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Lay Profiles of Mass and Serial Killers

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Abstract

It was hypothesized that society profiles mass murderers in a very specific way contradicting the reality of who the offenders are statistically shown to be. It was correspondingly hypothesized that a mass murderer is labeled more commonly as mentally ill and socially isolated than a serial killer, regardless of the death toll. To assess the lay profile of killers, participants were randomly assigned to either a mass killer or serial killer crime scenario. They then read a brief description of the crime and completed extended response and multiple choice questions on characteristics of the offender. Results supported the hypothesis that the lay profile of a serial killer and mass killer differ in mental health differ greatly. Additionally, the hypothesis that the lay profile differs from who killers are statistically shown to be was both supported and denied.

Introduction

The United States' Congressional Research Services acknowledges that there is no generally excepted definition for what a mass shooting is but loosely defines it as "incidents occurring in relatively public places, involving four or more deaths- not including the shooter(s)- and gunmen who select victims somewhat indiscriminately" (Bjelopera, 2013). Mass shootings are defined slightly differently in Public Law 112-265 as three or more killings in a single incident (United States Congress, 2013). The disparity between these two definitions highlights both the confusion and lack of research done in regards to mass shootings. This is a topic that necessitates research, as there have been 78 mass shootings in the United States since 1978, killing a total of 547 people and injuring an additional 476 individuals, calculated by the Congressional Research Services definition; this number is rapidly growing and has drawn widespread coverage from the media (Bjelopera, 2013). Per the latest FBI analysis, mass shootings in the United States have increased three-fold in the last fifteen years (Blair & Schweit, 2014).

Mass shootings and their portrayal have been a key focus of the media. The American Psychological Association recently published an article titled "Media Contagion is Factor in Mass Shootings". This study found that as mass shootings rose, so did media coverage of the shootings (Mills, 2016). Not only did the media cover the shootings, but honed in more specifically on the shooter(s) themselves, rather than the victims, creating both contagion and copycat effects (Johnston & Joy, 2016). However, media coverage is selective as only some mass shootings are covered, while others remain unpublicized. This media coverage is not only evoking contagion and copycat effects, but also arousing distress throughout the world (Delateur & Fox, 2013, Johnston & Joy, 2016).

Mass shootings have induced a significant amount of fear in individuals, due to both the seemingly random nature of the events and the inability to predict and prevent incidents (Fox & Delateur, 2013). When each new mass shooting occurs, it sparks thorough conversation and widespread concern centered on what motivated the individual in that instance and how that can translate to prevention of future shootings (Schildkraut & Elsass, 2016). Mass shootings create an outpouring of horror and outrage that is often settled by attempting to explain the behavior (Knoll & Annas, 2016). One explanation offered as to why mass shootings occur is the assumption by the public and media is that the perpetrator has a mental illness that led to the shooting (Knoll & Annas, 2016).

Responses to mass shootings have spurred changes and preventative measures, particularly in schools. Shootings have occurred at all levels of education, ranging from elementary schools to college campuses. After each shooting, school systems typically undergo reevaluation on how to effectively prevent future instances of violence. A critical aspect of prevention is understanding the mind of a shooter as articulated in the article Psychology 101: The Mind of a Shooter (Phillips, 2007). Attempting to understand the mind of a shooter to put preventative measures in place is difficult, given that the nature of the crime and that profiles of the killers can vary extensively, as do the intent, motives, and background of the perpetrator (Phillips, 2007). However, it has been found that no profile presently exists that can proactively identify potential suspects that may commit mass shootings (Bjelopera, 2013).

While we know little about mass shooters, there has been much more research done on another type of killer; the serial killer. In September of 2005 the FBI and National Center for the Analysis of Violent Crime held a symposium that was focused solely on serial murder. A summation of the symposium happenings has been published by the FBI which highlights the

profile of a serial killer. Within this document the definition of, causality of, psychopathy, types

of, and motivations of serial murders are discussed. A serial murder is defined as the killing of

two or more people in separate events (FBI, 2005). Several myths of serial killers were identified

and discussed at the symposium. The myths included the notions that serial killers are all

dysfunctional loners, all white males, only motivated by sex, and are unable to stop killing

(2005). Instead serial killers are highlighted as being the product of biological, psychological,

and social influences (FBI, 2005). While no specific demographic characteristics like race, age,

or ethnicity are identified, one commonality between serial killers are there multiple motives and

motives that progress throughout the killings. There were seven main motives for serial killers

identified by the FBI which are anger, criminal enterprise, financial gain, ideology, power/thrill,

psychosis, and sexual motives.

One of the main reasons that profiles of serial killers were developed was to help law

enforcement officials catch serial killers before they harmed more people, something that would

not be relevant for mass murderers. However, could it be that preventive measures would be

successful in identifying people who are at higher risk for engaging in a mass shooting? Would

identifying these individuals and providing a profile reduce the occurrences of mass shooting

incidents? Is this presently unsuccessful due to the misperceived lay profile the public has for

mass shooters versus the reality of who they are? The profile of individuals who are committing

mass murders is worth taking the time to investigate, as it could provide insights to the question

of background, external motives, and prevention (Johnston & Joy, 2016).

Figure 1 highlights the real-world statistics of both a serial killer and mass killer. As seen

in Figure 1, there are several commonalities as well as disparities in how much and what we

know and both serial and mass killers. Serial killers tend to be mostly male, age 30 to 50 years

old, primarily Caucasian and African American, and a majority are labeled as mentally well.

Additionally, two thirds of serial killers were abused in childhood, have at least graduated high

school, and majority are not married. Mass killers on the other hand are again mostly male,

Caucasian, Christian, and have engaged in domestic violence in about half of the cases. It is

important to note the disparity in statistics available on serial killers compared to mass killers.

There is little known about the identity or profile of mass killers as demonstrated by the absent

statistics in Figure 1.

Figure 1		Serial Killer	Mass Killer
		Real World Statistics	Real World Statistics
Offender Gender	Male	92(100)	154(96)
	Female	0	6(4)
Offender Age	18 or younger	37(40.2)	-
	18 to 30		(29)
	30 to 50	52(56.5)	-
	50 or older	3(3.3)	-
Offender Ethnicity	Caucasian	(52.2)	(64)
	African American	(38)	(16)
	American Indian	--	-
	Hispanic/Latino	(7.6)	-
	Asian/Asian-American	--	(9)
	Other	(2.2)	-
Offender Religious Beliefs	Christian	--	(94)
	Islam	--	(6)
	Hindu	--	-
	Non-Religious	--	-
	Other	--	-
Offender Mental Health	Mentally Well	62(67.4)	-
	Experiencing Some Mental Illness	30(32.6)	-
	Mentally Ill		-
Offender Likelihood to Engage in	Regularly	--	76(57)
	Occasionally	--	**-**
	Rarely	--	**-**
	Never	--	57(43)

Domestic Violence			
Offender Abused in Childhood	Regularly	(68)	--
	Occasionally		--
	Rarely		--
	Never	(32)	--
Offender Highest Level of Education	Post-Graduate School	65(70.2)	-
	Bachelors		-
	Associates		-
	High School Diploma		-
	GED	27(29.8)	-
	Less than High School		-
Offender Sexual Orientation	Homosexual	(66)	-
	Heterosexual	(44)	-
	Bisexual		-
	Asexual		-
Offender Socioeconomic Status	Rich	--	--
	Upper	--	--
	Middle	--	--
	Low	--	--
	Not Applicable	--	--
Offender Relational Status	Married	28(30.4)	-
	Engaged	65(70.6)	-
	In a Relationship		--
	Single		--
Country in which Offense Occurred	United States	--	-
	France	--	-
	Russia	--	-
	Not Applicable	--	-

The purpose of the present study was to examine what the lay profile of both a serial and mass killer are versus who they have statistically been shown to be in case studies. The study also aimed to highlight the variance between how the lay person profiles a mass killer versus a serial killer. Participants were asked to profile an individual based on a brief crime scenario of either a serial killer or mass killer depending which condition they were randomly assigned to.

Participants profiled the killer using both extended response questions as well as multiple choice questions.

It was hypothesized that society profiles mass murderers in a very specific way that contradicts the reality of who the offenders are statistically shown to be. It was correspondingly hypothesized that a mass murderer is labeled more commonly as mentally ill and socially isolated than a serial killer, regardless of the death toll.

Methods

Participants

One hundred and two participants, thirty-six males and sixty-six females, between the ages of seventeen and thirty-six years old were enrolled in psychology courses and participated in research for class credit. Ninety participants or 88.2% were Caucasian, seven participants or 6.9% were Hispanic, 3 participants or 2.9% were Asian American, 1 participant or 1% were African American, with the remaining 1 participant or 1% classifying as other.

Materials

A questionnaire was developed that utilized extended response and multiple choice formats. Extended response questions aimed to assess lay profiles of the killer before and after completion of a measure of multiple choice questions.

In the serial killing condition, participants read a brief scenario articulating there had been a series of killings over the past three months resulting in nine deaths. In each killing, there was found to be a sign of forced entry via the door or window, victims were all found within the house, all victims were single young professionals, and no belongings were found to be missing. A knife was listed as the killer's weapon which resulted in stab wounds which were consistent across all victims (See Appendix C).

In the mass killing condition, participants read a brief scenario articulating there had been a mass shooting in the last week. The scenario outlined the shooter being identified as a student of the university who entered campus mid-morning, walked into the library, and began opening fire. The shooter then walked into a coffee shop, killed two individuals, and proceeded to the

third floor and shot all individuals they came across. In this scenario, the death toll was nine

individuals (See Appendix D).

After reading the assigned crime scenario, all participants were asked a battery of

questions to profile either the serial or mass killer. The first question was extended response

format and asked participants to list details and characteristics that may encompass the profile of

the killer. Participants were then asked twelve multiple choice questions which were presented in

a randomized order. The twelve multiple-choice questions addressed a variety of profiling

characteristics ranging from the offender's demographic information to the offender's mental

health, relational status, and likelihood to engage in domestic violence. Participants completed

two final extended response questions which asked for the offender's motive and any other

defining characteristics of the offender (See Appendix E).

Extended response questions were coded by undergraduate lab research assistants

utilizing a coding scheme that focused on five categories of the offender (See Appendix F). The

five categories were physical characteristics, cognitive processes, offense behaviors, social

history and habits, and emotional characteristics. This coding scheme was derived from Richard

Kocsis's study Psychological Profiling of Arson Offenses: An Assessment of Skills and

Accuracy (2004). The lab research assistants read each participant extended response question

answers and either entered a 0 if the participant did not mention or a range of numbers from a 1

to 8 indicating that they did mention that specific characteristic in their response.

Procedures

Individuals elected to sign up for the study on the online SONA system for one credit and

were provided a link to access the survey. Participants were instructed to read an informed

consent outlining the risks of participating, and upon consenting were asked several demographic

questions (See Appendix A and B). Participants were then randomly assigned to a serial killing

or mass killing condition.

Results

It was hypothesized that lay person's profile mass murderers in a very specific way that contradicts that reality of who the offenders are statistically shown to be. It was also hypothesized that a mass murderer is labeled more frequently as mentally ill and socially isolated than a serial killer, regardless of the death toll. In the following analyses, we first examine the extended response answers, and then the responses to the multiple-choice questions. Differences between mass murderers and serial killers were examined using the multiple-choice questions only, because comparisons could not easily be made in the extended response questions. For example, we hypothesized that mass murderers are more frequently profiled as being mentally ill than serial killers. Most the participants did not mention mental health of the offender in their extended answer responses, making it difficult to compare serial killers and mass killers based on the extended response answers.

To compare how participants profile both the serial killer and mass killer compared to who they are statistically shown to be, Figure 2 was compiled. In Figure 2 the participant responses for multiple choice questions in addition to statistics for both killers are shown. There were several notable similarities as well as differences between the two types of killers and real world profiles versus participant profiles. Participants most accurately profiled the offender gender. For the remainder of questions, participants tended to perceive the offender very differently than they were statistically shown to be or there were no real-world statistics accessible to provide comparison.

In the serial killer condition, several notable differences appeared between student participant profiles and real world statistics. The first was that 49 (87.5%) of participants profiled the offender as Caucasian when statistically only 52.2% are Caucasian. Next, many participants

profiled the serial killer as heterosexual when statistics have shown an overwhelming majority to be homosexual. Lastly, statistics show 30% of serial killers as being married where 89.3% of participants profiled the offender as single.

Contrastingly, in the mass killer condition there were disparities between student participant profiles and real world statistics but in response to different questions. The first inequity for mass killers is that 100% of participants profiled the offender as being age 18 to 30 years old when statistics show only 29% of mass killers fall within the age range. Furthermore, statistics show 43% of mass killers have never engaged in domestic violence while participants profiled 93.5% of mass killers as engaging in domestic violence at least sometimes. Lastly, participants profiled the offender as being non-religious 75% of the time when statistics show 94% of mass killers are Christian.

Comparing student participant profiles for the mass killer versus the serial killer highlighted several distinctions in how the lay person views each. One of the more notable differences between the two was that participants profiled the serial killer as being older with 30% of responses falling in the 30 to 50 years of age category where 100% of participants profiled the mass killer as being age 18 to 30 years. The other notable disparity was in how student participants profiled the socioeconomic status of the two types of killers. In the serial killing condition 57% of participants profiled the offender as middle class whereas in the mass killing condition 82.6% of participants profiled the offender as low class.

Figure 2		Serial Killer	Mass Killer
		Student Participant Profiles	Student Participant Profiles
Offender Gender	Male	56(100)	44(95.7)
	Female	0	2(4.3)
Offender Age	18 or younger	0	0

	18 to 30	38(67.9)	46(100)
	30 to 50	17(30.4)	0
	50 or older	1(1.8)	0
Offender Ethnicity	Caucasian	49(87.5)	43(93.5)
	African American	2(3.6)	0
	American Indian	0	0
	Hispanic/Latino	0	0
	Asian/Asian-American	0	0
	Other	5(8.9)	3(6.5)
Offender Religious Beliefs	Christian	13(23.2)	5(10.9)
	Islam	1(1.8)	3(6.5)
	Hindu	0	0
	Non-Religious	42(75.0)	37(80.4)
	Other	0	1(2.2)
Offender Mental Health	Mentally Well	4(7.1)	0
	Experiencing Some Mental Illness	18(32.1)	22(47.8)
	Mentally Ill	34(60.7)	24(52.2)
Offender Likelihood to Engage in Domestic Violence	Regularly	32(57.1)	8(17.4)
	Occasionally	16(28.6)	23(50.0)
	Rarely	8(14.3)	12(26.1)
	Never	0	3(6.5)
Offender Abused in Childhood	Regularly	22(39.3)	15(32.6)
	Occasionally	19(33.9)	21(45.7)
	Rarely	10(17.9)	7(15.2)
	Never	5(8.9)	3(6.5)
Offender Highest Level of Education	Post-Graduate School	5(8.9)	0
	Bachelors	9(16.1)	9(19.6)
	Associates	6(10.7)	7(15.2)
	High School Diploma	26(46.4)	28(60.9)
	GED	2(3.6)	2(4.3)
	Less than High School	8(14.3)	0
Offender Sexual Orientation	Homosexual	1(1.8)	0
	Heterosexual	48(85.7)	43(93.5)
	Bisexual	4(7.1)	1(2.2)
	Asexual	3(5.4)	2(4.3)
	Rich	0	0
	Upper	1(1.8)	2(4.3)

Offender Socioeconomic Status	Middle	32(57.1)	4(8.7)
	Low	18(32.1)	38(82.6)
	Not Applicable	5(8.9)	2(4.3)
Offender Relational Status	Married	3(5.4)	0
	Engaged	0	0
	In a Relationship	3(5.4)	2(4.3)
	Single	50(89.3)	44(95.7)
Country in which Offense Occurred	United States	52(92.9)	42(91.3)
	France	0	1(2.2)
	Russia	1(1.8)	0
	Not Applicable	3(5.4)	3(6.5)

To determine if participants profile mass murderer's mental health systematically different than serial murderers, a chi-square test was performed based on the multiple-choice question of how participants would classify the mental health of the offender. Results are shown in Figure 2. In the serial killer condition, 4 (7.1%) of participants profiled serial killers as mentally well when real-world data shows 67.4% to be classified as mentally well. In the mass killing condition, 0 participants profiled the mass killer as being mentally well when statistics show 89% of mass killers are in fact labeled mentally well. For this study, mentally well was classified as having no previous diagnosis of a psychological disorder. With a p-value of 0.064 there is a marginally significant relationship between the offender mental health and being a mass or serial killer.
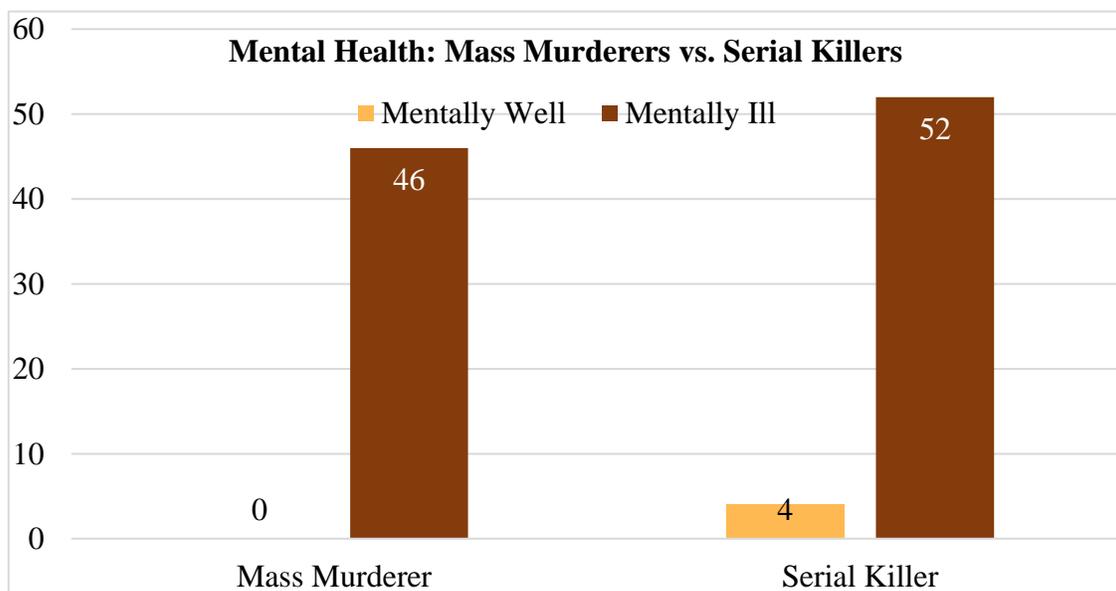

Figure 3 χ^2 (2, N = 102) = 5.19, p = 0.064

While it was not hypothesized, the extended response coding assessed a further

individually constructed profile of the killer both before and after multiple-choice questions

prompted the participant.

Figure 4			**Serial Killing Condition (27)**	**Mass Killing Condition (46)**
Physical Characteristics	**Gender**	Not Mentioned	17	13
		Male	10	33
		Female	0	0
	Age	Not Mentioned	22	19
		1-12	0	0
		13-17	0	0
		18-25	4	27
		26-35	0	0
		36-45	1	0
		46-55	0	0
		Over 56	0	0
	Ethnicity	Not Mentioned	25	35
		White	1	11
		Mediterranean	0	0
		European	0	0
		Middle Eastern	0	0
		Asian	0	0
		Aboriginal	0	0
		African-American	0	0
		Other	0	0
	Build	Not Mentioned	17	36
		Thin	0	5
		Average	1	2
		Solid/Muscular	8	3
		Fat	1	0
	Height	Not Mentioned	23	40
		Very Short	0	0
		Short	0	2
		Average	2	1
		Tall	2	3
		Very tall	0	0
	Hair Color	Not Mentioned	26	43
		Blonde	0	2
		Red	0	0
		Brown	0	1

		Black	1	0
		Grey	0	0
		Not Mentioned	27	42
		None/Bald	0	0
		Very short	0	0
	Hair Style	**Short/Straight**	0	1
		Short/Curly	0	0
		Long/Straight	0	3
		Long/Curly	0	0
		Not Mentioned	27	45
		None	0	0
		Stubble	0	0
	Facial Hair	**Moustache**	0	0
		Short Beard	0	0
		Long/Full Beard	0	1
		Not Mentioned	25	42
	Familiarity with Offense Location	**Familiar with area where the offense took place**	2	4
		Not familiar with area where the offense took place	0	0
		Not Mentioned	26	42
	Comfort with Offence Location	**Comfortable with area where the offense took place**	1	4
		Not comfortable with area where the offense took place	0	0
		Not Mentioned	24	42
Cognitive Processes	**Relation/Familiarity with Victims**	**Prior relation or familiarity with victims**	3	3
		No prior relation or familiarity with victims	0	1
		Not Mentioned	3	4
		Profit	0	0
		Revenge	19	26
	Motive 1	**Excitement**	5	5
		Political Agenda	0	2
		Mental Condition	0	9
	Motive 2	**Not Mentioned**	22	33
		Profit	0	0

		Revenge	0	1
		Excitement	2	0
		Political agenda	0	0
		Mental Condition	3	12
	Planning	**Not Mentioned**	22	45
		Totally Unplanned/ Spontaneous	0	0
		Thought of previously but never planned	0	0
		Some planning	4	0
		Carefully planned	1	1
	Fantasy	**Not Mentioned**	27	46
		Prior fantasy of the offense	0	0
		No prior fantasy of the offense	0	0
	Remorse	**Not Mentioned**	26	45
		Great deal of remorse	0	0
		Some remorse	0	0
		No remorse	1	1
Offense Behaviors	**Precautionary Measures**	**Not Mentioned**	27	46
		Precautions taken to protect identity	0	0
		No precautions taken to protect identity	0	0
	Sexual Motive	**Not Mentioned**	25	46
		Sexual motive	1	0
		No sexual motive	0	0
	Weapon	**Not Mentioned**	12	31
		Weapon specified	9	7
		Weapon not specified	6	8
Social Habits and History	**Relational Status**	**Not Mentioned**	26	46
		Single	1	0
		Married	0	0
		Divorced	0	0
	Level of Education	**Not Mentioned**	25	23
		Primary School	0	0
		High School Drop-out	0	0

		Completed High School	0	23
		Completed Technical College	0	0
		Completed University Degree	2	0
	Employment Status	Not Mentioned	22	23
		Student, not yet employed	1	23
		Unemployed	0	0
		Part-time	0	0
		Full-time	4	0
	Religion	Not Mentioned	27	43
		Religious	0	3
		Non-Religious	0	0
	Friendship	Not Mentioned	25	32
		No Friends	2	13
		Casual Relationships	0	1
		Deep Friendships	0	0
	Military Service	Not Mentioned	27	46
		Service in military	0	0
		No service in military	0	0
	Alcohol Consumption	Not Mentioned	27	46
		None	0	0
		Low	0	0
		Medium	0	0
		High	0	0
		In binges	0	0
	Criminal Record	Not Mentioned	27	46
		Prior criminal record	0	0
		No prior criminal record	0	0
Emotional Characteristics	Violence	Not Mentioned	23	43
		Mentioned violent tendencies of the offender	2	2
	Anger	Not Mentioned	21	32
		Mentioned anger of the offender	4	13

		Not Mentioned	21	44
	Aggression	**Mentioned Aggressive tendencies of the offender**	4	1

The extended response questions provided several different insights into how individuals

profile mass and serial killers as shown in Figure 4. If gender was profiled in either condition it

was always male, female was never profiled. Additionally, age was much more likely to be

mentioned in the mass killing and to be profiled as age 18-25 years old. Again, participants were

much more likely to mention ethnicity in the mass killing condition, profiling the shooter as

exclusively Caucasian. Physical build however was more commonly mentioned in the serial

killer condition. This may have however been due to the brief crime scenario participants read

specifying the serial killer had to break into the victim's homes.

Participants were asked an extended response question assessing specifically what the

motive of the killer was. In Figure 4 motive is listed as being coded for twice, once as motive

one and then again as motive two. Several participants identified more than one motive so this

was a way to assess the participants that articulated multiple motives. The most common motive

identified for the serial killing condition was revenge. Revenge was also a key motive identified

in the mass killing condition however mental illness was also frequently paired with the revenge

motive.

There were also several other disparities that developed between the two types of killers

in the extended response question answers. Serial killers were more frequently mentioned as

planning the killings than the mass killer. Furthermore, level of education was more frequently

specified for the mass shooter who frequently was labeled as completing high school. Participants also labeled the employment of the mass shooter to be student status compared to full-time in the serial killer condition. Both level of education as well as employment profiles project the image of the mass killer as being a student who is college age. Mass shooters were also more likely to be labeled as being a loner or having no friends than the serial killer. Additionally, mass shooters were more likely to be labeled as angry whereas serial killers were profiled as having more aggression.

Discussion

The results of this study have countless implications and should be explored further. Statistically significant differences in how college students are profiling mass shooters versus the reality of who they are could implicate safety, prevention, and better understanding of mental illness. If there was a more wide-spread knowledge of who the individuals are who commit these crimes, prevention efforts would be more effective in both early identification and averting future casualties. Per a recent review of mass shootings in the United States from 2009-2016, in 42% of instances, mass shooters exhibited dangerous warning signs and behaviors before committing the shooting (Everytown, 2017). The dangerous acts were listed as encompassing things such as threats of violence towards oneself or others, a violation of a protective order, and evidence of ongoing substance abuse (Everytown, 2017). If any of these warning signs could be identified prior to the incident, and be widely known as warning signs, countless lives may be spared.

Understanding the effects of mental illness as it relates to profiling a killer is advantageous in better educating the public and identifying motive. After each mass shooting incident, the following four assumptions generally arise: mental illness causes gun violence, a psychiatric diagnosis can predict gun crime, shooting represent the deranged acts of mentally ill loners, and gun control won't prevent another shooting (Metzl and MacLeish, 2015). In examining these four points, it seems mental illness is a focal point in the aftermath assessment of mass shooting instances. But as refuted by statistics shown in the results section, a large percent of both serial and mass killers have had no previous psychiatric diagnosis. There are several instances where mental health has factored into a mass shooting but this is the exception

not the norm. Therefore, if the lay person was better educated on the relationship between mental illness and mass shootings there may be improved early identification of mass shooters as well as less stigma toward those with a mental illness.

The overall likelihood of being in a mass shooting is rather rare. A large part of this study focuses on the fear and panic evoked by the rare instances of mass shootings that receive heavy media coverage. This fear comes both from the high level of fear of very unlikely incidents, such as a mass shooting happening, to and individual and the media's coverage (Nolan, 2015). The sample population of college students in this study provided an interesting insight into a targeted population however. A common setting for mass shooting has been college campuses and schools in general. While this population offered an exclusive insight, it would be advantageous to conduct a follow up study assessing different age groups which spend their times at relatively varying locations. It would also be interesting to assess varying ages as they are exposed to different media outlets which could affect both how they profile the killer as well as their fear of mass shootings in general.

There were several limitations in conducting this study. As mentioned above, only assessing college students be both a strength and a limitation. Additionally, no inter-rater reliability checks were performed on the extended response coding. This may affect results from the extended response coding as several research assistants coded the data and may not have coded it identically. Another limitation was the lack of data available for comparison in the mass shooting condition. As seen in Figure 1, a good portion of the real-world statistics for a mass shooter profile are missing, therefore allowing for minimal comparison. This does however highlight the importance of this research and necessitates further research of this population to provide a more complete profile.

There are several extensions of this study that could be conducted. As mentioned above, assessing different ages of the population and what media outlets they are exposed to would be interesting to assess what effect media has on knowledge of profiles and fear of mass shootings. Another follow up study could be conducted assessing other aspects of mass shootings such as shooter suicidality, multi-location shootings, and differences between wounding and killing victims.

Further research on mass shootings is vital in aiding prevention efforts and understanding the effect it has on society. Mass shootings are still going to be a complex phenomenon but each bit of research aids in the effort to understand and mitigate such acts.

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Appendix A- Informed Consent

Identification of Project: Lay Profiles of Mass and Serial Killers

Project Description: The purpose of this study is to examine how individuals profile offenders based on the crime they are committing. Participation in this study involves reading a brief case summary, answering several related questions to the case, as well as answering basic demographic questions. The study will take approximately 15 minutes to complete, and upon completion, you will be granted .5 research credits (SONA) or be paid 10 cents (MTURK) for your participation.

Risks: Participation in this study involves minimal risk. The current study involves no more risk than a person would experience anytime they answer questions about themselves or are exposed to news and any given media daily.

Benefits: You may learn more about how you yourself view individuals based on the acts they engage in. In addition, you will be compensated .5 research credits (SONA) or be paid 10 cents (MTURK) for your participation.

Confidentiality: Your responses will not be linked to personal information; thus, your responses are anonymous. We are interested in general trends across people, not in individual responses. Only the researchers will have access to the data. The aggregated data will be used for research presentations and publications and the raw data will be stored on a secure external hard drive for five years based on APA guidelines.

Contact Person: Any questions that may arise concerning this research before, during, or after completion of the study should be directed to the principal investigator, Narina Nunez, at the Department of Psychology, University of Wyoming, at narina@uwyo.edu. If you have questions about your rights as a research participant, please contact the University of Wyoming IRB Administrator at (307) 766-5320.

Freedom to Withdraw: Your participation in this study is completely voluntary. You are free to withdraw your consent at any time, without penalty. If you agree to participate, you can still withdraw from this research at any time by ceasing to answer questions.

Consent: You are voluntarily making a decision whether or not to participate in this research session. If you think of any questions during this research session, please contact the primary investigator.

I have read and understand the above statements, and I agree to participate in this research project. I am at least 18 years of age.

Appendix B- Demographic Questionnaire

1. What is your age? _____

2. Gender:
   Male_____
   Female_____

3. Which of the following best describes your race/ethnicity?
   African American/Black_____
   Asian American/Asian_____
   Caucasian/European American_____
   Hispanic/Latino(a)_____
   Native American/American Indian_____
   Other_____

4. Are you a U.S. Citizen?
   Yes_____
   No_____

Appendix C- Serial Killer Condition

Over the course of the past three months there have been 9 deaths reported to be connected as a series of serial killings. In each death, there was a sign of forced entry via a window or door. Victims were all found within the house. The victims all seem to be single young professionals living alone in houses. The killer used a knife and the stab wounds seem to be consistent across all the victims. None of the victim's household items were found to be missing.

1. In the following provided space, please list details and characteristics that may encompass the profile of the killer.

Appendix D- Mass Murder Condition

This last week there was a mass shooting at a university. The shooter has been identified as a student of the university. The shooter entered campus mid-morning, walked directly into the library, and began opening fire. The shooter first walked into the coffee shop where they shot and killed two individuals. From there the shooter proceeded to the third floor and shot all the individuals they came across. The death toll tallied to be 9 individuals.

1. In the following provided space, please list details and characteristics that may encompass the profile of the killer.

Appendix E- Profile Questionnaire

Please read the following questions and circle which most closely describes the individual who committed the crime you were previously briefed on.

1. What race was the offender?
   a. Caucasian
   b. African American
   c. Native American
   d. Asian
   e. Other
       i. Please Specify:
2. What gender was the offender?
   a. Male
   b. Female
3. What religion did the offender belong to?
   a. Christian
   b. Islam
   c. Nonreligious
   d. Hinduism
   e. Other
       i. Please Specify:
4. How would you classify the mental health of the offender?
   a. Mentally well
   b. Experiencing some mental illness
   c. Mentally ill
5. What age is the offender?
   a. 18 or younger
   b. 18 to 30
   c. 30 to 50
   d. 50 or older
6. To what extent would you estimate the offender would engage in domestic violence?
   a. Regularly
   b. Occasionally
   c. Rarely
   d. Never
7. To what extent do you think the offender was abused as a child?
   a. Regularly
   b. Occasionally
   c. Rarely
   d. Never
8. What is the highest level of education the offender has obtained?
   a. PhD
   b. Bachelors

       c. Associates

       d. High School Diploma

       e. GED

       f. Less than High School

9. What is the relational status of the offender?

       a. Married

       b. Engaged

       c. In a Relationship

       d. Single

10. What is the sexual orientation of the offender?

       a. Heterosexual

       b. Homosexual

       c. Bisexual

       d. Asexual

11. What is the estimated income of the offender?

       a. Rich (Greater than $1 Million)

       b. Upper ($100,000 to $1 Million)

       c. Middle ($25 to $100,000)

       d. Lower (Less than $25,000)

12. In which country did this crime take place?

       a. United States of America

       b. France

       c. Russia

       d. Not Applicable

13. What would you anticipate the individuals motive to commit this crime is?

14. Are there any other defining characteristics of the offender?

Appendix F- Extended Response Coding Scheme
*If none of the listed characteristics are specified for a category (1-?), put a 0

Physical Characteristics

- Gender
  1. Male
  2. Female
- Age
  1. 1-12
  2. 13-17
  3. 18-25
  4. 26-35
  5. 36-45
  6. 46-55
  7. Over56
- Ethnicity
  1. White
  2. Mediterranean
  3. European
  4. Middle Eastern
  5. Asian
  6. Aboriginal
  7. African-American
  8. Other
- Build
  1. Thin
  2. Average
  3. Solid/Muscular: Includes strong
  4. Fat
- Height
  1. Very Short
  2. Short
  3. Average
  4. Tall
  5. Very tall
- Hair Color
  1. Blonde
  2. Red
  3. Brown
  4. Black

    5. Grey
- Hair Style
  1. None/Bald
  2. Very short
  3. Short/Straight
  4. Short/Curly
  5. Long/Straight
  6. Long/Curly
- Facial Hair
  1. None
  2. Stubble
  3. Moustache
  4. Short Beard
  5. Long/Full Beard

Cognitive Processes

- Familiarity with offense location
  1. Familiar with area where the offense took place
  2. Not familiar with area where the offense took place
- Comfort with offense location
  1. Comfortable with area where the offense took place
  2. Not comfortable with area where the offense took place
- Relation/Familiarity with victims
  1. Prior relation or familiarity with victims
  2. No prior relation or familiarity with victims
- Motive
  1. Profit
  2. Revenge: Includes jealousy and bullied
  3. Excitement: Includes likes to kill, pleasure in killing, etc.
  4. Political agenda
  5. Mental Condition
- Planning
  1. Totally Unplanned/ Spontaneous
  2. Thought of previously but never planned
  3. Some planning
  4. Carefully planned
- Fantasy
  1. Prior fantasy of the offense
  2. No prior fantasy of the offense
- Remorse

    1. Great deal of remorse

    2. Some remorse

    3. No remorse

Offense Behaviors

- Precautionary Measures
  1. Precautions taken to protect identity
  2. No precautions taken to protect identity
- Sexual Motive
  1. Sexual motive
  2. No sexual motive
- Weapon
  1. Weapon specified: Includes mentioning shot, stabbed, etc.
  2. Weapon not specified

Social History and Habits

- Marital Status
  1. Single
  2. Married
  3. Divorced
- Level of Education
  1. Primary School
  2. High School Drop-out
  3. Completed High School
  4. Completed Technical College
  5. Completed University Degree
- Employment Status
  1. Student, not yet employed
  2. Unemployed: Includes fired
  3. Part-time
  4. Full-time
- Religion
  1. Religious
  2. Non-Religious
- Friendship
  1. No Friends (Non-romantic Relationships): Includes socially awkward, loner, etc.
  2. Casual Relationships
  3. Deep Friendships
- Military Service
  1. Service in military

- 2. No service in military
- Alcohol Consumption
  1. None
  2. Low
  3. Medium
  4. High
  5. In binges
- Criminal Record
  1. Prior criminal record
  2. No prior criminal record

Emotional Characteristics

- Violence
  1. Mentioned violent tendencies of the offender
- Anger
  1. Mentioned anger of the offender
- Aggression
  1. Mentioned aggression of the offender