VARIABLES PREDICTING THE SEVERITY OF A MASS SHOOTING: THE CONNECTION TO WHITE SUPREMACY

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Abstract

Since mass shootings have become increasingly relevant in today's society, the subject of what makes a mass shooting deadly has become more and more popular. This project focuses on how selected variables correlate with the severity of a mass shooting, and especially focuses on the impact of white supremacy ideology. Theoretically, a shooter imbued with this ideology will likely be more violent, thus causing a higher victim count (injuries + deaths). The other variables included in the model are: the use of a long gun, the use of multiple guns, the use of semi-automatic guns, mental illness, and shooter suicide. This project seeks to assess the relationships of these variables to the victim count, and the statistical significance of each of these relationships. By drawing from two prominent mass-shooting databases and associated media sources, a dataset was constructed, then analyzed with correlation, regression, and ANOVA. These analyses confirmed all of the hypotheses, with predictor variable correlating positively and significantly to victim count. Most importantly, the findings confirmed the significance of the white supremacy ideology variable in predicting the violence of a mass shooting, and the effect withstood the introduction of a variety of important control variables; in short, shooters with a white supremacy background tend to inflict a higher victim count during a mass shooting. Based on these findings, suggestions for further research include separating active-shooter mass shootings from other types of mass shootings; standardizing the operational definition of a mass shooting; and increasing the number of possible predictor variables in current mass shooting databases.

Introduction

America has a gun problem. According to the *Gun Violence Archive* (2018), statistically one mass shooting or more that occurs every day – depending on how "mass shooting" is defined; in this case, the *Gun Violence Archive* defines it as 4 or more victims, be it injured or killed. Compared to other types of crime that's not particularly often, but as a society, the impacts of these types of crimes have a significantly harder toll. Whether it be elementary school children in Connecticut, or Jews at a baby naming ceremony in Pennsylvania, or the club-goers at a popular LGBT nightclub in Florida, no one is deemed safe from a person with a motive and a gun. Indeed, although mass shootings are a very rare crime, and comprise only a tiny portion of homicides in the US, a *Gallup* poll estimates that 40% of adult Americans "worry" that they or a family member will be a victim of a mass shooting (Newport 2017). And, of these people with a motive, almost everyone has been a man, and a majority of them have been white.

But, there is more that goes into the making of a successful mass shooter than just being a white male with a motive and a gun. Variables such as gun type, the use of multiple guns, the use of automatic/semiautomatic guns, mental illness, and the fate of the shooter all correlate to the severity of a mass shooting. In this thesis, these variables will be used to predict the severity of a mass shooting, as well as adding in a new predictor variable: white supremacist ideologies. Although intuitively, the white supremacist variable would seem a likely predictor of a mass shooting, until now, it has not been incorporated into quantitative research on mass shootings.

White Supremacy and the Severity of Mass Shootings

The fundamental hypothesis of this thesis is that shooters imbued with white supremacist ideologies are more likely to be more violent, and thus incur a greater number of victims in a mass shooting. The typical mass shooter is a white male between the ages of 18 and 32, who is disgruntled or angry, and takes this hatred and projects it on innocent victims (see, e.g., Schildkraut 2018). In a number of studies, shooters have been connected to toxic masculinity or white supremacy, mostly in a way that they feel as if they are owed something due to their gender or their race (see, e.g., Ferber 1999; Mingus 2010; Myketiak 2016). These are very similar to the reasons why a person may join a hate group. Many times, especially in in cases of school shootings, the shooter is a male few people like for various reasons. For the Parkland shooting, the reason behind some students not liking the shooter was because of his racist and sexist attitudes. Interestingly, the top three states for mass shootings are also the states with the most hate groups, such as neo-Nazi groups, the Ku Klux Klan, and the Alt-right (SPLC 2017).

Violence in these groups has always been prominent, from the lynching and murders of African Americans up until the 1960s by the KKK and other white supremacists, to the white supremacist march in Charlottesville VA that left one counter-protester dead in 2017, violence is something that is incubated and encouraged in these groups. The reason that men are so much more enamored by these groups than women is because these groups cater toward the hyper-masculinity that many men flock to – so that they may keep up the appearance of toughness, especially in a time that homosexuality and effeminate behavior is much less frowned upon by men. Ferber (1999, 137) observes “the threat of demasculization and

homosexuality compels the assumption of properly gendered positions and is used in this discourse to align properly gendered positions with white supremacy. [Men drawn to white supremacy online have their] masculinity … frequently assaulted in order to invite them to become 'real men' by joining the white supremacist movement." Men that are looking for justification and want to prove their "manliness" move toward the movement because of the perceived power and self-confidence that comes with it.

Since the introduction of the Internet, white supremacy material has become increasingly easier to get a hold of. Online sites and forums that white supremacists can connect on have widened the ability for these people to find each other, and encourage the ideas that come with the belief system. Daniels (2009, 7) recounts that "more sinister than possible recruitment is the Internet's capacity to link white supremacists, regardless of national boundaries, thus affirming translocal white supremacy." With the ability for white supremacists to connect and research over the Internet, there is more of a chance that they will meet others of their belief than if they were to look around in person. With places like 4Chan, Reddit, and tumblr where white supremacists can post what they want and connect, the spread of the ideology is hard to contain and pin down.

Other Variables Predictive of the Severity of a Mass Shooting

The two best databases on mass shooting events are those created by the Stanford University (2018) and *Mother Jones* Index (Folman 2018). These databases provide detailed information on individual shooters, as well as other variables that are associated with the shootings. The

most important of these variables are gun type, the use of multiple guns, the use of automatic/semiautomatic guns, mental illness, and the fate of the shooter (suicide vs not). In the following sections, I will review existing research on these variables and their potential value as predictors of the severity of a mass shooting.

Gun Type – Long Versus Hand

One way to classify "gun type" is long gun versus handgun. Handguns are either revolvers or semi-automatic pistols. Long guns are either rifles or shotguns. Note that guns of any type are much more likely to be lethal in an attack than other types of weapons, e.g, knives, baseball bats, and clubs. For example, Penn Medicine (2014) found that "A third of patients with gunshot wounds (33.0 percent) died compared with 7.7 percent of patients with stab wounds." That said, a bullet fired from a long gun travels at a higher velocity than that of a handgun, and thus has a more forceful impact and can inflict substantially more damage. Ironically, according to Cook (2000), the handgun ban that Washington DC put into place as of 1976 made the use of the deadlier long gun more popular than the less lethal hand gun.

Kleck's (2009) study on school shooters found that long guns are in general more dangerous than their hand counterparts, and with better made handguns being more lethal than their cheaper counterparts. According to Kleck (2009, 1458), "Larger caliber handguns are more lethal than smaller caliber ones, and better quality, more expensive handguns are more reliable and likely to fire when the trigger is pulled than less expensive ones. Likewise, as a class, long guns are more lethal than handguns." In short, long guns are more lethal than their

handgun counterparts, and this allows for more victims, more killings, and an overall deadlier shooting than when handguns are used.

MultiGun Versus Single Gun

Another factor that needs to be taken into account is the use of multiple guns versus a single gun. When a shooter uses multiple guns, they do not necessarily need to take time to reload, and have more of a variety in the amount of rounds able to be fired in a given amount of time. For example, in his study of gun violence in the home, Wiebe (2003) found that fatality rates are higher in incidents where multiple guns are used instead of a single gun. In a related study, according to Kleck (2009, 1451) having multiple guns "implies [the shooters do] not need guns with large-capacity magazines to shoot large numbers of victims without reloading. They could use multiple guns with ordinary ammunition capacities and reload one gun when its ammunition was exhausted, while always keeping another gun loaded to shoot or intimidate victims who might attack them." The use of multiple guns in mass shootings means that there can be more people victimized, while also giving the shooter more protection due to the ability to pull an already loaded gun on whomever may attack them. Kleck continues, "killers who seek to inflict large numbers of casualties typically use multiple guns, and often multiple magazines full of ammunition as well. Therefore, guns with large-capacity magazines were unnecessary to inflict even the very large numbers of wounds inflicted in these incidents without reloading." In short, multiple guns increases the likelihood that there will be more victims in a mass shooting

compared to when a single gun is used.

Semi-Automatic Versus Not

Reedy (2003) found that semi-automatics pistols allow for more rounds to be fired, and at a higher rate, making the amount of hits higher. According to his study, “Although [semi-automatic] pistol use was unrelated to the probability that an incident resulted in any injury or death, it was associated with a 15% increase in the number of wounded victims in those cases in which people were shot,” leading to the conclusion that although the semi-automatic pistol did not make the aim any better, the amount of victims produced when using it was higher than the times it was not.

In a related study, Koper (2004, 2) found that the drop in accessibility to semi-automatic guns and high-capacity magazines between 1994-2004 due to the Federal Assault Weapons Ban, led to a drop in gun violence using those types of guns in major cities across the United States. Koper observes, “following implementation of the ban, the share of gun crimes involving [semi-automatic assault style weapons] declined by 17% to 72% across the localities examined for this study (Baltimore, Miami, Milwaukee, Boston, St. Louis, and Anchorage).” With fewer crimes being committed with these semi-automatic guns, fewer people were getting shot, thus decreasing the victim count.

Finally, de Jager (2018, 1034) found that “Although 44% of persons wounded in active shooter incidents died of their injuries, irrespective of the type of firearm used, more people were wounded and killed in incidents in which semiautomatic rifles were used compared with

incidents involving other firearms." In short, when a semi-automatic gun is used in a shooting, whether a handgun or a long gun, the nature of the gun allows more rounds being fired more quickly, thus more victims.

Mental Illness

It is a common assumption by the public that mental illness has to do with a majority of shooting cases. This assumption is wrong, with a report from Metzl (2015) concluding that "fewer than 5% of the 120 000 gun-related killings in the United States between 2001 and 2010 were perpetrated by people diagnosed with mental illness." This seems to be a consensus, but another one being that the term "mentally ill" is a forever changing definition, and has come under particular scrutiny in the past several years. The same Metzl piece notes that even though mental illness is not *the* determining factor of violence, psychologists and other mental health workers should be able to see the signs of a person who would act out violently, but may not be inherently mentally ill.

Another factor that goes into the supposed connection between mental illness and mass shootings is the media's perception and in turn the media viewers' perception. Inherently, mental illness is seen negatively in society, and often associated with violence, even when there is little evidence that correlates the two. As Wilson (2016, 653) states in reference to the media and society's view of mentally ill people and shootings, "It is possible that participants' prior exposure to news coverage linking mass violence to mental illness leads them to assume the

perpetrators of such events have a history of psychological difficulties and that it is a causal factor in their violent acts."

Lin (2018) reports that studies of mass shootings in the last several years could not find any correlation of being able to predict mass shootings based on mental health records. But Lin also notes that the mentally-ill rate among the population has been rising: The "rate of serious mental illness could not predict the mass shooting rate. [But,] there is evidence for an increased prevalence and severity of mental illness in adults in recent years." In short, although the mentally-ill portion of the shooter population is low, it has been steadily rising in numbers in the last few years.

But, the ability to predict a shooting is not what this project is about; In fact, it not even about the ability to predict a mass shooting. Rather, it is whether the presence of this variable contributes to the *severity* of a mass shooting. Indeed, the top 20 most lethal mass shootings have been committed by those with a mental illness (see Folman et al 2018; Stanford Libraries 2018). In sum, we would expect mass shooters with mental illness to have a higher victim rate.

Fate of Shooter – Suicide vs Not

For the purposes of this project the last of the variables that goes into explaining the severity of a mass-shooting attack is the intention of the shooter to stay alive. Suicide attacks and other similar murder-suicides give the shooter little reserve on mercy, or second thoughts about consequences. According to Lankford (2014, 357), many of these suicide-shooters are also seekers of fame or martyrdom: "Overall, a number of these attackers seemed to recognize that

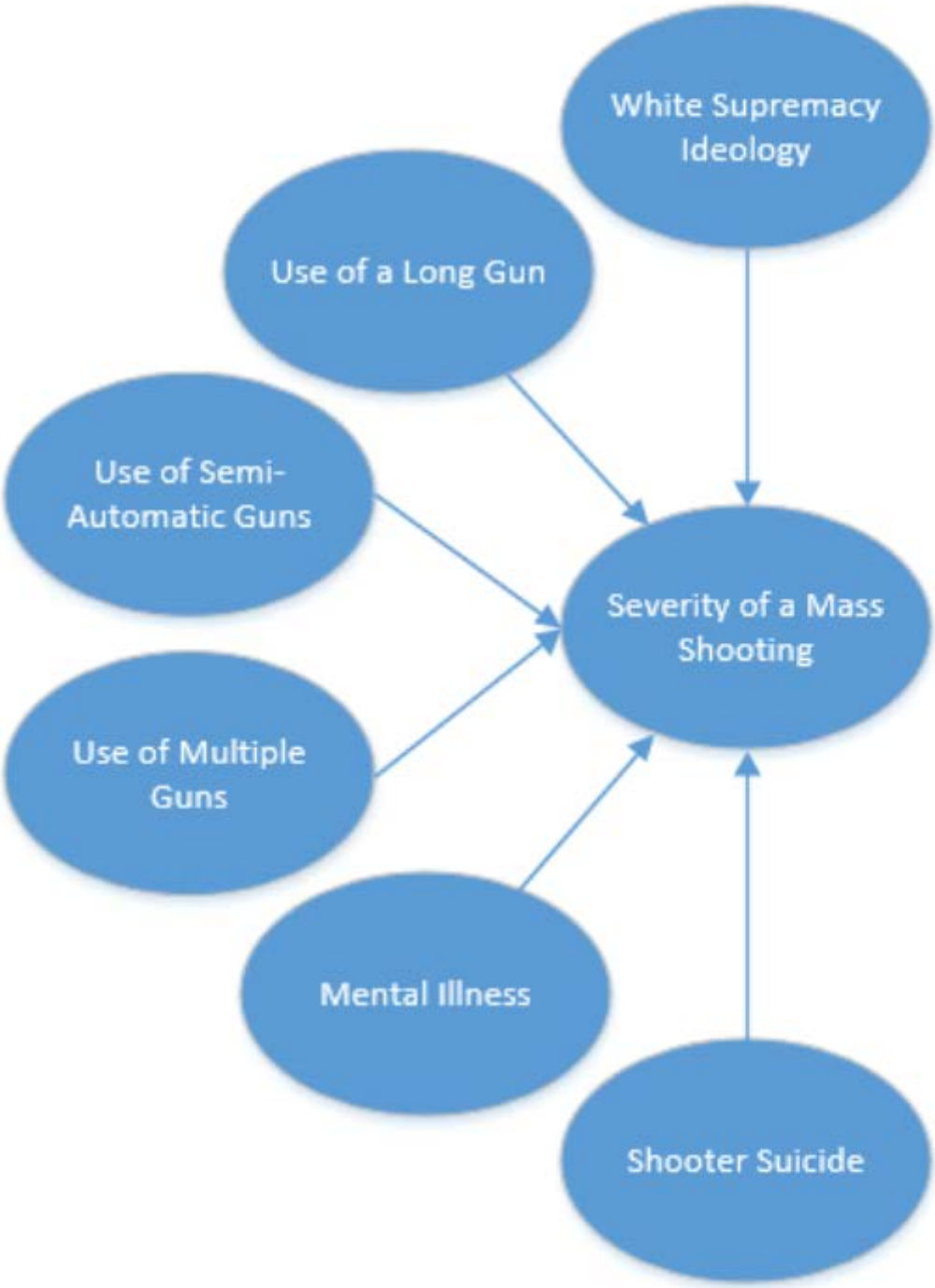
by committing acts of mass murder-suicide against random, innocent victims, they could combine the only surefire way for an average person to become famous with the only foolproof way to kill people and get away with it."

Violence that is concluded with a suicide is more violent and unhinged because the perpetrator does not fear what comes afterwards. This is similar to instances of suicide terrorism, where people try to cause mass hysteria at the cost of their own lives. Like some mass shooters, the goal of a terrorist sometimes is to become a martyr. Kruglanski (2009, 336) notes "a common denominator [of motivations for suicidal terrorism] is a desire to transcend death by living on in the grateful or admiring memory of others." In short, we would expect that mass shooters who kill themselves at the end of their shooting to have inflicted more violence.

Heuristic Model

In sum, the hypothesized relationships described above can be summarized in the model sketched in Figure 1. These, of course, are not all of the predictors of a mass shooting, but the predictor variables detailed above should account for a good deal of the variance across mass shootings in the United States in the last half century. For the purposes of this Honors Thesis, critical is whether any found effects of the white supremacy ideology variable are maintained after the other predictor variables have been controlled for.

Figure 1: Heuristic Model



Data and Methods

Data Sources

The data used in this project come from three basic sources; the *Mother Jones* mass-shootings database (Follman et al. 2018), the Stanford University Mass Shootings in America database (Stanford Libraries, 2018), and, for the white supremacy variable, online media accounts of each mass shooting studied here. The *Mother Jones* and Stanford Databases databases are the best publicly available sources of detailed information on mass shootings in the United States over the past half century. The use of online newspaper and related news sources for coding data on violent events is common practice for this kind of research (e.g., see Carter 1990).

The *Mother Jones* database has detailed information on mass shootings from 1982 to the present, and provides the current project with the following variables on each mass-shooting case: location, date, fatalities, injuries, victims, weapon type, legality, shooter race, shooter gender, and whether the shooter suffered from mental illness. A mass shooting is defined as "3 or more victims not related to another crime such as robbery or gang violence." Indeed, *Mother Jones* uses this definition not because they are looking at the overall problem of gun violence, but because the purpose is to take an "in-depth look at a distinct phenomenon [active shooter mass shootings] — from the firearms used and mental health factors to the growing copycat problem" (Follman 2018).

The second database, Stanford's *Mass Shootings in America*, has the same variable codings as the *Mother Jones* database, but begins with 1966 and ends in 2016. Finally, the

operational definition for a mass shooting is nearly identical to that used by *Mother Jones:* "The definition … is 3 or more shooting victims (not necessarily fatalities), not including the shooter. The shooting must not be identifiably gang, drug, or organized crime related."

The final variable, *white supremacy ideology,* is coded from online sources to determine if the mass shooter had expressed white supremacy ideology; for example, by belonging to a white supremacist organization, possessing white supremacist paraphernalia (e.g., iron cross, literature from hate groups), or online presence in prominent white supremacist forums.

The *Mother Jones*, Stanford*,* and online news media data were transferred to an SPSS system file, with 143 cases, and with the codings as described in Table 1.

Table 1: SPSS Variable Names and Labels, with Associated Value Labels

Variable Name	Variable Label	Value Labels
Date	Date of mass shooting (day-month-year)	
Shooter	Shooter name	
Victims	Injuries + Fatalities, due to high right skew, log transformed (lnVictims)[1]	
LongGun	Was a Long gun (rifle or shotgun) used?	0 = no; 1 = yes
MultiGun	Were multiple guns used?	0 = no; 1 = yes
SemiAutomatic	Was a semiautomatic gun used?	0 = no; 1 = yes
Suicide	Did shooter commit suicide?	0 = no; 1 = yes
Mental_Ill	Did the shooter suffer from mental illness?	0 = no; 1 = yes
WS_Ideals	Did shooter express white supremacist ideals? (eg, did shooter belong to white supremacist group, or expressed ideals (e.g., online, paraphilia)	0 = no; 1 = yes

[1] Pulls in large right skew. Note that the October 2017 Las Vegas shooting was an extreme outlier and thus deleted from this dataset.

Data Analysis Methods

The project's SPSS data are analyzed using a variety of univariate, bivariate, and multivariable statistics – including bivariate correlation and regression, multiple regression, And ANOVA.

Key Findings

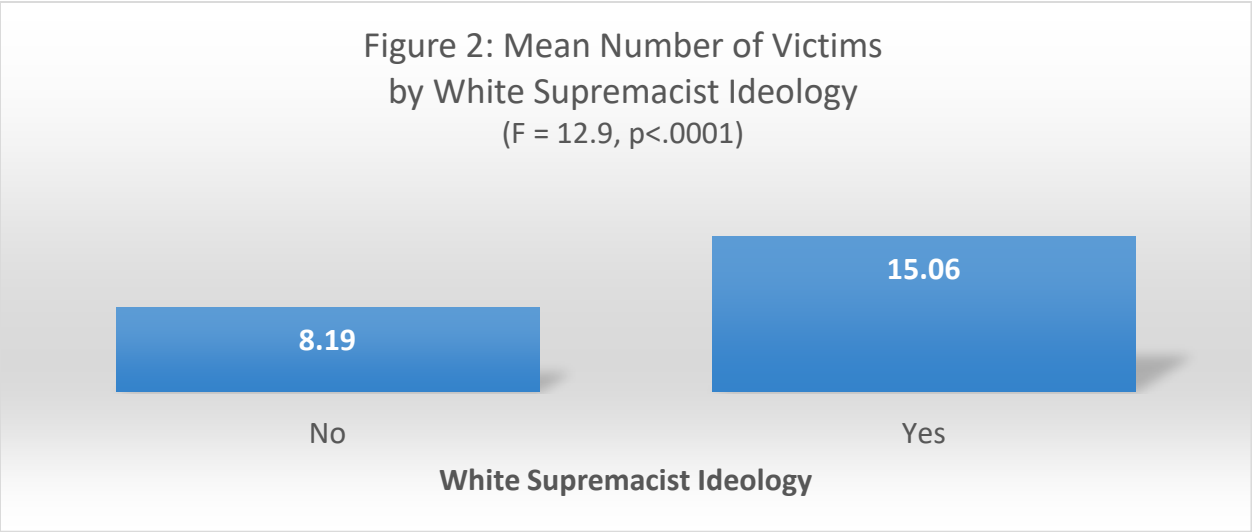
Now regarding the primary data that is analyzed.

Bivariate

White Supremacy

Prediction: WS_Ideals and LnVictims are positively related.

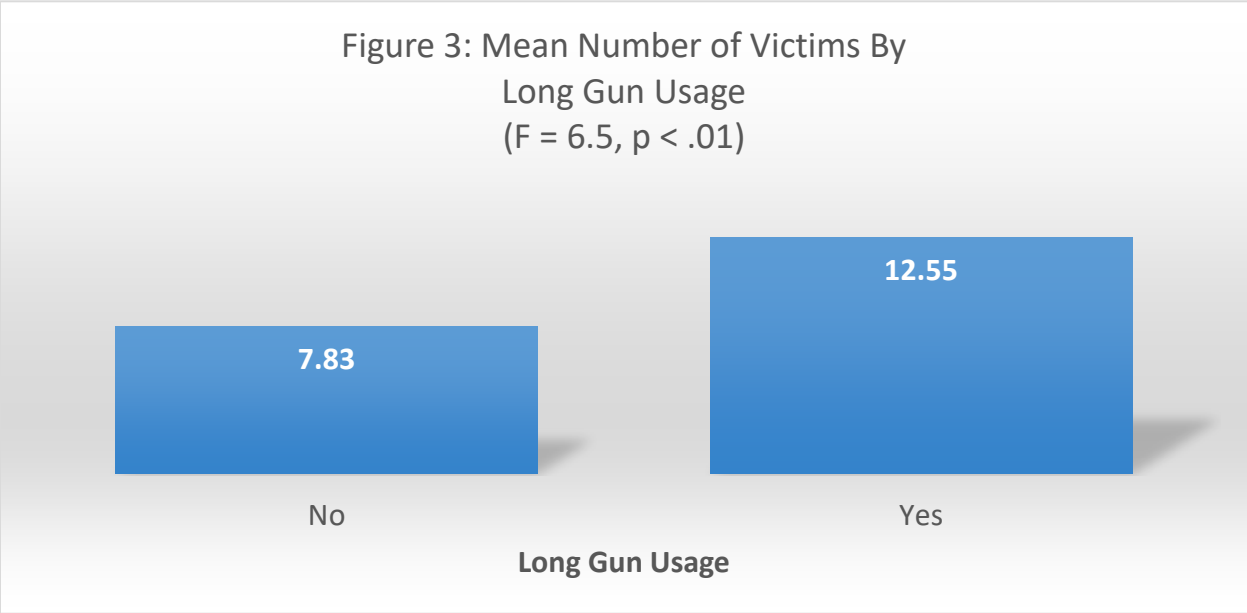
Findings: As predicted, there is a strong positive correlation between WS_Ideals and LnVictims (Pearson r = .350, Sig. = .000, n = 143). Graphically, if we compare the mean number of victims by whether the shooter expresses white supremacist ideology, we can see the dramatic effect of this variable in Figure 2.



Long Gun

Prediction: Use of a long gun and LnVictims are positively related.

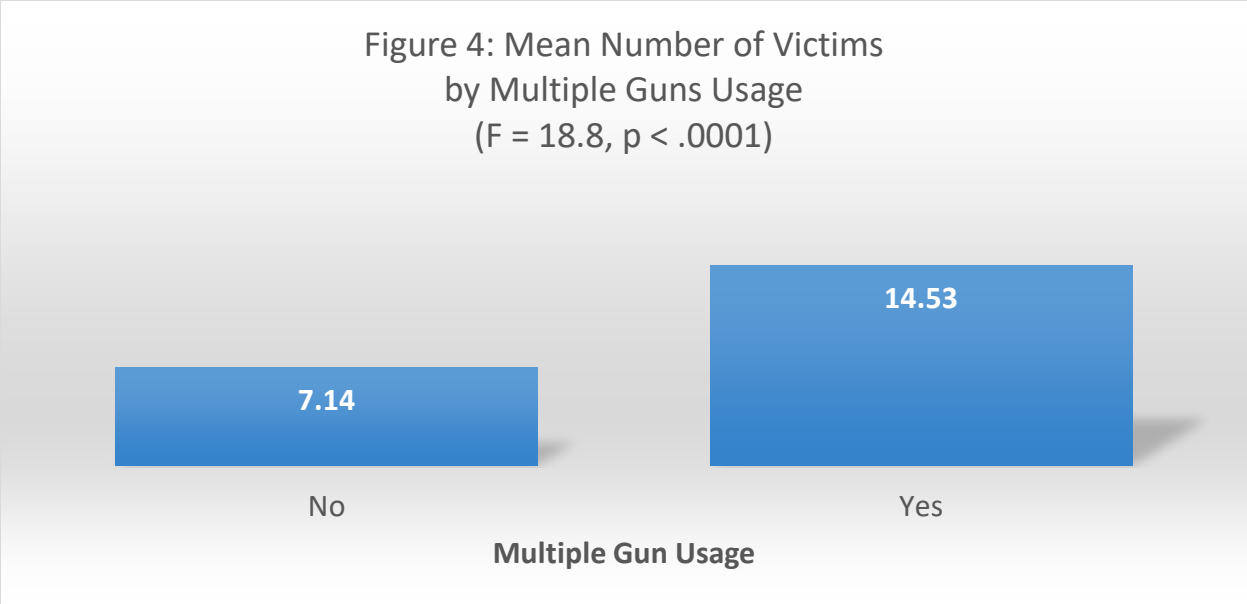
Findings: As predicted, there is a strong positive correlation between the use of a long gun and LnVictims (Pearson r = .245, Sig. = .005, n = 128). Graphically, if we compare the mean number of victims by long gun usage, we can see the dramatic effect of this variable in Figure 3.



Multiple Guns

Prediction: Use of multiple guns and LnVictims are positively related.

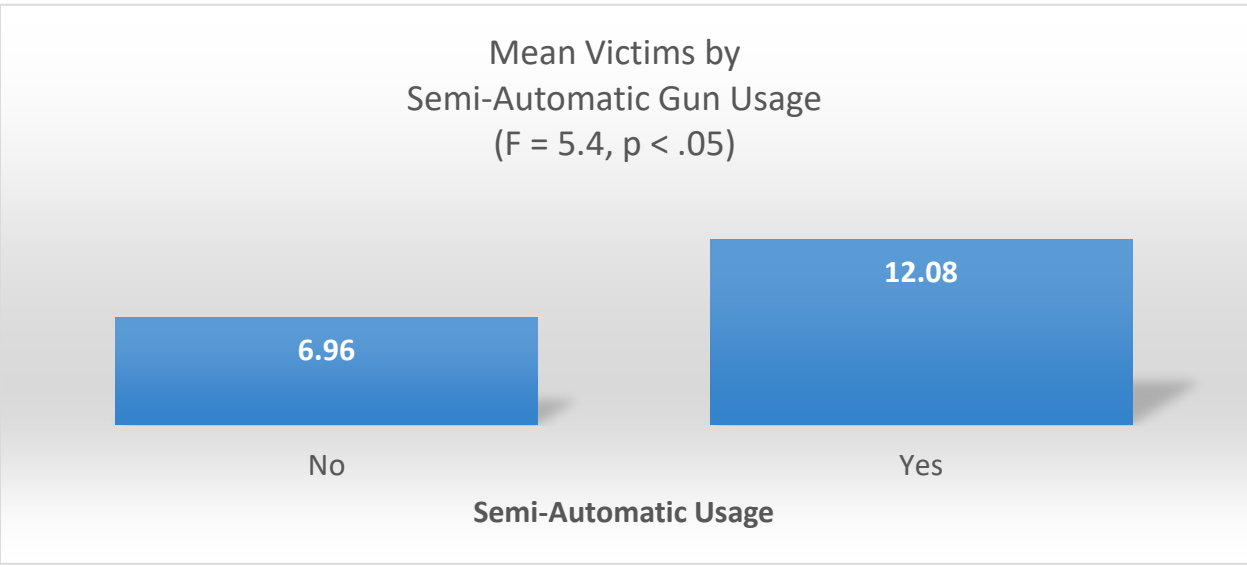
Findings: As predicted, there is a strong positive correlation between the usage of multiple guns and LnVictims (Pearson r = .419, Sig. = .000, n = 135). Graphically, if we compare the mean number of victims by multiple gun usage, we can see the dramatic effect of this variable in Figure 4.



SemiAutomatic

Prediction: The use of semi-automatic gun(s) and LnVictims are positively related.

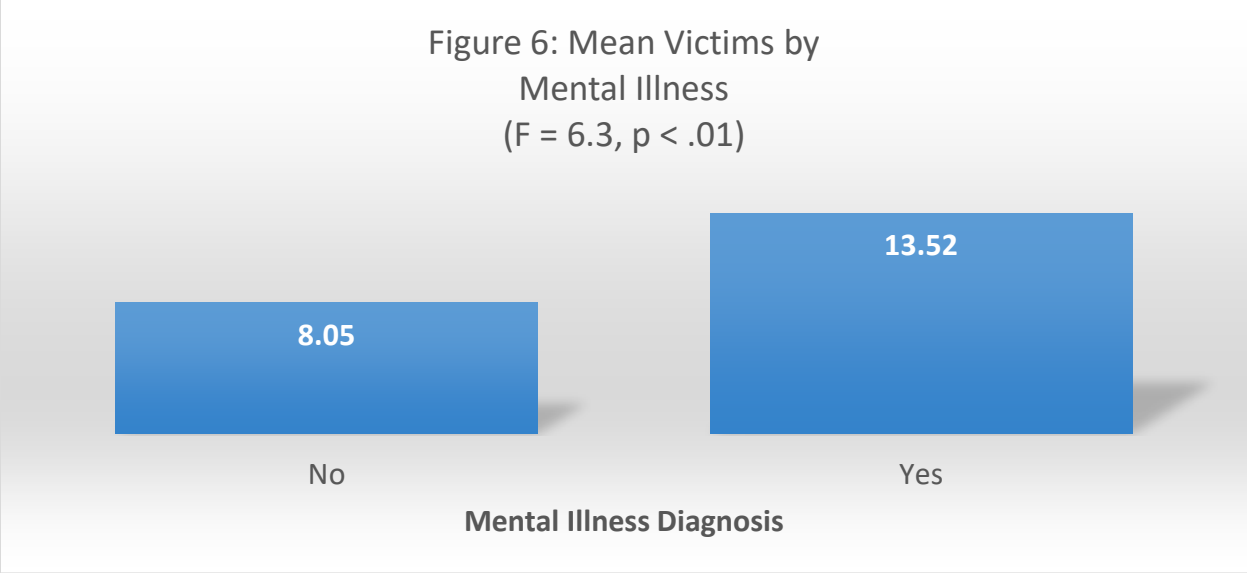
Findings: As predicted, there is a strong positive correlation between semi-automatic gun use and LnVictims (Pearson r = .221, Sig. = .017, n = 116). Graphically, if we compare the mean number of victims by semi-automatic use, the strong effect of this variable can be seen in Figure 5.



Mentally Ill

Prediction: Mental Illness and LnVictims are positively related.

Findings: As predicted, there is a positive correlation between mental illness and LnVictims (Pearson r = .182, Sig. = .061, n = 107). However, it's significance level has not reached the conventional standard of significance of .05. Graphically, if we compare the average number of Victims by whether the shooter suffers from a mental illness, we can see the predicted effect of this variable in Figure 6.

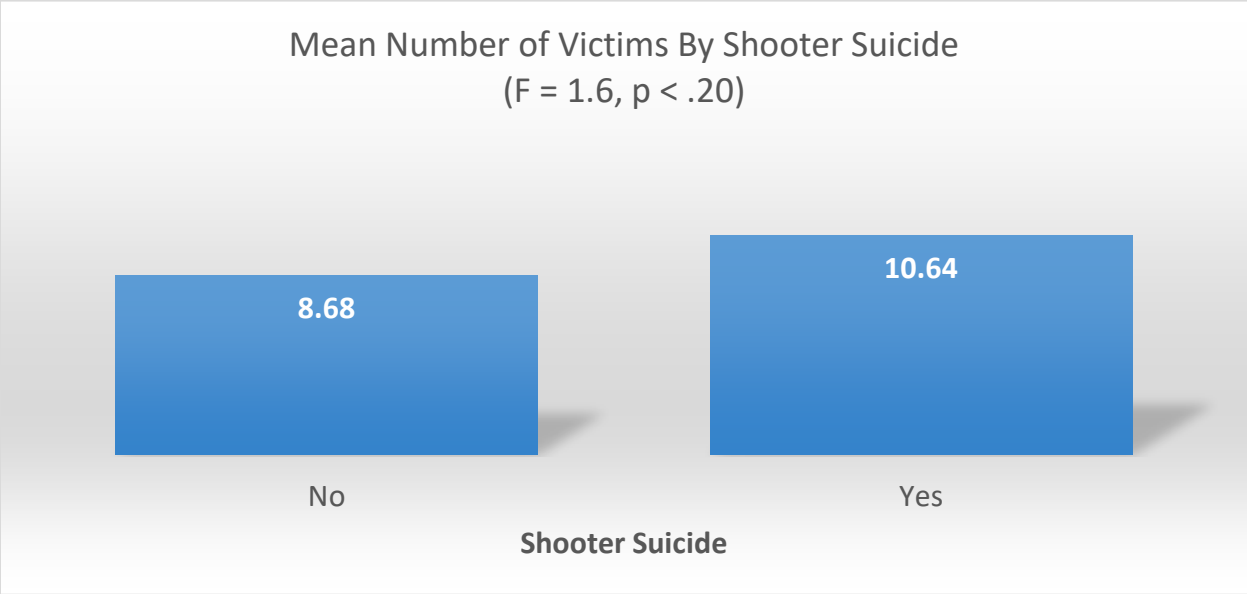


Shooter Suicide

Prediction: Suicide and LnVictims are positively related.

Findings: As predicted, there is a positive correlation between Suicide and LnVictims, though it fails to reach the .05 level of statistical significance (Pearson r = .111, Sig. = .185, n = 143).

Graphically, if we compare the average number of Victims by whether the shooter commits suicide, we can see the modest but predicted effect of this variable in Figure 7.



Summary

In sum, the bivariate findings support all of the hypotheses posited, with white supremacy and multiple guns presenting the most significant correlations with LnVictims, and mental Illness and suicide revealing less significant correlations – though both in the predicted direction, positive.

Multivariable

Putting all the predictor variables into a single equation, yields:

$$LnVictims = a + b_1WS\_Ideals + b_2Mental\_Ill + b_3MultiGun + b_4Suicide + b_5SemiAutomatic + b_6LongGun + e$$

with the findings displayed in Table 2a and 2b:

Table 2a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.614[a]	.376	.336	.60688

a. Predictors: (Constant), WS_Ideals, Mental_Ill, MultiGun, Suicide, SemiAutomatic, Long_gun

Table 2b: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.162	.174		6.681	.000
	Long_gun	.256	.132	.171	1.941	.055
	MultiGun	.414	.133	.279	3.120	.002
	SemiAutomatic	.250	.149	.142	1.679	.097
	Suicide	.339	.125	.228	2.710	.008
	Mental_Ill	.314	.125	.207	2.506	.014
	WS_Ideals	.386	.138	.234	2.792	.006

a. Dependent Variable: lnVictims

Conclusions and Suggestions for Further Research

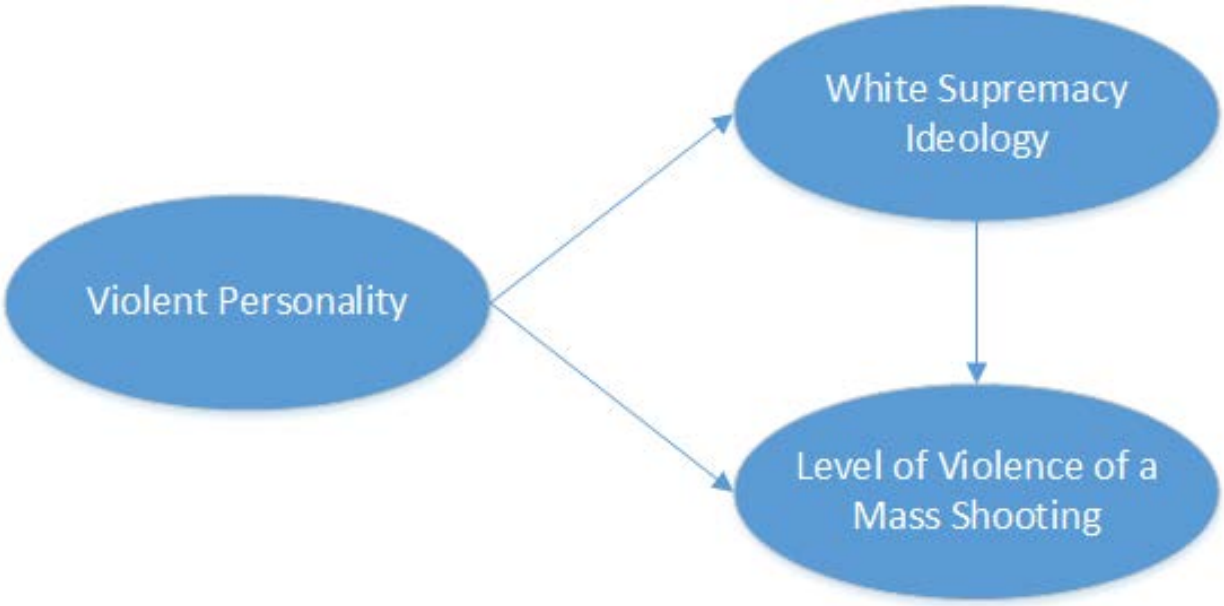
Conclusions

This project began by laying out a set of reasonable predictors of the severity of a mass shooting, with a special emphasis on white supremacy ideology. Quantitative analyses, including correlation and regression, revealed modest to strong support for all of the hypotheses developed in the Introduction. Of great importance is that when a multivariable equation using all of the predictor variables is estimated, all of their slopes remained statistically significant, including, most importantly, the slope for white supremacy ideology.

Suggestions for Further Research

My fundamental working argument for this thesis is depicted in Figure 9. What this figure depicts is that individuals with a particular type of violent personality are more likely to be involved in a mass shooting, but if they become a white supremacist, that their likelihood of becoming a mass shooter is increased, and if they do become one, they inflict more violence. Thus, the ideal future study would uncover the particular type of violent personality involved, and how this type connects to both white supremacy and mass shootings: and, further, to see if individuals with this personality that become white supremacists are more likely to become mass shooters, and if so, inflict more damage.

Figure 9: Fundamental Working Argument 1



Finally, regarding suggestions for further research, the definition of a mass shooting needs to become more uniform. More particularly, "familycides" should be studied on their own, while the kinds of mass shootings that have gained so much attention in recent years should be likewise be studied alone. This latter group of shootings are "active shooter" incidents, where the shooting is not gang or drug related, and happens in what would otherwise be considered safe public spaces, e.g., businesses, malls, places of worship, public offices, restaurants and clubs, and schools. Relatedly, regarding methodology, the databases like *Mother Jones's* and Stanford's should be better funded such that they can keep current not only the variables they now track, but also on variables about the situation that might encourage/discourage violent acts, e.g., security, security guards, bullet proof windows, and "fire drill" type training. Ultimately, too, the databases should include information on white supremacy, which this honors thesis has found to be an important predictor of the level of violence of a mass shooting.

References

Daniels, J. (2009). *Cyber racism: White supremacy online and the new attack on civil rights.* Rowman & Littlefield Publishers.

de Jager, E., Goralnick, E., McCarty, J. C., Hashmi, Z. G., Jarman, M. P., & Haider, A. H. (2018). Lethality of Civilian Active Shooter Incidents With and Without Semiautomatic Rifles in the United States. *JAMA*, *320*(10), 1034-1035.

Ferber, A. L. (1999). *White man falling: Race, gender, and white supremacy*. Rowman & Littlefield Publishers.

Follman, M., et al. (2018) *US Mass Shootings, 1982-2018: Data from Mother Jones' Investigation*. *Mother Jones*.

Fox, J. A., & DeLateur, M. J. (2014). Mass shootings in America: moving beyond Newtown. Homicide studies, 18(1), 125-145.

Kleck, G. (2009). Mass shootings in schools: The worst possible case for gun control. *American Behavioral Scientist*, *52*(10), 1447-1464.

Kopel, D. B. (1992). *The Samurai, the Mountie, and the Cowboy: Should America Adopt the Gun Controls of Other Democracies?*. Buffalo, NY: Prometheus Books.

Koper, C. S., Woods, D. J., & Roth, J. A. (2004). An updated assessment of the federal assault weapons ban: impacts on gun markets and gun violence, 1994-2003. *University of Pennsylvania, June*.

Kruglanski, A. W., Chen, X., Dechesne, M., Fishman, S., & Orehek, E. (2009). Fully committed: Suicide bombers' motivation and the quest for personal significance. *Political Psychology*, *30*(3), 331-357.

LaFraniere, S., & Cohen, S., & Oppel, R. (2015) How often do mass shootings occur? On average, every day, records show. The New York Times, The New York Times. DEC 2.

Lankford, A. (2014). Précis of the myth of martyrdom: what really drives suicide bombers, rampage shooters, and other self-destructive killers. *Behavioral and brain sciences*, *37*(4), 351-362.

Lin, P. I., Fei, L., Barzman, D., & Hossain, M. (2018). What have we learned from the time trend of mass shootings in the US?. *PloS one*, *13*(10), e0204722.

Metzl, J. M., & MacLeish, K. T. (2015). Mental illness, mass shootings, and the politics of American firearms. *American journal of public health*, *105*(2), 240-249.

Mingus, W., & Zopf, B. (2010). White means never having to say you're sorry the racial project in explaining mass shootings. *Social Thought & Research*, 57-77.

Myketiak, C. (2016). Fragile masculinity: social inequalities in the narrative frame and discursive construction of a mass shooter's autobiography/manifesto. *Contemporary Social Science*, *11*(4), 289-303.

Reedy, D. C., & Koper, C. S. (2003). Impact of handgun types on gun assault outcomes: a comparison of gun assaults involving semiautomatic pistols and revolvers. *Injury Prevention*, *9*(2), 151-155.

Schildkraut, J. (2018) Mass Shootings in America: Understanding the Debates, Causes, and Responses. ABC-CLIO, LLC.

SPLC. (2013) "Number of Hate Groups in The United States in 2017, by State." *Statista - The Statistics Portal*, Statista.

Stanford Libraries (2018) Stanford Mass Shootings in America, Courtesy of the Stanford Geospatial Center and Stanford Libraries.

Survival Rates Similar for Gunshot, Stabbing Victims Whether Brought to the Hospital by Police or EMS, Penn Medicine Study Finds – PR News. Penn Medicine News, Penn Medicine

Wiebe, D. J. (2003). Firearms in US homes as a risk factor for unintentional gunshot fatality. *Accident Analysis & Prevention*, *35*(5), 711-716.

Wilson, L. C., Ballman, A. D., & Buczek, T. J. (2016). News content about mass shootings and attitudes toward mental illness. *Journalism & Mass Communication Quarterly*, *93*(3), 644-658.