by mental illness, hate, and social alienation. Contrary to the hypothesis, White males were also rated as being the most likely to have committed the single shooting.

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### Mass Shooter Bias: Public Perception of Crime Facilitates Counter-Stereotypic Outcomes

This thesis focuses on stereotypic associations between mass shootings and a particular social group to demonstrate how these associations are developed and maintained, and how they influence perceptions and decision-making. Statistics on mass shootings have shown a substantial increase in recent years, as there were six mass shootings from 2000 to 2005, while there were 33 mass shootings between 2014 and 2018 (Statista Research Department, 2020a). Given the intensity of these events, they tend to attract far more media attention than individual acts of gun violence. The media plays a role in what information is absorbed by the public, which can assist in developing or strengthening a stereotype. Research on media coverage of mass murders has shown that the characteristics that make mass shootings newsworthy pertain to the offender's demographics, the death toll, and the use of assault weapons (Schildkraut, Elsass, & Meredith, 2018). Despite research on stereotyping that connects perceptions of Blacks with violent and aggressive behaviors (St. John & Heald-Moore, 1995; Welch, 2007) the rise in mass shootings may refocus this association to White targets being the violent offender. The current study explores the possibility that a stereotype of mass shooters has developed in which White targets are perceived to be the most likely offender. It also examines the process and influence of stereotyping, mass shooting statistics, and the media's depiction of mass shootings to support the hypotheses, which are then tested empirically through an online experiment.

#### **Stereotyping**

Stereotypes are utilized to help navigate and perceive the information presented to us. They are defined as a collection of judgments about the personal characteristics of a group of

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individuals (Ashmore & Del Boca, 1981). These traits allow for the recognition and placement of a person in a group; play a large role in how a social group is viewed; arouse emotions; can characterize or differentiate a group; and add to the mental images we hold in regards to a social group (Ashmore & Del Boca, 1981). Research on stereotyping and prejudice has identified a cultural stereotype that African Americans are often viewed as aggressive, threatening, and dangerous, which consequently effects stereotype holders' perceptions and behavior (Correll, Park, Judd, & Wittenbrink, 2002, 2007; Duncan, 1976; Sagar & Schofield, 1980). These studies frequently only involve White participants, while in some studies, Black participants are included as well to identify if there is a difference between these groups. For example, in Duncan (1976) and Sagar and Schofield's (1980) studies, ambiguous behaviors by African American targets were judged as more violent and threatening by both White and African American participants than ambiguous behaviors carried out by White targets. Participants in other studies also decided to "shoot" armed African American video game targets more quickly than if the targets were White, and they correctly identified guns more quickly than non-gun objects if primed with an African American target (Correll et al., 2002; Payne, 2001).

Stereotyping research has found an association between African Americans and aggression or violence that has not been generally found for White targets. In these studies there is a distinct difference in the evaluation and perception of African Americans and Whites; however, there are contextual factors that can alter the negative evaluation of African American targets. For example in Sinclair and Kunda's (1999) study, participants rated Black targets more highly when they were led to believe that this target provided positive feedback about them. Barden, Maddux, Petty, and Brewer (2004) investigated the effect that context has on stereotypes and found that when Asians were placed in the role and context of a student, they were rated

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more positively than Whites and Whites were rated more positively than Blacks. However, in the role and context of a basketball player, Blacks were evaluated more positively than Whites and Whites were rated more positively than Asians (Barden et al., 2004).

Another study also investigated the role of context on stereotypic associations where participants were shown movie clips of Black targets in a positive and negative stereotypic situation, such as a family barbecue and a gang-related incident (Wittenbrink et al., 2001). Participants completed a baseline Implicit Attitude Test (IAT), which measures the strength of associations between concepts, before viewing the movie clip and then writing an essay about the clip they watched. Following this, participants completed another IAT, and an explicit measures questionnaire of racial attitudes. Results showed the stereotypic context influenced the ratings on the IAT such that after viewing the movie clip, there was a significantly larger decrease in spontaneous prejudice bias in relation to the baseline ratings when the movie clip showed a positive stereotypic context. Therefore, this study demonstrates that there is a stronger association between Blacks and aggression than between Whites and aggression, but that there are certain circumstances that inhibit the negative stereotype or even influence a perceiver to have a positive evaluation of Blacks (Wittenbrink et al., 2001). Additionally, despite the dearth of literature generally associating Whites with aggression and violent acts, the public perception of the prevalence of mass shootings and the extent of media coverage of these events could promote an association between White targets to aggression and this violent crime.

**Processes of Stereotyping.** According to Ashmore and Del Boca (1981), stereotypes are a part of culture. They serve to indicate the nature of social groups and provide a construct for the norms and expectations of these groups. Devine (1989) discussed two different forms of processing in regard to stereotyping, automatic and controlled processes that stimulate ingrained

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associations. According to Devine's (1989) model, stereotypes are activated throughout time and become learned and deep-rooted. Consequently, the stereotype is spontaneously triggered when one is presented with a member of a target group or something in relation to it. This activation is deemed inescapable and it stimulates traits stored in memory that are connected to the stereotype (Devine, 1989).

Interest in stereotypes has a long history in the psychology literature. In Katz and Braly's (1933) study, college students were given a list of adjectives and asked to indicate those that were characteristic of various ethnic groups. The results established stereotypes through the most frequently selected traits to describe that group. The findings also depicted the consensus of typical traits surrounding certain ethnic groups. Katz and Braly's study served as a template for investigating initial explicit stereotypes. Several studies since then have used this methodology to examine stereotype content, and a modified version was utilized in the current study.

Other studies also investigate the perception of behavior by stereotyped groups. Sagar and Schofield (1980) demonstrated how stereotypes and inferred attributes of racial groups guide interpretations of ambiguous behaviors. In this study, White and Black middle school boys rated ambiguously aggressive behaviors as more mean and threatening from a Black target figure, compared to when the target was White. The implications here show the inclination to perceive danger from Black individuals' conduct. Also, the perception of ambiguous behaviors by Black subjects are interpreted and influenced by stereotype content possessed by the perceiver (Sagar & Schofield, 1980). A similar study by Duncan (1976) showed that not only were ambiguously hostile acts deemed more violent by White participants when committed by Black targets, but also that these acts were perceived to be a result of dispositional qualities. In this study, when the perpetrators who pushed another individual were White, subjects frequently perceived them as

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joking, or being theatrical or aggressive, but not as being violent. On the other hand, African American targets were believed to be violent as a result of their personal attributes, while Whites were reasoned to have acted violently because of situational factors. Duncan (1976) explains this as a result of violence being a readily accessible concept when presented with African Americans. The findings illustrate that behaviors are interpreted differently depending on what is perceived as being stereotypically consistent.

Further, certain behaviors or dispositional attributes can become associated with particular groups of people. In Wigboldus, Dijksterhuis, and van Knippenberg's (2003) study on spontaneous trait inferences, the researchers found that stereotypes interfered with participants' ability to quickly detect if a probe word was a part of the previous sentence read. These sentences indicated that a person from a specific social group carried out an action that was or was not stereotypically consistent with the social group they belonged to. For example, participants had to determine if the word "smart" was in the preceding sentence regarding a professor winning a science quiz, which was stereotypically consistent. Participants took longer to determine if a trait was not in the preceding sentence when the social group and the behavior were stereotypically consistent with one another. This study shows that stereotypes effect the amount and the nature of information a person encodes. In addition, when a behavior is identified, people may spontaneously form situational and dispositional inferences (Wigboldus et al., 2003). The implications from this study suggest that not only are behaviors connected to these classes of people, but the features used to characterize and represent these groups make up stereotype content retained in memory.

**Influence on Decision-making.** Stereotypes not only influence perceptions of others' behaviors, but they can also influence the behavior of the perceiver. This was demonstrated in

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Correll et al.'s (2002) study that used a first-person shooting videogame to investigate how biases about ethnicity affect an individual's decision to shoot or to not shoot a potentially armed White or African American male target. White and African American subjects shot at an armed target more quickly if he was African American, while they refrained from shooting faster if the unarmed target was White. With less time to react, participants shot unarmed targets more frequently when they were African American. Correll and colleagues (2002) attributed these findings as being a consequence of the awareness of the cultural stereotype surrounding African Americans as being violent, aggressive, and dangerous.

Correll, Park, Judd, and Wittenbrink (2007) later completed another similar experiment with the addition of priming participants with newspaper articles about crimes committed either by two African American men or two White men. When participants read that the crimes were committed by two African American men, they set a lower criterion in the decision to shoot for the African American targets than the White targets. However, after reading about the White criminals, participants set the same criterion for the White and African American targets in the decision to shoot. Therefore, there was a stronger racial bias in decision-making when participants were presented with stereotypic information associating crime with African Americans. The findings were described as a result of the availability of the criminal and violent stereotypes of African Americans which exacerbated the bias found in the study (Correll et al., 2007).

Payne (2001) conducted a similar study where participants were primed with either White or Black male photographs followed by an object, a hand gun or a hand tool, that they were instructed to identify. Participants identified hand guns faster when primed with Black male faces, while they identified hand tools faster when primed with White male faces. The findings

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were explained to be a result of the activation of the stereotypes through priming participants with racial information, which consequently prompts bias in perceptual judgment. When participants had less time to identify the object, they were more likely to misidentify a hand tool as a hand gun when primed with Black male photographs. Therefore, there was a stereotypic association with Black males and weapons, facilitating either faster identification of the object or errors in identifying the object (Payne, 2001).

**Subtyping.** Although stereotypes serve to categorize entire social groups, another process exists to categorize members of social groups who do *not* possess the same qualities and behaviors of the stereotyped group they belong to. According to Richards and Hewstone (2001), subtyping is a process of stereotyping when observers are confronted by individuals of a specific target group who disconfirm their stereotype. As a result, these divergent members become exceptions to the stereotype and are placed in a separate subcategory, separated from those individuals of that social group who do confirm the stereotype. Richards and Hewstone (2001) described subtyping as consisting of either a spontaneous or effortful process to distinguish and separate those that confirm and disconfirm a stereotype into categories based on typicality or abnormality.

Weber and Crocker (1983) explored subtyping by conducting four experiments which involved participants receiving stereotypically consistent, inconsistent, or irrelevant information about groups of staff members, with corporate lawyers being described as intelligent, well-dressed, and industrious, or as being warm, religious, and meditative. They found that stereotypes changed less drastically when participants received more substantial stereotypically inconsistent traits within a few individuals than when they received a few stereotypically inconsistent traits among several individuals. Targets who were strongly inconsistent with the

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group they belonged to were judged as exceptions and placed into a subcategory by participants. Subtyping occurred as a result of inconsistent members being perceived as aberrant in regards to the social group as a whole (Weber & Crocker, 1983). When presented with conflicting information about those who are perceived to be typical of a social group, this information is utilized to simply refine the stereotype, whereas divergent information, presented about those perceived to be atypical of a social group, is used to create new subtypes (Weber & Crocker, 1983).

Devine and Baker's (1991) study adds to the concept of subtyping, in that there are distinct subtypes of the "Black" social group and consequently there are distinct characteristics associated with these subtypes which may not overlap greatly with the global stereotype. Devine and Baker's (1991) study examined qualities relating the racial category of Blacks with various subtypes of the category, such as "ghetto Black," "businessman Black," "Black athlete," and more. The subtypes of ghetto, welfare, and streetwise were found to be on the negative end of the discriminant function along with the global category of Blacks, while the athlete and businessman subtype were the only two to be located on the positive end. The athlete label overlapped to some extent with the global, Black category, but facilitated fewer negative qualities than the global category. The businessman label attained predominately positive characteristics and was associated with traits that the other subtypes were not linked to. Therefore, this subtype was found to be stereotypically inconsistent with the global category and other subtypes that stem from this category (Devine & Baker, 1991).

Hall, Phillips, and Townsend (2015) examined the difference in subtyping of two different racial labels for the same group, either "African Americans" or "Blacks." The results showed that stereotype content for Blacks was judged as less positive, less warm, and lower

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status than African Americans. Participants also rated Black targets as having a lower salary, lower education level, and lower status than African Americans. Black criminal suspects elicited more negative emotions than criminal suspects described as African American (Hall et al., 2015). This research on subtyping demonstrates the process of categorizing those that disconfirm a stereotype by possessing stereotypically inconsistent characteristics. Subtyping allows for the preservation of the main stereotype while subtype categories can drastically diverge from the global social group or label. The existence of context-specific subtypes and the influence of context on stereotypes suggests that subtypes of Whites may also exist, in that Whites may be perceived as violent and aggressive when they are the perpetrators of mass shootings.

### **The Phenomenon of Mass Shootings**

**Prevalence of Mass Shootings Over Time.** The prevalence of a crime may influence the likelihood of a stereotypic association developing surrounding the crime and the offender. According to the National Criminal Justice Reference Service (NCJRS) a mass shooting is defined as a shooting event that takes place in a public area, with a firearm, where the apparent motive is undiscerning murder, and where one shooter kills a minimum of three individuals, not including the shooter (“Mass Casualty Shootings,” 2018). Utilizing this definition, the NCJRS statistics indicate that there has been an increase in mass shootings throughout the past two decades. For instance, between the years 1998 and 2007 there were 21 mass shootings, while this has more than doubled to 51 total mass shootings occurring between 2008 and 2017 (“Mass Casualty Shootings,” 2018). According to *Mother Jones* and the Statistics Portal, there were 20 mass shootings between 2000 and 2009, while there were 59 between 2010 and February 2019 (Statista Research Department, 2020a; Follman, Aronsen, Pan, 2020).

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Varying definitions of mass shootings influence the overall statistics, but these events tend to attract mainstream media attention when they occur. According to an ABC News article, the United States faced an average of one mass shooting a month during 2018 (Keneally, 2019). A subsequent ABC News article stated that there was approximately one mass shooting every 15 days during 2019, with 21 mass shootings by September. A CBS News article explained that there were more mass shootings throughout 2019 than “there were the days in the years,” with 417 shootings, utilizing the criteria of at least four people being shot (Silverstein, 2020). Furthermore, a *Washington Post* article (Berkowitz & Alcantara, 2019) tracked mass shootings in the United States beginning with the University of Texas student sniper in 1966, providing detailed information on the number of victims in each shooting, the type of weapons used, the location of the event, and additional information emphasizing the extent of media coverage on mass shootings. These articles show the extent that the media focuses on mass shootings and how easy it is for society to access information about mass shootings through the lens of the media.

**Characteristics of the Mass Shooter.** The Statistics Portal (2019) determined that White perpetrators accounted for 62 mass shootings out of 110 shootings conducted between 1982 and February of 2019; 18 mass shootings were committed by Black offenders, 10 by Latino offenders, and 8 by Asian offenders (Statista Research Department, 2020b). Capellan and Gomez's (2018) study of mass public shootings between 2000 and 2015 showed 96.1% of public mass shooters were male, the average age of shooters was 36.6, 55.5% were White, and 25.6% were Black. The statistics surrounding the typology of the offender provide support for the notion that Whites may appropriately be associated with mass shootings. However, what is portrayed and perceived in the media plays a crucial role in the stereotype of mass shooters.

### **Media Depictions of Mass Shootings**

Schildkraut, Elsass, and Meredith (2018) examined what factors influenced media coverage of mass shootings in the *New York Times*, such as the number of victims, the location of the shooting, and features surrounding the offender. Using a media-distortion analysis, which is used to examine why certain cases are covered compared to others and what factors influence such attention, the authors found that the race/ethnicity of the shooter and the number of victims predicted whether a mass shooting gained media attention, and the extent of media coverage. The number of victims was positively correlated with the number and length of articles, indicating that mass shootings with higher victim counts produced more coverage in *The New York Times*. Another factor related to amplified coverage was the perpetrator's race/ethnicity, where Asian, Middle Eastern, Native American, and shooters of other races/ethnicities accumulated a higher number of articles and lengthier articles compared to White mass shooters (Schildkraut et al., 2018).

These findings were explained as resulting from these offenders diverging from the norm in terms of mass shootings, indicating that White perpetrators are viewed as the typical mass shooter, making non-White shooters more noteworthy. Moreover, whether or not the perpetrator survived influenced the amount of coverage, where a shooter surviving this event obtained more articles with follow ups regarding the crime and trial (Schildkraut et al., 2018). Other studies have demonstrated that the frequent media broadcasting of mass shootings, such as the Columbine and the Sandy Hook Elementary School shootings, prompted civilians to develop

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inaccurate notions about the likelihood of falling victim to a mass shooting and the overall prevalence of mass shootings (Elsass, Schildkraut, & Stafford 2016; Schildkraut, Elsass, & Stafford 2015). This suggests that the nature and frequency of media coverage may influence our perceptions of the reality of this crime.

Duwe (2000) investigated media coverage from television news, newspapers, and magazines of mass murder events between 1976 and 1996 and found that mass murder events that involved assault weapons, workplace massacres, victims that were strangers, interracial mass killings, and those with high victim counts procured the most media coverage. Duwe explains that higher victim counts and victims being strangers were more newsworthy as they were more serious, shocking, and imply indiscriminate murder. Also, mass murder occurring in public places generated more media coverage as there was a higher probability of survivors who could subsequently recount the events. Therefore, these findings suggest that public mass shootings generate the most media coverage, as they frequently involve assault weapons, victims that are strangers, and people in public places or workplace shootings.

Silva and Capellan's (2019) study of the newsworthiness of mass public shootings over 50 years examined the characteristics that were more likely to prompt a mass shooting to gain more coverage by the *New York Times*. The top newsworthy mass shooting was the Columbine High School shooting in 1999, which nearly doubled coverage of the second most newsworthy mass shooting, Sandy Hook, in the amount of general and specific articles and overall length of articles (Silva & Capellan, 2019). Silva and Capellan (2019) discovered that older perpetrators were less likely to receive the same amount of news coverage as younger offenders and that shootings that involved ideological extremism were more likely to gain attention from the media compared to non-ideological shootings. In addition, the location of the mass shooting plays a role

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in the newsworthiness, in that schools, government buildings, religious institutions, and open spaces gained more coverage than businesses. The firearms utilized and the number of victims influenced the attention to the event, with a combination of weapons and a higher victim count increasing the odds of media coverage. This study demonstrates that mass shootings attain a significant amount of news coverage in general, shaping the public's perception of the characteristics of both mass shooting events and perpetrators (Silvia & Capellan, 2019).

The media's portrayal of mass shootings have also influenced how society views the likelihood that these events will occur. Elsass and colleague (2016) noted that members of the public believes that mass shootings occur more frequently than they actually do, due to the media publicizing these events. The media also uses high-profile examples to compare each subsequent event to. In regards to mass shootings, the majority are compared to the Columbine High School shooting (Elsass et al., 2016). These examples reinforce the severity of the overall problem and even the example itself. Prevalent themes in the media's reporting, such as information on the offender and the victim count, cultivate the idea that mass shootings are a social problem (Elsass et al., 2016). The media's impact is relevant as coverage of this crime has the power to influence and shape the perceptions of mass shootings on society, thus affecting stereotypes surrounding this crime.

### **The Current Study**

While negative stereotypes associating African Americans with violence and aggression have long been documented in the psychological literature, there is less research on stereotypes about mass shooters. Due to the rise in mass shootings and how these events are covered by news media, it is hypothesized that a stereotype of mass shooters may associate this specific crime with White males. To date, the stereotyping literature has not found considerable evidence of an

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association between Whites and violent or aggressive behavior. However, this context-specific stereotypic association may then be a subtype of White males, as they disconfirm the global stereotype of White individuals as non-violent. The current study seeks to establish the presence of a distinct stereotype of mass shooters that is different from that of single shooters and which is associated with White males. Participants were given a vignette about either a mass or single shooting, and asked to rate the likelihood of motivations and characteristics that are believed to be typical of the perpetrators. At the end of the study, subjects rated the likelihood that eight males, shown in photographs that varied in race, committed the crime.

The stereotype of mass shooters and single shooters was compared to determine if there was a difference in perceptions of these two types of violent criminals, as well as what racial/ethnic groups are associated with these crimes. It was hypothesized that the stereotype of mass shooters would be distinct from the single shooter stereotype and that White males would be most frequently associated with mass shootings. It was also hypothesized that the motivational factors for mass shooters would be attributed to race, mental illness, personality traits, and hate, and that the personality traits possessed by mass shooters would include revengeful, radical, and cruel. Lastly, it was hypothesized that participants would believe that mass shooters belonged to the lower to upper middle socioeconomic class.

Conversely, it was hypothesized that the single shooter stereotype would be more frequently attributed to African American males, who committed the crime as a result of external circumstances and socioeconomic status, and that these perpetrators would be associated with traits such as being impulsive, quick-tempered, and aggressive. It was hypothesized that the single shooter would also be believed to belong to the working-middle class for socioeconomic status.

## Method

### Participants

The survey was open to all individuals above the age of 18 years old. A total of 678 subjects began the survey; however, those who were under 18 years old and those who completed less than 50% of the survey were excluded, leaving 422 valid participants. The mean age of participants was 30; 32.1% were male, 63.8% were female, while 1.9% were non-binary and 1.9% preferred not to answer. Also, 79.9% of participants were White, 9.9% were Hispanic or Latino, 2.4% were African American, 0.7% were Native American, and 3.6% were another race/ethnicity.

### Materials

A Qualtrics survey was distributed online through the SUNY New Paltz listserv and through various forms of social media such as Facebook, Instagram, Reddit, Twitter, and Tumblr. Participants began the survey by reading a brief description of the study, which was described as research pertaining to the perception of criminals. After providing consent, participants were asked to indicate their age (See the Appendix for all materials). If any participant indicated that they were under 18 years old, they were redirected away from the study. Following this, participants were instructed to read the following section carefully as they would subsequently be asked questions about the information they just read.

**Vignettes.** News articles, based on actual *New York Times* articles on past mass shootings and single shootings, were presented to subjects. Two vignettes depicted a mass shooting while the other two described a single shooting (see Appendix A). Participants were randomly assigned

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to a mass-shooting or a single-shooting vignette. The news clips were short and general, providing no demographic information about the perpetrator. The mass shooting article indicated that there was a mass shooting in a public area, how many were deceased and wounded, and that the culprit was unknown and has escaped. The news article about the single shooting depicted a shooting that targeted and killed one individual and said that the shooter had escaped and was also unknown.

**Motivation Measure.** Following the vignettes, participants were instructed to think about the article they read and to rate the likelihood that 11 factors played a role in the crime. Participants were asked how likely it was that the crime was a result of the perpetrator's race, socioeconomic status, low intelligence, previous exposure to violence, mental illness, neurological damage, personal traits, external circumstances, abuse/neglect as a child, hate, and social alienation (see Appendix B). These 11 motivational factors were rated on a Likert scale from 1 to 7, 1 being "extremely unlikely" and 7 being "extremely likely." The motivational factors chosen for this measure had been found to be strongly associated with violent offending and criminal behavior in prior research.

Certain factors are associated not only with violent crime, but also with one another. For example, race, socioeconomic status, mental illness, low intelligence, child abuse, environmental factors, and interactions with personality characteristics have all been linked to violent crime and also affect one another. Antisocial personality disorder and psychopathy have been highly associated with violent offending and are extraordinarily comorbid disorders (Baskin-Sommers, Baskin, Sommers, Casados, Crossman, Javdani, 2016; Walsh & Kosson, 2007). Race has been found to be a marker for specific demographic conditions, such as certain ethnic groups living in more emotionally and socially deficit environments (Baskin-Sommers et al., 2016; Walsh &

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Kosson, 2007). Childhood abuse and/or neglect has been found to be highly predictive of psychopathology in adults and commonly found among violent offenders (Moore, 2011; Schimmenti, Carlo, Passanisi, & Caretti, 2015). Environmental and external factors play a role in fortifying behaviors, as one is exposed to such behaviors and they become learned (Baskin-Sommers et al., 2016; Moore, 2011). In addition, an indirect link has been found between IQ and delinquency, increasing the likelihood that other factors are at play as well (Moore, 2011). Lastly, hate crimes are a specific type of crime classified by Federal Bureau of Investigation as an offense against property or an individual that is driven by an offender's prejudice against a religion, race, disability, gender or gender identity, sexual orientation, or ethnicity (Herek, 2017). Therefore, these motivating factors related to crime were used to create a scale that participants used to rate how likely it was they played a role in the crime they read about.

**Personality Traits Measure.** Participants completed a modified version of Katz and Braly's (1933) adjective check list, where participants rated the likelihood that the offender who committed the crime they read about possessed various personality traits. Katz and Braly's (1933) checklist originally consisted of 84 positive, negative, and neutral adjectives; it was shortened to 20 items in order to reduce response fatigue. The list was reduced and altered into a 20-item Likert scale (see Appendix C). For example, subjects were asked to rate how likely it was that the perpetrator was cruel, on a scale of 1 being extremely unlikely to 7 being extremely likely.

**Socioeconomic Status/Class Measure.** Participants also rated the socioeconomic status/class they believed the offender they read about belonged to (See Appendix D). This measure was on a scale from 1 to 5, with 1 being "poor" and 5 being "upper class."

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**Race Selection Measure.** Once participants completed the personality trait measure, they were given a crime association task. Photographs of adult White, Black, Asian, and Hispanic males from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015) were downloaded and presented to participants (see Appendix E). While viewing these faces, participants were asked to think about the crime they read and rate how likely it was that each individual committed this crime. A total of eight photographs were given with two photographs for each racial/ethnic group. Photographs were selected for their similarity to one another, with neutral facial expressions and similarity in size and facial features. Participants rated each photograph on a scale from 1 to 7, 1 being “extremely unlikely” to 7 being “extremely likely.”

**Demographics.** Lastly, participants answered demographic questions about themselves, including gender, race/ethnicity, how they heard about the study, and what news outlets they most frequently used (see Appendix F).

## Results

**Justification for Collapsing Across Conditions.** Prior to collapsing the two single and two mass-shooting conditions that participants were presented, a one-way ANOVA with a Tukey post-hoc analyses was computed to identify any differences between the two single shootings and two mass-shooting conditions. Upon examining the statistically significant differences, a majority of the two single-shooting conditions and the two mass-shooting conditions did not differ from one another. However, if it was found that there was a significant difference between the two mass shooting conditions or a significant difference between the two single shooting conditions, the analyses were omitted. For example, the one-way ANOVA on the race motivational factor found a significant difference in the shootings,  $F(3,329) = 4.125$ ,  $p = .007$ .

## MASS SHOOTER BIAS

The post-hoc analysis showed that this significant difference was between the two mass shooting conditions. This finding shows a discrepancy between the effect that the mass shooting conditions had on the race motivational factor and therefore collapsing the two mass shooting conditions or the two single shooting conditions on race cannot be justified. As a result, the race motivational factor and any other similar discrepancy was omitted from the significant findings.

Following this, a series of independent samples t-tests were conducted to evaluate the differences between the single shooting and the mass shooting condition on the motivational factors, the personality traits, and the socioeconomic status measure.

### **Motivations**

**Socioeconomic status/class.** A statistically significant difference was found for socioeconomic status/class with a  $t(386) = 3.043, p = .003$ . The mean, or average rating, for the single shooting condition was 4.12 (SD = 1.65), while the mean rating was 3.61 (SD = 1.65) for the mass shooting condition. Since the mean was higher for the single shooting condition, participants believed the perpetrator's socioeconomic status/class played more of a motivational role in the single shooting than in the mass shooting (refer to Table 1). There was a small effect size with a Cohen's  $d = .31$ .

**Mental illness.** The mental illness motivational factor was found to be statistically significant, with a  $t(394) = -3.105, p = .002$ . The mean rating for the single shooting (M = 4.23, SD = 1.76) was lower than the mean for the mass shooting condition (M = 4.79, SD = 1.80). The higher mean for the mass shooting condition indicates that mental illness was perceived to be a stronger motivational factor in the mass shooting. A Cohen's  $d = .31$  shows a small effect for the difference between groups.

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**Hate.** A statistically significant difference was found for the hate motivational factor, with a  $t(396) = -4.880, p < .001$ . The average rating for the mass shooting condition ( $M=5.51, SD = 1.55$ ) was higher than for the single shooting condition ( $4.74, SD = 1.62$ ). Therefore, participants rated hate as being more likely to have played a motivational role in the mass shooting than in the single shooting condition. There was a medium effect size between the two groups, Cohen's  $d = .40$ .

**Social alienation.** Social alienation was statistically significantly different between the mass and single shooting conditions, with a  $t(397) = -2.653, p = .008$ . The mean response for the single shooting condition on social alienation ( $4.25, SD = 1.73$ ) was lower than the mean response for the mass shooting ( $4.71, SD = 1.67$ ). This finding suggests that social alienation played more of a motivational role in the mass shooting condition than in the single shooting condition, with a small effect size between groups, Cohen's  $d = .27$ .

Previous exposure to violence, low intelligence, neurological damage, personal traits, external circumstances, and abuse/neglect as a child were not statistically significantly different between groups. As stated previously, the race motivational factor was omitted due to the significant difference between the two mass shooting conditions.

### Personality Traits

**Cruel.** A statistically significant difference was found cruel, with a  $t(399) = -3.767, p < .001$ . The average rating for the single shooting condition was  $4.85 (SD = 1.47)$  compared with  $5.43 (SD = 1.60)$  for the mass shooting condition, which indicated that mass shooters were more likely to be cruel than single shooters (refer to Table 1). The effect size was small with Cohen's  $d = .38$ .

## MASS SHOOTER BIAS

**Revengeful.** Statistical significance was found between groups for the likelihood that the shooter was revengeful, with a  $t(399) = -2.469, p = .014$ . The average rating, for the single shooting condition ( $M = 4.84, SD = 1.49$ ) was lower than for the mass shooting condition ( $M = 5.22, SD = 1.54$ ), indicating that mass shooters were believed to be more likely to be revengeful than single shooters. There was a small effect size as the Cohen's  $d = .25$ .

**Reserved.** The reserved trait was found to be significantly different between groups, with a  $t(357) = -2.007, p = .046$ . The mean rating was 3.14 ( $SD = 1.50$ ) for the single shooting condition, while the mean rating for the mass shooting condition was higher at 3.46 ( $SD = 1.59$ ), demonstrating that mass shooters were more likely to be perceived as being reserved than single shooters. Cohen's  $d = .21$  indicating a small effect size between the mass and single shooting group.

**Conservative.** Mass and single shooting conditions were significantly different on the conservative trait, with a  $t(343) = -2.719, p = .007$ . The average rating for the mass shooting condition ( $M = 3.61, SD = 1.84$ ) was higher than the mean for the single shooter ( $M = 3.12, SD = 1.52$ ), demonstrating that mass shooters were perceived as being more conservative than single shooters. There was a small effect size between the single and mass shooting groups as Cohen's  $d = .29$ .

**Radical.** A statistically significant difference was found on the radical personality trait, with a  $t(373) = -4.418, p < .001$ . The average response for the mass-shooter condition ( $M = 5.03, SD = 1.77$ ) was higher on the radical personality trait compared to that of single-shooter condition ( $M = 4.21, SD = 1.82$ ), indicating that mass shooters were believed to be more radical than single shooters. There was a medium effect size between the single and mass shooting groups as Cohen's  $d = .46$ .

## MASS SHOOTER BIAS

**Very religious.** Very-religious was found to be statistically significantly different between groups, with  $t(343) = -2.328, p = .020$ . The mean for the mass shooter condition ( $M = 3.24, SD = 1.74$ ) was higher on the very religious trait compared to the single shooters group ( $M = 2.83, SD = 1.53$ ). The effect size was small between groups, with a Cohen's  $d = .25$ .

**Intelligent.** A statistically significant difference was found between groups on the intelligent trait, with a  $t(387) = -2.156, p = .032$ . The mean for the single shooting group ( $M = 3.64, SD = 1.23$ ) on the intelligent personality trait was lower than the mean for the mass shooting group ( $M = 3.91, SD = 1.25$ ), suggesting that mass shooters were believed to be more intelligent than single shooters. The Cohen's  $d = .22$ , demonstrating a small effect size between the mass and single shooting conditions.

**Progressive.** Groups were found to be significantly different on the progressive trait, with a  $t(324) = 2.750, p = .006$ . The mean for the single shooting condition ( $M = 3.04, SD = 1.46$ ) was higher than the mean for the mass shooting condition ( $M = 2.59, SD = 1.53$ ). Therefore, participants rated single shooters as being more likely to be progressive compared to the mass shooter. The difference between groups has a small effect size as the Cohen's  $d = .31$ .

**Physically dirty.** The physically dirty trait was statistically significantly different between groups, with a  $t(343) = 3.181, p = .002$ . Single shooters were rated as being more likely to be physically dirty than mass shooters, with single shooters ( $M = 3.26, SD = 1.57$ ) having a higher mean than the mass shooter ( $M = 2.73, SD = 1.54$ ). The effect size between the two groups on the physically dirty trait is small, with a Cohen's  $d = .34$ .

**Quick-tempered.** Quick-tempered was found to be significantly different between groups with a  $t(399) = 2.422, p = .016$ . Single shooters ( $M = 5.18, SD = 1.41$ ) were more likely

## MASS SHOOTER BIAS

to be considered quick-tempered than single shooters ( $M = 4.82$ ,  $SD = 1.56$ ). There was a small effect size between groups on the quick-tempered trait, with a Cohen's  $d = .24$ .

**Argumentative.** There was a significant difference between shooting conditions on the argumentative personality trait, with  $t(379) = 1.964$ ,  $p = .050$ . Participants rated single shooters ( $M = 4.42$ ,  $SD = 1.47$ ) as being more likely to be argumentative than mass shooters ( $M = 4.11$ ,  $SD = 1.57$ ), as the average rating was higher for the single shooting condition. The effect size was small, with a Cohen's  $d = .20$ .

No statistically significant differences were found between groups for the traits of deceitful, treacherous, cowardly, aggressive, conventional, suggestible, or tradition-loving. The personality trait, arrogant, was omitted due to the fact that it violated the justification for collapsing conditions due to there being a significant difference between two similar shooting conditions (i.e., between the two mass shootings conditions).

### **Socioeconomic status/class**

An independent samples t-test was conducted to analyze the difference between the single and mass shooting groups on the 1 to 5 SES scale. A statistically significant difference was found between the two conditions, with a  $t(393) = -4.322$ ,  $p < .001$ . The average rating, or mean, for the mass shooting condition ( $2.66$ ,  $SD = .77$ ) was higher than for the single shooting condition ( $2.31$ ,  $SD = .85$ ). Therefore, participants believed that mass shooters are likely to belong to a higher socioeconomic status/class than single shooters. (Refer to Table 1). There was a medium effect size between the mass and single shooting condition for the socioeconomic status participants believed the shooter belonged to, with a Cohen's  $d = .44$ .

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*Table 1*

Variable	Condition	M (SD)	t (df)	P	Cohen's d
<b>Motivations</b>					
Socioeconomic status/class	Single Shooting	4.12 (1.65)	3.043 (386)	.003	.31
	Mass Shooting	3.61 (1.65)			
Mental illness	Single Shooting	4.23 (1.76)	*-3.105 (394)	.002	.31
	Mass Shooting	4.79 (1.80)			
Hate	Single Shooting	4.74 (1.62)	*-4.880 (396)	.000*	.40
	Mass Shooting	5.51 (1.55)			
Social alienation	Single Shooting	4.25 (1.73)	*-2.653 (397)	.008	.27
	Mass Shooting	4.71 (1.67)			
<b>Personality</b>					
Cruel	Single Shooting	4.85 (1.47)	*-3.767 (399)	.000*	.38
	Mass Shooting	5.43 (1.60)			
Revengeful	Single Shooting	4.84 (1.49)	*-2.469 (399)	.014	.25
	Mass Shooting	5.22 (1.54)			
Reserved	Single Shooting	3.14 (1.50)	*-2.007 (357)	.046	.21
	Mass Shooting	3.46 (1.59)			
Progressive	Single Shooting	3.04 (1.46)	2.750 (324)	.006	.31
	Mass Shooting	2.59 (1.53)			
Conservative	Single Shooting	3.12 (1.52)	*-2.719 (343)	.007	.29
	Mass Shooting	3.61 (1.84)			
Physically Dirty	Single Shooting	3.26 (1.57)	3.181 (343)	.002	.34
	Mass Shooting	2.73 (1.54)			
Radical	Single Shooting	4.21 (1.82)	*-4.418 (373)	.000*	.46
	Mass Shooting	5.03 (1.77)			
Intelligent	Single Shooting	3.64 (1.23)	*-2.156 (387)	.032	.22
	Mass Shooting	3.91 (1.25)			
Quick-Tempered	Single Shooting	5.18 (1.41)	2.422 (399)	.016	.24
	Mass Shooting	4.82 (1.56)			
Very-Religious	Single Shooting	2.83 (1.53)	*-2.328 (343)	.020	.25
	Mass Shooting	3.24 (1.74)			
Argumentative	Single Shooting	4.42 (1.47)	1.964 (379)	.050	.20
	Mass Shooting	4.11 (1.57)			
<b>SES</b>					
Socioeconomic status/class	Single Shooting	2.31 (.85)	*-4.322 (393)	.000*	.44
	Mass Shooting	2.66 (.77)			

\*p < .001

## MASS SHOOTER BIAS

### **Race Selection Task**

A repeated-measures ANOVA was conducted to examine which races were rated as being more likely to have committed the mass shooting and the single shooting based on the photographs of potential perpetrators. The ratings for each pair of White, Black, Latino, and Asian photographs were collapsed to create totals for each race. The race likelihood was placed as the within-subjects variable and the condition of single or mass shooting vignette was placed as the between-subjects variable. A significant main effect was found for the race likelihood,  $p < .001$ ,  $F(3, 1044) = 68.218$ . The interaction effect between race likelihood and shooting condition was statistically significant with  $p < .001$ ,  $F(3, 1044) = 7.239$ . The White males were rated the highest on mass shootings, with a mean of 8.000 ( $SD=2.576$ ). Therefore, White males were rated as being most likely to have committed the mass shootings (refer to Table 2 and Graph 1). Latino male totals were rated the second highest for mass shootings, with a mean of 7.279 ( $SD = 2.384$ ). Black Males were rated less likely to commit the mass shooting compared to the White male and Latino male totals, with a mean of 6.413 ( $SD = 2.446$ ). Asian males were rated the least likely to have committed the mass shooting with a mean of 5.916 ( $SD = 2.360$ ). These findings demonstrate that White males are stereotyped as being more likely to be mass shooters compared to other races, contradicting race stereotyping literature where Black males are typically perceived as being more violent and aggressive than White males, but supporting this study's hypothesis that a new stereotype is developing about mass shooting perpetrators.

The ratings for the likelihood of who committed the single shooting mirrored the ratings for the mass shootings, with White males being rated as the most likely to have committed the single shooting, with a mean of 7.7018 ( $SD = 2.031$ ) (refer to Table 2 and Graph 1). Latino male totals were rated as less likely to have committed the single shooting compared to White males,

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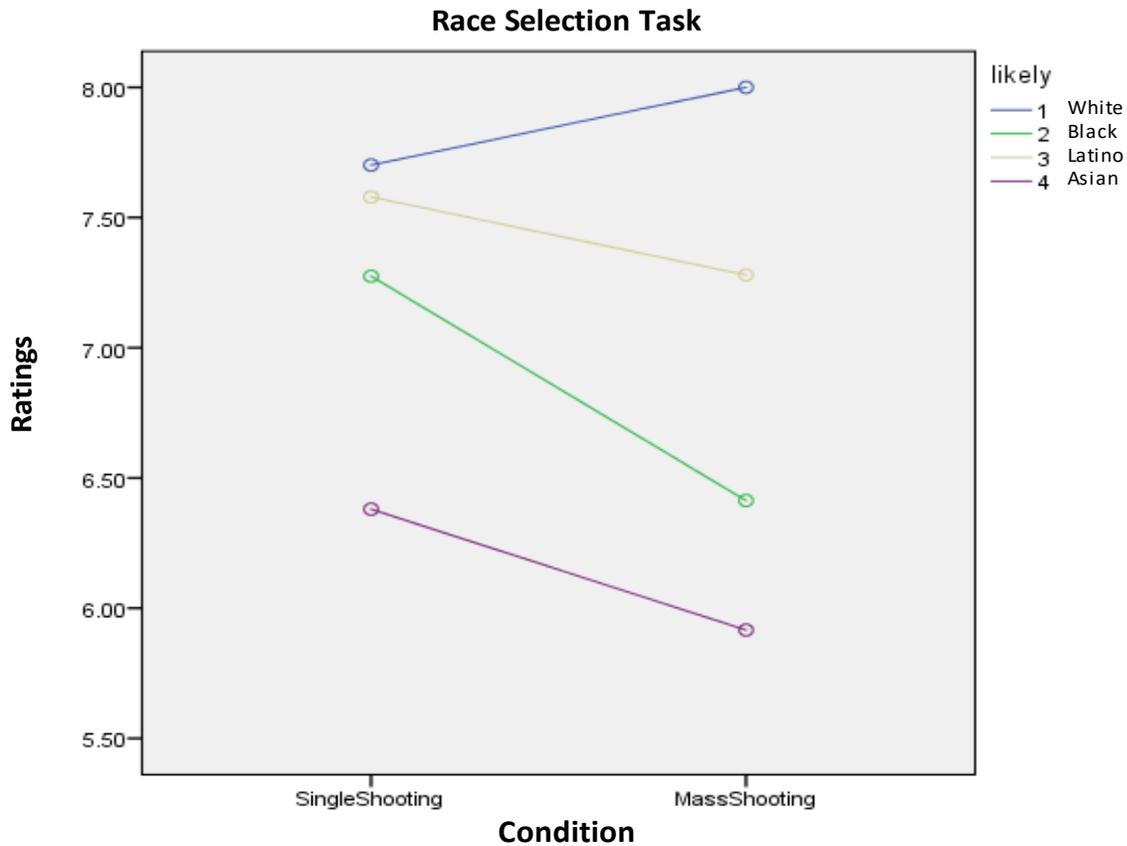
with a mean of 7.578 (SD = 1.748). Black males were again rated as less likely to commit the single shootings compared to White and Latino males, with a mean of 7.274 (SD = 1.943). Asian males were rated as the least likely to have committed the single shooting, with a mean of 6.380 (SD = 2.278). An independent sample t-test was conducted in order to determine if there was a significant difference between the White male ratings on the mass and single shooting condition. With equal variances not assumed, a significant difference was found, with a  $t(390.262) = -2.278, p = .023$ , with a small effect size between groups, Cohen's  $d = .23$ . Therefore, with a higher mean on the mass shooting condition, participants believed White male targets to be more likely to commit the mass shooting compared to the single shooting.

**Table 2**

Race	Condition	Mean	SD	N
White Males	Single Shooting	7.70	2.03	171
	Mass Shooting	8.00	2.58	179
Black Males	Single Shooting	7.27	1.94	171
	Mass Shooting	6.41	2.45	179
Latino Males	Single Shooting	7.58	1.75	171
	Mass Shooting	7.28	2.38	179
Asian Males	Single Shooting	6.38	2.28	171
	Mass Shooting	5.92	2.36	179

# MASS SHOOTER BIAS

Graph 1



## Discussion

Overall, the hypotheses were partially supported. Regarding motivations, as predicted, the mass shooters were rated as more likely to have committed the shooting due to mental illness and hate, while they were also believed to be motivated by social alienation. In regards to personality traits possessed by the perpetrators, mass shooters were believed to be significantly more radical, cruel, and revengeful, as hypothesized. Additionally, participants believed that mass shooters were more likely to be reserved, conservative, very religious, and intelligent, and more likely to belong to a higher SES than single shooters. According to recent research, the media is more likely to attribute crimes perpetrated by White and Latino mass shooters to mental illness (Duxbury, Frizzell & Lindsay, 2018) and violence-related mental illness messages

## MASS SHOOTER BIAS

increased on social media in the states that suffered a mass shooting (Budenz et al., 2019). Participants may have believed that social alienation is linked to mental illness and facilitates hatred. However, mass shooters were not judged as being motivated by race or personality traits as predicted.

It was not surprising that mass shooters were rated as being more radical, cruel, and revengeful considering the type of violence involved in mass shootings, and since mass shootings are frequently a result of an individual feeling wronged in some way or acting due to radical beliefs (Silva & Capellan, 2019). Due to the fact that being reserved, religious, and conservative are related to one another, it is not surprising that these traits are collectively attributed to one shooter. Since mass shootings are frequently described as being a gun-control issue and debate (McGinty, Webster & Barry, 2013; Metzl & MacLeish, 2015), which produces differing perspectives from conservative and more liberal positions, participants may have believed that conservative individuals are more likely to support possessing such weapons.

Also as predicted, mass shooters were believed to belong to a higher socioeconomic class than single shooters, which may explain why participants rated mass shooters to be more intelligent. Importantly, the main hypothesis of the study was supported, in that mass shooters were rated as significantly more likely to be White compared to any other race. Therefore, participants endorsed a stereotype about who is most likely to be the perpetrator in a mass shooting, which contradicts previous studies associating racial minority groups with violence and aggression and suggests the existence of subtype of White males being culpable of a violent crime. This indicates that a distinct stereotype about mass shooters exists.

## MASS SHOOTER BIAS

The hypotheses about single shooter stereotypes were supported in limited ways. As predicted, single shooters were rated as likely to be more progressive than mass shooters, more motivated by socioeconomic status, and to belong to a lower socioeconomic class. This perceived economic status could explain why single shooters were seen as physically dirtier. More notably, as hypothesized, single shooters were believed to be more quick-tempered and argumentative than mass shooters. Participants could have believed that an individual became involved in a single shooting without planning because of their quick-tempered and argumentative nature. Single shooters were also believed to be more impulsive than mass shooters; however, the difference narrowly missed statistical significance,  $p = .056$ .

Interestingly, there was no significant difference in perceptions of aggressiveness between single and mass shooters. This may have been due to the fact that both criminals were perceived as aggressive as they both committed violent crimes. Most notably, contrary to the hypothesis, single shooters were rated as most likely to be White, just as mass shooters were. It is important to note that there was a significant difference between groups on the White male ratings, indicating that White males were believed to be significantly more likely to be the mass shooter compared to the single shooter. Overall, this finding also contradicts previous studies that link African American targets to aggressive or violent behaviors. While it cannot be demonstrated through the current study design, it is possible that the surprising findings surrounding the assumed race of the single shooters might be explained by the sources of media that survey participants consumed.

Examining the influence of exposure to news in general, several studies have shown how varying sources of media affected consumers' fear of crime, perceived risk of crime, and punitive judgment. Callanan (2012) showed that the higher the consumption of television news

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and reality-crime television programs, the more participants feared crime. Another study found that there is a positive association between the extent individuals watch national TV news and support for increased police authority, punitiveness, and perceived victimization risk (Roche, Pickett & Gertz, 2015). However, consuming news from internet sources was not associated with possessing fear of crime or strict views on police authority and punitiveness (Roche et al., 2015).

While few studies have explicitly examined the relationship between internet news and the stereotyping of African Americans as criminals, one did investigate internet news and social media news consumption and engagement and criminal stereotypes involving violent crime, property crime, and illegal drug crime (Intravia & Pickett, 2019). Upon examining internet news consumption, social media news consumption, internet news crime engagement, Facebook crime engagement, and Twitter crime engagement, they found that Twitter crime news engagement and internet news consumption were negatively related to typifying African Americans as guilty of violent, property, or drug crime. However, social media news consumption was significantly positively related to typifying African Americans as committing violent crime, property crime, and selling illegal drugs. Therefore, internet news consumption and social media crime engagement were negatively related to African American criminal stereotyping. The authors suggested that crimes were portrayed differently through Internet news sites in illustrating racial elements (Intravia & Pickett, 2019).

Additionally, social media news engagement may inspire activism, protests, and taking action on social issues and may prompt those engaged to change their views on particular issues (Intravia & Pickett, 2019). Therefore, since internet news consumption and internet or social media engagement has risen over the years, it is possible that participants and consumers are influenced differently by how news about crimes is portrayed on these platforms. In the current

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study, participants were asked to select which media sources they most frequently got their news from; multiple answers were allowed. For social media platforms, 17% stated they got their news from Instagram, 23% from Twitter, 32% from Facebook, 24% from Reddit. Therefore, most participants did report utilizing some form of social media or internet platform for news. Facebook, Twitter, and Reddit are highly utilized social media platforms and incur significant levels of engagement nationally and internationally.

It is possible that through internet and social media coverage publicizing events and social justice movements, individuals are consuming and absorbing information about minority racial groups in a less overt and scrutinized manner and therefore, are reducing aggressive associations with these groups. For mainstream media news outlets, 15% of participants indicated they got their news from Fox, 12% from CBS, 9% from USA Today, 14% from NBC, 26% from CNN, 15% from MSNBC, 23% from the *Washington Post*, and 35% from the *New York Times*. This suggests a generally progressive stance among those surveyed and several of these sources also provide online posts that individuals can comment on and share on social media. Therefore, online and mainstream media utilized by participants in this study may have contributed to lower endorsement of typical racial stereotypes.

In addition, the unexpected findings of White males being stereotyped as the perpetrators of both forms of violent crimes in this study may stem from the rise in mass shootings altogether, and the disproportionate amount of media attention these events receive relative to single shootings, especially in urban environments. Growing stereotypes of White males as capable and guilty of one of the most heinous crimes may have primed individuals to consequently blame these individuals for other shootings and violent crimes. As a result, Black and Latino targets

## MASS SHOOTER BIAS

may not be the only groups associated with violence and aggression, as was frequently found in earlier studies.

This study is not without limitations, including the small effect sizes found between groups, indicating a less substantial difference between groups. Also, the ratings of each task were formatted with the option to provide a neutral answer in order to avoid showing any prejudice, such as the midway point on the Likert scale, so it is also possible that participants responded with socially desirable biases in an attempt to demonstrate that they do not possess stigmas around African Americans being typified as violent.

It was predicted that there would be an association of White males with mass shootings, which is a subtype or subcategory of the traditional stereotype of White males. This was supported by the data, as were many of the predictions about perpetrator traits, motivations, and SES. However, the perceptions about the single shooter race is more difficult to explain. Along with media affects, the vignettes that were presented to participants may have influenced their responses since the crimes took place in a rural setting, the Hudson Valley. Future studies should compare mass shooting to other acts beyond a single shooting, such as other violent and non-violent crimes, as well as investigating more characteristics and demographic information associated with mass shooters. Future research should also include vignettes in various locations, from large cities to more refined locations, such as malls, institutions of education, and public spaces. In addition, studies should directly investigate how the media or other factors influences these beliefs.

Appendix A: Vignettes

Vignette Set 1:

- Mass Shooting Vignette:
  - A gunman opened fire on a crowd of dozens of people in the Hudson Valley in New York, killing 7 and injuring 11. Authorities said that the shooter escaped before law enforcement made it to the scene. Police are on a manhunt for the perpetrator, but no information about who the shooter is or the motivation has been released.
  
- Single Shooting Vignette:
  - A gunman opened fire on another person in the Hudson Valley of New York, killing one unidentified victim. Authorities said that the shooter escaped before law enforcement made it to the scene. Police are on a manhunt for the perpetrator, but no information about who the shooter is or the motivation has been released.

Vignette Set 2

- Mass Shooting Vignette:
  - Police mounted an intense manhunt for an armed assailant who fired dozens of shots in a public area in the Hudson Valley of New York. The mass shooting left 12 dead and 7 wounded. The unidentified shooter fled the scene before law enforcement arrived. Authorities have not released any further information.
  
- Single Shooting Vignette:
  - Police mounted an intense manhunt for an armed assailant who fired two shots at another individual in the Hudson Valley of New York. The shooting left one person dead. The unidentified shooter fled the scene before law enforcement arrived. Authorities have not released any further information.

# MASS SHOOTER BIAS

## Appendix B: Motivations

### Instructions:

Think about the news article you just read, and rate the likelihood that the following factors played a role in the crime.

How likely is it that this crime was the result of the perpetrator's...

Extremely Unlikely

Extremely Likely

1

2

3

4

5

6

7

- ...race
- ...socioeconomic status/class
- ...previous exposure to violence
- ...low intelligence
- ...mental illness
- ...neurological damage
- ...personal traits
- ...external circumstances
- ...abuse/neglect as a child
- ...hate
- ...social alienation

# MASS SHOOTER BIAS

## Appendix C: Personality Traits

Instructions:

Think about the news article you just read, and rate how likely it is that the perpetrator of that crime possessed the following personality traits

How likely is it that the perpetrator was...

Extremely Unlikely

Extremely Likely

1                    2                    3                    4                    5                    6                    7

1.    ...intelligent
2.    ...deceitful
3.    ...treacherous
4.    ...cowardly
5.    ...cruel
6.    ...revengeful
7.    ...aggressive
8.    ...conventional
9.    ...argumentative
10.    ...reserved
11.    ...impulsive
12.    ...quick-tempered
13.    ...suggestible
14.    ...progressive
15.    ...conservative
16.    ...tradition-loving
17.    ...very-religious
18.    ...physically dirty
19.    ...arrogant

## MASS SHOOTER BIAS

20. ...radical

### Appendix D: Socioeconomic Status/Class

Instruction:

Which of the following do you think best describes the perpetrator's socioeconomic status/social class

Poor	Working Class	Lower Middle Class	Upper Middle Class	Upper Class
1	2	3	4	5

MASS SHOOTER BIAS

Appendix E: Race Selection

Instructions:

Think about the news article you just read, and rate how likely it is that each of the following people committed the crime

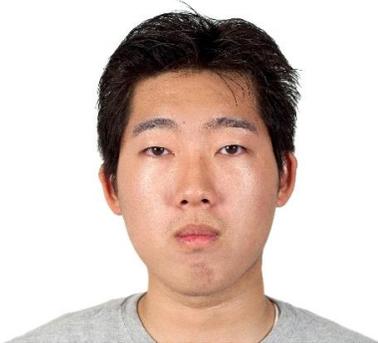
Before each photograph:

How likely is it that this person committed the crime:

Extremely Unlikely

Extremely Likely

1                    2                    3                    4                    5                    6                    7



Extremely Unlikely

Extremely Likely

1                    2                    3                    4                    5                    6                    7



Extremely Unlikely

Extremely Likely

1                    2                    3                    4                    5                    6                    7

MASS SHOOTER BIAS



Extremely Unlikely

1            2            3            4            5            6            7

Extremely Likely



Extremely Unlikely

1            2            3            4            5            6            7

Extremely Likely



Extremely Unlikely

1            2            3            4            5            6            7

Extremely Likely

# MASS SHOOTER BIAS



Extremely Unlikely

1

2

3

4

5

Extremely Likely

6

7



Extremely Unlikely

1

2

3

4

5

Extremely Likely

6

7



# MASS SHOOTER BIAS

## Appendix F: Demographic Questions

Age: Drop Down-

Under 18 – Skip Logic to end of survey

18 +

Gender: Select -

Male

Female

Non-binary

Prefer not to answer

Fill in: \_\_\_\_\_

Ethnicity/Race: Select -

Native American/Alaskan Indian White

Asian/Pacific Islander

African America

Hispanic or Latino

White

Fill in \_\_\_\_\_

How did you hear about this study: Select –

SUNY New Paltz Email

Other Email

Social Media

Other – Fill in: \_\_\_\_\_

What sources do you most frequently get your news from?

New York Times

Washington Post

MSNBC

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## MASS SHOOTER BIAS

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