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# Weapon-involved Violence and Mental Illness: An Empirical Examination of the Policy Assumptions for Firearm and Other Dangerous Weapon Prohibitions

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WEAPON-INVOLVED VIOLENCE AND MENTAL ILLNESS:  
AN EMPIRICAL EXAMINATION OF THE POLICY ASSUMPTIONS FOR  
FIREARM AND OTHER DANGEROUS WEAPON PROHIBITIONS

by

Heath J. Hodges

A DISSERTATION

Presented to the Faculty of  
The Graduate College at the University of Nebraska  
In Partial Fulfillment of the Requirements  
For the Degree of Doctor of Philosophy

Major: Psychology

Under the Supervision of Professor Mario J. Scalora

Lincoln, Nebraska

July, 2017

WEAPON-INVOLVED VIOLENCE AND MENTAL ILLNESS:  
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University of Nebraska, 2017

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High-profile incidents of weapon-involved violence have galvanized public outrage, legislative proposals, and executive orders concerning individuals with mental illness and weapon access, particularly firearms. A review of public surveys and policy polls reveals multiple assumptions about the relationship between mental illness and violence, which have informed firearm prohibitions aimed at the mentally ill. However, few of these assumptions have been empirically investigated. With community ( $n = 154$ ) and forensic psychiatric samples ( $n = 80$ ), this study utilized a series of questionnaires to assess policy opinions, psychopathic traits, experiences with firearms, and perpetration rates for weapon-involved violence. Mental health files were also reviewed for psychiatric patients. Results indicated the prevalence of firearm violence was low among both samples but relatively higher among psychiatric patients. When looking at experiences with firearms more generally between the samples, psychiatric patients reported significantly more exposure to firearms in youth, were more likely to have acquired firearms from illegal means in the past, and were disproportionately more often victims of violence and violence with a weapon. By contrast, community participants endorsed greater knowledge of firearm safety practices, ammunition, and federal firearm regulations. Weapon-involved violence that did not entail a firearm was also examined.

All firearm perpetrators also identified as “other weapon perpetrators.” Similar to firearm violence, psychiatric patients were significantly more likely than community participants to report using other types of weapons to threaten or harm another person. Approximately half of the psychiatric sample endorsed weapon violence with some other type of weapon. Correlates of other weapon violence included features of childhood disruption, criminal history, and substance abuse. Among the psychiatric sample, a classification model using these covariates successfully distinguished between other weapon perpetrators and non-perpetrators. Notably, severe mental illness did not differentiate between groups. Overall, the majority of psychiatric patients did not report engaging in weapon-involved violence, either with a firearm or another weapon. Features of weapon-involved violence were comparable to those of violence generally. Findings did not support the underlying assumptions about weapon-involved violence and mental illness. Results of this study have implications for policy, clinical practice, and research in this area.

## TABLE OF CONTENTS

LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
CHAPTER 1 – INTRODUCTION .....	1
Public Perceptions, Policy Opinions, and Gun Culture .....	3
Public perceptions .....	3
Policy opinions.....	4
Gun culture.....	7
Weapon Regulations Aimed at Persons with Mental Illness .....	9
History of firearm regulations.....	10
Federal firearm regulations .....	10
Federal case law on firearm disqualification .....	14
State firearm regulations .....	15
Policy Assumptions in Weapon Prohibitions .....	18
Weapon-involved violence is common among the mentally ill.....	19
Prevalence of weapon-involved violence .....	20
Prevalence of firearm violence .....	21
Firearm homicide .....	22
Non-fatal firearm violence.....	24
Violence base rates for the mentally ill.....	26
Weapon-involved base rates for the mentally ill .....	26
Firearm violence base rates for the mentally ill.....	27
Weapon perpetrators are unique .....	28

Risk factors for violence .....	30
Risk factors for weapon-involved violence .....	31
Risk factors for firearm violence .....	33
Mental illness causes weapon-involved violence .....	34
Mental illness as a risk factor for violence .....	35
Mental illness as a risk factor for weapon-involved violence.....	36
Mental illness as a risk factor for firearm violence.....	37
Risk is the same for all mentally ill persons .....	37
Diagnostic differences for violence .....	38
Diagnostic differences for weapon-involved violence .....	40
Diagnostic differences for firearm violence .....	41
Weapon use and psychiatric admission status .....	42
Adjudication.....	42
Involuntary civil commitment.....	43
Other assumptions specific to firearm violence.....	47
Hypotheses and Data Analysis Plan .....	53
CHAPTER 2 – METHOD .....	63
Participants.....	63
Measures .....	69
Procedure .....	71
CHAPTER 3 – RESULTS .....	75
Data Preparation.....	75
Firearm Violence .....	76

Mental state at the time of the offense .....	77
Characteristics of firearm violence .....	80
Historical risk factors .....	80
Clinical risk factors .....	83
Psychopathy .....	84
Comparisons in Firearm Awareness, Knowledge, and Experience .....	86
Upbringing with firearms.....	86
Knowledge of firearms .....	88
Knowledge of federal firearm prohibitions.....	90
Past firearm acquisition.....	91
Weapon-involved victimization.....	92
Prevalence for Other Weapon Violence .....	93
Risk Factors for Other Weapon Violence.....	95
Mental state at the time of the offense .....	95
Characteristics of other weapon violence .....	98
Historical risk factors .....	98
Clinical risk factors .....	102
Psychopathy .....	103
Predictive Model for Other Weapon Violence .....	103
CHAPTER 4 – DISCUSSION.....	106
Prevalence of Weapon-involved Violence.....	106
Differences in Firearm Experiences among Samples .....	108
Weapon-involved Violence and Mental Illness .....	111

Non-clinical Characteristics of Weapon-involved Violence .....	114
Classification of Other Weapon Perpetrators .....	117
Limitations .....	118
Implications for Policy and Practice .....	120
Implications for Research .....	123
Conclusions.....	127
REFERENCES .....	128
APPENDIX A: M-TURK RECRUITMENT AD.....	155
APPENDIX B: PSYCHIATRIC PATIENT RECRUITMENT SCRIPT .....	156
APPENDIX C: ATTENDING PHYSICIAN APPROVAL FORM .....	157
APPENDIX D: COMMUNITY PARTICIPANTS CONSENT FORM.....	158
APPENDIX E: PSYCHIATRIC PARTICIPANTS CONSENT FORM .....	160
APPENDIX F: CONSENT FORM QUIZ .....	162
APPENDIX G: RESEARCH PARTICIPANT DISCLOSURE FORM.....	163
APPENDIX H: DEMOGRAPHICS FORM.....	164
APPENDIX I: FIREARM USE AND BELIEFS RECORD .....	168
APPENDIX J: FIREARM USE RISK INVENTORY .....	184
APPENDIX K: PSYCHOPATHIC PERSONALITY INVENTORY-REVISED.....	200
APPENDIX L: RECORD REVIEW FORM .....	207

## LIST OF TABLES

Table 2.1: Summary of Categorical Demographic Characteristics .....	64
Table 2.2: Diagnostic Differences among Admission Categories .....	67
Table 3.1: Mental State at the Time of Firearm Violence .....	78
Table 3.2: Historical Risk Factors for Firearm Violence.....	81
Table 3.3: PPI-R Differences between Perpetrators and Non-perpetrators .....	84
Table 3.4: Sample Differences in Upbringing with Firearms.....	87
Table 3.5: Sample Differences in Firearm Knowledge .....	89
Table 3.6: Sample Differences in Knowledge of Disqualified Individuals .....	91
Table 3.7: Mental State at the Time of Other Weapon Violence.....	96
Table 3.8: Historical Risk Factors for Other Weapon Violence.....	99
Table 3.9: Clinical Risk Factors for Other Weapon Violence .....	102
Table 3.10: Binary Logistic Regression for Other Weapon Violence .....	104

## LIST OF FIGURES

Figure 3.1: Prevalence of Firearm Violence for Combined Sample.....	76
Figure 3.2: Prevalence of Other Weapon Violence for Psychiatric Sample.....	94

## CHAPTER 1 – INTRODUCTION

In the wake of high-profile weapon-involved violence, such as mass shootings or “stabbing rampages,” in the United States, public outrage has demanded an answer to how these events are allowed to happen by the government and what type of individuals are capable of perpetrating such tragedies. A national response resulting in a wave of legislative reforms and proposals has ensued, from the level of city and state governments to the White House. The majority of this legislation has targeted firearms specifically although other “dangerous weapons” may be regulated. The most prominent legislative response to weapon-involved violence has been to prohibit the purchase or ownership of specific types of weapons by select categories of persons deemed to be at escalated risk for dangerousness. These bans often differ in the types of weapons restricted, duration of disqualification, whether privileges can be restored, and the criteria required for disqualification. However, one legal element that remains universal is the application of weapon disqualification to at least two groups of psychiatric populations: individuals who have been involuntarily committed and defendants who have been adjudicated for mental health reasons (e.g., not guilty by reason of insanity, incompetency to stand trial, conservatorship).

This trend is ongoing. The past few years have seen an increase in legislative proposals and recent reforms focused on individuals with mental illness and weapon access, particularly for firearms. Media coverage from major news networks and national newspapers—for example, CNN (Christensen, 2015) and USA Today (Hoyer & Overberg, 2015)—proliferate the notions that mass shootings are frequent and rising, the U.S. leads the world in firearm violence, and that most perpetrators had a mental illness.

This may reflect selective interpretations of FBI reports surmising that “active shooter” incidents have increased over the past 13 years or that the number of directed assaults on college campuses have steadily increased since the 1950s (Blair & Schweit, 2014; Drysdale, Modzeleski, & Simons, 2010). Media perceptions regarding mental illness and violence are not limited to firearm use, but extend to other highly publicized acts with weapons, such as knives, as well (e.g., Ablow, 2013; Aloe, 2017; Chavez & Sanchez, 2017) Taken together, it is difficult to deny that weapon-involved violence, particularly as it relates to mental illness, is a critical issue for policy, public safety, and individuals affected with mental illness.

This begs the ultimate question: What is the relationship between weapon-involved violence and mental illness? This question is far from simple. A sufficient answer requires a systematic understanding of multiple domains. First, state and national laws are molded by public perceptions on weapon use, weapon-involved violence, the nature and perceptions of psychopathology, as well as effective policies for managing violence involving weapons. Therefore, it is necessary to regard attitudes on these issues in order to understand the mass mentality that is guiding policy. Second, a review of federal and state legislation on weapon bans, particularly firearm prohibitions, and mental illness is germane to assessing the nation’s response to weapon-involved violence and detecting the policy assumptions embedded in the law. Third, this manuscript will review each policy assumption in turn, identify the underlying empirical question it presents for social science research, and attempt to summarize the relevant scientific findings. Lastly, the gaps in the research literature for informing these policy assumptions will serve as the basis for a proposed research study.

## **Public Perceptions, Policy Opinions, and Gun Culture**

**Public perceptions.** Beliefs about the relationship between violence and mental illness set the stage for weapon prohibitions that target mentally disordered individuals. Perceptions that mental disorder is linked to violence date back to the 5<sup>th</sup> century B.C. Public attitudes that mentally ill individuals were disproportionately violent persisted in Western Civilization through the Roman era, the Middle Ages, and the Renaissance. Such views were reflected in laws for civil commitment as early as the late 1400s (Monahan, 1992). Modern American beliefs do not fare much better. Polls from the 1950s to the present day suggest public perceptions that mentally ill persons are more likely to be violent (Monahan, 1992; Parcesepe & Cabassa, 2013; Pescosolido, Monahan, Link, Stueve, & Kikuzawa, 1999; Phelan, Link, Stueve, & Pescosolido, 2000; Robb & Stone, 2016).

Current evidence suggests misperceptions about violence and mental illness have similarly influenced policy opinions for managing the problem of weapon-involved violence. News media coverage may reflect, or perhaps influence, public perceptions on mental illness and weapon-involved violence (Schildkraut & Elsass, 2017). For example, in recent years, various news outlets (including international media) have attributed mental illness to various high-profile acts violence involving weapons, including “stabbing rampages” (Ablow, 2013), “axe attacks” (Oltermann, 2017), “knife attacks” (Chavez & Sanchez, 2017), “machete-wielding” incidents (Ortiz, 2015), and “ploughing in to innocent pedestrians” with an automobile (Moore, 2017).

Media reports for weapon-involved violence have permeated news reports on firearm violence in particular. In a randomized review of news stories on this topic from

1997 to 2012, McGinty and colleagues (2014) found that news coverage was more likely to attribute gun violence to “dangerous people” with severe mental illness (SMI) than “dangerous weapons.” Further, nearly 30% of news stories associated schizophrenia or psychosis with firearm violence, whereas less than 10% discussed evidence that most people with mental illness are not violent or the inherent difficulties of predicting firearm violence.

Findings for mass media portrayals of weapon-involved violence and mental illness are echoed in national surveys as well. This research has been limited to public opinions on firearm violence in particular. In 2013, 48% of the population believed that a “great deal” of the blame for mass shootings was attributable to a failure by the mental health system to alert others of dangerous individuals. An additional 32% of the population still believed a “fair amount” of the responsibility fell to the mental health system. This reason rivalled any other option provided, including firearm access and institutional security (Gallup, 2017). Similarly, the majority of individuals (65%) favor reforms to school security and the mental health system over changes to laws on guns and ammunitions (30%; Gallup, 2013). Further, statements by politicians and media outlets reflect unrealistic perceptions that mental health professionals can predict and prevent firearm violence perpetrated by the mentally ill (Gold & Simon, 2016). Unfortunately, most mental health professionals report receiving no training in counseling patients on firearm issues and many indicate obtaining information on this from the mass media (Price & Khubchandani, 2016).

**Policy opinions.** Similar to research on public perceptions, national surveys on weapon policies have been limited to opinions on firearm restrictions in particular. Most

Americans favor stricter firearm regulations in some form or another. According to the most recent Gallop polls, 37% of the American population believes that firearm laws should be stricter, a 12 percent increase from just five years earlier (Gallup, 2017). In 2013, Gallop reported that 65% of citizens believed the national background check system for firearm purchases should be expanded and in 2015, 86% of respondents favored a universal background check system. For those who opposed changes to background checks, reasons were attributed to a firm allegiance to the 2<sup>nd</sup> Amendment of the U.S. Constitution (i.e., the right to bear arms), emphasis on strengthening gun laws already in place, and cynicism regarding the effectiveness of enhanced gun laws (e.g., criminals will always have access to gun, regulation would not make a difference; Gallup, 2013).

Tom Smith conducted an expansive analysis on data from the National Opinion Research Center (NORC), an annual poll of 3,000 Americans chronicling nearly 30 years of public opinions on firearm policies (Smith, 2001). Results indicated that most Americans favor firearm restrictions for criminals, including those who have been convicted of domestic violence (90.4%), drunk and disorderly conduct (83.6%), illegally carrying a concealed weapon (82.6%), non-serious assault and battery (81.8%), and driving under the influence of alcohol (66.5%). Most Americans favor a standard set of “common sense” regulations and oppose severe limitations (e.g., absolute bans). Opinions remained relatively stable over time. A closer examination of poll results indicates that firearm ownership status moderates policy opinions. Gun-owners are less likely to support universal background-check policies, firearm prohibitions, and weapon and ammunition restrictions compared to those who do not own guns (Barry, McGinty,

Vernick, & Webster, 2013; Barry, McGinty, Vernick, & Webster, 2015). Most relevant to this discussion, however, is public opinion for firearm regulations concerning individuals with mental illness.

Consistent with opinions for firearm policies generally, most individuals favor enhanced firearm sanctions for the mentally ill. In contrast, however, differences between non-firearm owners and firearm owners, or members of the National Rifles Association (NRA), are less pronounced. In a national survey, Barry and colleagues (2013) reported that 85.4% of respondents supported the federal standard for firearm restrictions, which disqualifies individuals who have been psychiatrically hospitalized or adjudicated for mental health reasons from owning a firearm. Firearm owners, NRA members, and non-firearm owners comparatively favored this policy as well as others regarding mental illness, including disqualifying military personnel who have been dishonorably discharged due to mental illness (overall support 78.9%) and minimal support for firearm restoration for mental ill persons who are no longer deemed dangerous (overall support 31.6%). The one exception to this trend was that significantly fewer NRA members (31.1%) and firearm owners (43.6%) favored a policy that would allow police officers to search and remove firearms (without a warrant) if the officers believe the person is dangerous due to a mental illness, emotional instability, or tendency to be violent, than non-firearm owners (55.3%).

In a two-year follow-up study, the same investigators found that public opinion for firearm policies had changed very little (Barry, McGinty, Vernick, & Webster, 2015). The majority of respondents continued to support federal bans for the mentally ill (82.0%). Yet, contrary to the former study, firearm owners and NRA members were

significantly more likely to favor federal firearm regulations aimed at mentally ill persons (86.2% in 2015 study versus 80.9% in the 2013 study). As with the previous survey, the policy with the lowest support among all groups favored firearm restoration for previously disqualified mentally ill persons (overall support 38.6%).

**Gun culture.** In addition to public perceptions of mental illness and policy opinions regarding firearm prohibitions, the so-called “gun culture” of the U.S. may also impact firearm ownership attitudes and regulations for the mentally ill. Rozel and Mulvey (2017) defined the gun culture as “a sense of identity among firearm owners and enthusiasts that is often anchored in a shared enjoyment of owning and using firearms, often tied to family traditions, personal beliefs, and social relationships” (p. 453). Compared to other industrialized nations, the gun culture sets the U.S. apart through a strong attachment to private firearm ownership, high firearm ownership rates, and passive gun control regulations (Hofstadter, 1970). As Somerset (2015) succinctly describes it: “a culture as American as Mom and apple pie and as sacred as Jesus himself” (p. xvi).

Individuals who identify with a social gun culture are twice as likely to own a firearm (Kalesan, Villarreal, Keyes, & Galea, 2015), suggesting policy opinions by gun owners are likely impacted by such beliefs. Further, the gun culture has been recognized as a potential cross-cultural obstacle for mental health interventions for firearm violence (Rozel & Mulvey, 2017). Despite the potential implications for understanding gun culture, very little empirical research has addressed this construct. Kalesan and colleagues (2015) measured gun culture by asking participants to indicate social and familial support for, and involvement with, firearms. Yet, other facets reflecting gun culture (e.g., exposure to firearms as a youth, familiarity with firearms and firearm laws)

are not understood. Further, the extent to which opinions reflecting gun culture vary between mentally ill persons and non-ill individuals is unknown. Understanding gun culture may be particularly useful for mental health professionals implementing interventions if this is a prominent value system in their patients (Betz & Wintermute, 2015; Marino, Wolsko, Keys, & Pennavaria, 2016; Wheeler, 2015).

As noted above, public opinion relating mental illness and violence has a long history. Media news coverage and national surveys suggest these perceptions apply with comparable force to opinions regarding weapon-involved violence, particularly firearm violence. The majority of American citizens attribute mass shootings to failures by the mental health system to manage dangerous mentally ill patients and politicians promote unrealistic expectations that mental health providers can predict and prevent such tragedies. While investigators have failed to research policy opinions for dangerous weapons more generally, national surveys on firearm regulations suggest policy views are comparable to public opinion. Namely, the majority of the populace supports regulations that restrict firearm access for the mentally ill. In general, these policies are comparably supported by firearm owners, non-owners, and NRA members. The U.S. gun culture has been identified as characteristic of gun owners and hence their policy opinions for firearm regulations. Despite the implications for understanding gun culture for mental health interventions, the extent to which such attitudes may be present in mentally ill individuals has not been researched. In short, it is fairly established that the public maintains negative attitudes regarding psychopathology and violence, which may be impacted by gun culture attitudes. These beliefs appear to influence perceptions for firearm violence policy as well. As the next section will make clear, these opinion and

policy attitudes have molded modern regulations on firearms and other dangerous weapons.

### **Weapon Regulations Aimed at Persons with Mental Illness**

With the exception of firearms, the regulation of weapons in the United States is not particularly specific. For instance, the United States Code prohibits the possession of firearms and “dangerous weapons” in federal facilities (18 U.S. Code § 930, 2006). “Dangerous weapons” are defined as any “weapon, device, instrument, material, or substance, animate or inanimate, that is used for, or is readily capable of, causing death or serious bodily injury, except that such term does not include a pocket knife with a blade of less than 2½ inches in length.” State statutes are frequently no more specific in regulations for weapons that are not firearms. For example, in its statute defining controlled weapons, the state of Ohio provides specific definitions for “firearm,” “handgun,” “semi-automatic firearm,” “sawed-off firearm,” and “zip gun,” but then categorically defines other “deadly weapons” as “any instrument, device, or thing capable of inflicting death, and designed or specially adapted for use as a weapon, or possessed, carried, or used as a weapon” (Ohio Rev. Code § 2923.11, 2017).

Similarly, weapon restrictions addressing individuals with mental illness are typically specific to firearms or address firearm possession in addition to a categorical term for other “dangerous” or “deadly” weapons. To reuse the example earlier, Ohio’s provision for weapon disqualification restricts firearms and “dangerous ordinances,” which is a collective term including ballistic knives, explosive devices, and various types of illegal firearm accessories (Ohio Rev. Code 2923.13, 2015; Ohio Rev. Code §

2923.11, 2017). Given the non-specific regulation of weapons that are not firearms, the following review will focus on firearm bans.

**History of firearm regulations.** Firearm bans have been implemented at the state level since the 1830's. Yet, legal efforts aimed at mental illness would not surface for another hundred years. During the 1930's, several states attempted to regulate the sale and possession of firearms for those suffering from narcotics addiction, alcoholism, or a mental defect (Hardy, 1986). Federal regulations specifically concerning individuals with mental illness were not passed into law until the Omnibus Crime Control and Safe Streets Act (Omnibus Act) of 1968. The Omnibus Act prohibited the receipt, possession, or transportation of firearms by "mental incompetents" (i.e., those adjudicated as mentally incompetent). Shortly thereafter, the Gun Control Act (GCA; 1968) extended these restrictions to prohibit licensed firearm manufacturers, dealers, importers, and collectors from selling firearms or ammunition to any individual who had been "adjudicated as a mental defective" or "committed to any mental institution." It should be noted that the implementation of the GCA, specifically the process by which retailers could identify prohibited persons, remained unresolved (McGinty, Webster, & Barry, 2014).

**Federal firearm regulations.** Originally, the GCA did not afford restoration of gun ownership privileges to persons disqualified for mental health reasons (*Galioto v. Department of Treasury*, 1986). This oversight was amended in the Firearm Owners' Protection Act (FOPA) of 1986, which allowed all prohibited persons, including those restricted for mental health reasons, to petition for "relief from disability." The GCA remained the federal standard for firearm control until 1993 with the passing of the Brady Handgun Violence Prevention Act (Brady Act, 1993), a response to the assassination

attempt on President Reagan by John Hinckley, Jr. The Brady Act extended the federal categories of individuals prohibited from purchasing firearms and established the National Instant Criminal Background Check System (NICS), a computerized system maintained by the Federal Bureau of Investigation (FBI) that tracks all individuals disqualified from owning a firearm. All firearm merchants and manufacturers are required to screen would-be gun purchasers through NICS before completing a firearm transaction. As of yet, background checks are only applicable to licensed firearm dealers and do not apply to private transactions, gun shows, or online gun purchases.

Eventually, questions of terminology for the prohibited categories were raised and, in 1997, the Bureau of Alcohol, Tobacco, and Firearms (ATF) amended the Code of Federal Regulations and defined “adjudicated as mentally defective” to include any determination by a court, board, commission, or other lawful authority that finds a person 1) dangerous to himself/others, 2) unable to contract or manage his own affairs, 3) not guilty by reason of insanity in a criminal proceeding, or 4) incompetent to stand trial as a result of “marked subnormal intelligence, or mental illness, incompetency, condition, or disease.” Commitment to a mental institution requires involuntary hospitalization to a mental institution for “mental defectiveness or mental illness.” Voluntary admissions or hospitalizations for observation are not included. Finally, “mental institutions” are defined as “mental health facilities, mental hospitals, sanitariums, psychiatric facilities, and other facilities that provide diagnoses by licensed professionals of mental retardation or mental illness, including a psychiatric ward in a general hospital” (27 C.F.R. § 478.11, 1997). As defined in the Code of Federal Regulations, the parameters for firearm restrictions based on mental illness are broad in scope and not limited to dangerousness.

Unfortunately, these reforms failed to clarify the logistical issue of how regulating agencies are to be informed of individuals who meet disqualification criteria—especially in light of health information privacy laws and regulations. However, in January 2014, the Department of Justice proposed two revisions to the terminology of the GCA (Federal Register, 2014). First, it would expand “adjudicated as a mental defective” to include persons found guilty but mentally ill. Second, the term “committed to a mental institution” would apply to individuals who have received involuntary inpatient or outpatient treatment.

Following the Virginia Tech campus shooting in 2007, President George W. Bush signed into law the NICS Improvement Amendments Act of 2007 (NIAA; 2008), which sought to strengthen the national background check system by increasing the quantity and quality of relevant records accessible to the system. After the Sandy Hook tragedy, President Barack Obama issued a series of legislative proposals aimed at mental illness and firearm violence. First, the plan sought to remove any “unnecessary barriers” to the Health Insurance Portability and Accountability Act (HIPAA) that could impede states from reporting on individuals prohibited from gun ownership for mental health reasons. Second, it issued a directive for the Attorney General to reassess the prohibited categories for firearm ownership, which had the potential either to expand or restrict the present categories for mental illness. Third, it clarified that federal law does not restrict doctors or health care providers from discussing firearm safety with their patients, especially those showing signs of mental illness, or prevent the reporting of “direct and credible threats of violence” to law enforcement authorities (The White House, 2013). Consequently, the Department of Health and Human Services (DHHS) published an amendment to the

HIPAA privacy rule that sought to remove “any potential impediments to state reporting of mental health records to NICS.” (pg 12, Liu, Bagalman, Chu, & Redhead, 2013). In January 2016, the Obama Administration issued a series of new executive orders that echoed the proposals offered in his 2013 national gun violence reduction plan (The White House, 2016). One notable distinction, however, was a requirement for the Social Security Administration (SSA) to release information for approximately 75,000 mentally ill beneficiaries to NICS. In December 2016, the SSA implemented provisions adhering to the President’s mandate, which was scheduled to go into effect on January 18, 2017. However, in February 2017, President Donald Trump signed into law House Joint Resolution 40, nullifying the SSA rule (Public Law No: 115–8, 2017).

In addition to executive actions, Congress has considered numerous bills in recent years related to mental illness and firearm restrictions (Krouse, 2012, 2015). Congress has repeatedly considered, but failed to enact, the Fix Gun Checks Act (S. 436, 2011; S. 374, 2013; S. 2934, 2014), which would require background checks for all firearm sales and allocate funds to improve the FBI’s access to records for disqualified persons, including those who have been banned for mental health-related reasons. The “Manchin-Toomey amendment” (S.Amdt. 715, 2013), rejected by the Senate in 2013, would have expanded background checks to private gun sales (barring a few exceptions), provided financial incentives to states complying with the NICS reporting requirements, and, most notably, established a national commission of experts to investigate the causes of mass violence, with particular emphasis on the role of mental illness. On June 20, 2016, the Senate failed to pass a bill introduced by Republican Senator Chuck Grassley, which not only proposed a universal background check for all firearm transfers, but also expanded

the category of those who would be disqualified from owning firearms for mental health reasons by altering the term “adjudicated as a mental defective” to cover those who have been compelled by a lawful authority to “receive counseling, medication, or testing to determine compliance with prescription medications” (S. Amdt. 4751). In June 2016, the failure of Congress to pass any new gun-control legislation led to an unprecedented sit-in protest by over a dozen Democrats on the House floor (Herszenhorn & Huetteman, 2016).

The current session of the legislative branch, the 115<sup>th</sup> Congress, continues to introduce laws addressing the issue of mental illness as it relates to firearm ownership. For example, in March 2017, the House passed the Veterans 2<sup>nd</sup> Amendment Protection Act (H.R. 1181, 2017), which prevented beneficiaries found “mentally incapacitated, deemed mentally incompetent, or experiencing an extended loss of consciousness” from being labelled “adjudicated as a mental defective” and hence disqualified from owning firearms. In April 2017, the Mental Health Access and Gun Violence Prevention Act of 2017 (H.R. 1982, 2017) was introduced to Congress. This bill seeks increased funding for the reporting of mental health information to NCIS and access to mental health treatment and services.

**Federal case law on firearm disqualification.** Federal case law has similarly supported the use of prohibitions against those with mental illness. Prior to the 1997 codification of the terms in the GCA, several arguments had been heard regarding the parameters of hospitalization and mental adjudication for purposes of firearm restrictions (see Simpson, 2007). Since this time, the courts have further clarified what mental health proceedings warrant disqualification from gun ownership. For instance, judicial

emergency detentions and extended periods (90 days) qualify (*U.S. v. Chamberlain*, 1998; *U.S. v. Dorsch*, 2004). However, emergency mental health evaluations do not constitute a “commitment” under federal law (*Furda v. State*, 2010). In addition to formal commitment proceedings, a judicial order for involuntary hospitalization may be sufficient for disqualification (*U.S. v. Midgett*, 1999). In *U.S. v. B.H.* (2006), the court held that outpatient treatment that has been ordered as part of an involuntary hospitalization proceeding may constitute commitment to a mental institution. However, involuntary commitment in many jurisdictions is held confidential, presenting additional difficulties for implementation of these holdings.

**State firearm regulations.** A more thorough overview of state provisions for mental illness and gun ownership can be found elsewhere (see Lewis, 2014; Norris, Price, Gutheil, & Reid, 2006; Simpson, 2007). States tend to vary in terms of type of weapon, duration of prohibition, provisions for restoration of gun ownership, and scope of persons disqualified from owning a firearm. As noted above, many firearm bans aimed at mental illness may include a provision for other non-specific types of weapons. For example, Alabama, Arizona, California, Delaware, and Florida extend firearm prohibitions to include “other dangerous” or “other deadly” weapons. As previously mentioned, Ohio’s firearm statute also prohibits “dangerous ordinances” and Connecticut regulates “electronic defense weapons.” Other states may have separate statutes for prohibiting “dangerous weapons” but the language imitates that of their firearm bans, such as Utah, North Dakota, and New Jersey. Thus, the criteria for firearm disqualification as they concern mental illness are indistinguishable from those provided for restrictions for

owning other dangerous weapons. As such, only state firearm regulations will be reviewed.

The majority of states utilize the federal standard in one fashion or another (i.e., adjudication due to mental illness or involuntary psychiatric hospitalization). There are three pathways by which this occurs: 1) the state has no statute for this purpose (and thus defaults to federal law), 2) the state statute explicitly defaults to the federal standard, or 3) the state statute mimics the language in federal law. Currently, four states do not have statutes specifically denying firearm access to mentally ill persons: Alaska, Colorado, New Hampshire, and Vermont. Several states simply refer to the federal code, for example, Nebraska (Nev. Rev. Stat. Ann. § 71-963, 2011) and Kentucky (Ky. Rev. Stat. § 237.108, 2011), while others have statutes that imitate the federal language and criterion, such as Florida (Fla. Stat. § 790.25, 2016) and Arkansas (Ar. Code § 5-73-103, 2016).

Some states, however, have broader criteria for persons who are disqualified from possessing a firearm due to mental illness. For example, firearm disqualification is extended to voluntarily admitted patients in Connecticut, Illinois, Maryland, and the District of Columbia (Law Center to Prevent Gun Violence, 2017). . In 2013, Florida expanded its statute to allow for disqualification of voluntarily admitted patients with a judicial finding of dangerousness (Fla. H.B. 1355, 2013). Other states allow disqualification for mental illness generally but stipulate a connection to dangerousness (e.g., California, Illinois, Maryland; Law Center to Prevent Gun Violence, 2017). New York may prohibit a person who has “ever suffered from any mental illness” (N.Y. Pen. Law § 400.00, 2016). Perhaps most broad are the laws for Hawaii and Oklahoma. Hawaii

prohibits firearm possession by any person diagnosed with a “significant behavioral, emotional, or mental disorder” (Haw. Rev. Stat. § 134-7, 2013). Oklahoma prohibits the transfer or sale of firearms to persons who are “emotionally disturbed or of unsound mind” (Okla. Stat. 21 § 1289.10, 2014). The duration of prohibitions is typically unspecified but can range from twelve months to five years. Lastly, restoration of gun ownership rights is usually left to the discretion of the courts; few states require the input of a mental health professional, and no state mandates a risk assessment by a forensic expert (Law Center to Prevent Gun Violence, 2017; Norris et al., 2006; Simpson, 2007; Vars & Young, 2013).

In summary, laws regulating weapon access for the mentally ill are usually focused on firearms. When statutes do address restrictions for other “dangerous” or “deadly” weapons, the criteria tend to mirror those provided in the firearm bans, suggesting the policy assumptions for these laws are similar. A historical review indicates firearm bans aimed at the mentally ill were attempted as early as the 1930’s but did not successfully become law until the 1968 Omnibus Act and subsequent GCA, at which time the federal government passed firearm prohibitions aimed at specific categories of mentally disordered persons. To date, these two categories ban the receipt, possession, or transportation of firearms or ammunition by any individual who has been “adjudicated as a mental defective” or “committed to any mental institution.” The creation of NICS in 1993 enabled a national background check system for tracking disqualified individuals. Since this time, amendments to the GCA and federal cases have attempted to clarify which commitment procedures qualify for firearm disqualification. Yet, the release of patient information and communication of ineligible persons to the FBI remain a

challenge to the background check system and recent legislative efforts at gun regulation have been largely unsuccessful. State laws vary considerably in the scope of their firearm prohibitions. The majority of states either default to the federal standard or have comprised laws reflecting the federal government's criteria. However, several states have enacted harsher standards. Further, many states fail to specify timeframes for disqualification or provisions for reinstating firearm privileges.

An examination of federal and state firearm laws reveals multiple policy assumptions, many of which are applicable to bans on other dangerous weapons. The next section will first identify broad policy assumptions that apply to both firearm and other dangerous weapon regulations. Each policy assumption will then be informed and evaluated through a review of relevant research. Additionally, policy assumptions specific to the firearm bans in particular (e.g., firearm acquisition) will be reviewed in a similar fashion. As will be seen, there are substantive discrepancies between findings of the scientific community and underlying policy beliefs. Policy assumptions that have yet to be addressed by the field will form the basis of hypotheses in a proposed research study.

### **Policy Assumptions in Weapon Prohibitions**

A critical analysis of firearm prohibitions reveals at least four broad policy assumptions that apply to all weapon regulations, which can be informed by psychological research. These policy assumptions are: (1) Weapon-involved violence, particularly acts committed by mentally ill perpetrators, is a common phenomenon; (2) Weapon perpetrators represent a unique class of offenders; (3) There is a causal and direct link between violence (including weapon-involved violence) and mental illness;

and (4) The risk for perpetrating weapon-involved violence is comparable across diagnostic and psychiatric categories. Additionally, other policy assumptions are discussed for bans that prohibit the mentally ill from having firearms in particular, including: (1) All types of firearms present the same likelihood of being used in a violent act; (2) Firearms are being acquired by dangerous mentally ill perpetrators primarily through licensed firearm dealers; (3) Firearm availability increases risk for firearm violence among mentally ill persons; and (4) Firearm access for disqualified persons, including but not limited to mentally ill individuals, can be effectively regulated by the federal background check system. Each of these policy assumptions will be discussed in turn.

**Weapon-involved violence is common among the mentally ill.** Several scholars have noted misperceptions by the public that individuals with severe mental illness are at high risk for committing acts of violence (Monahan, 1992; Parcesepe & Cabassa, 2013; Pescosolido et al., 1999; Phelan et al., 2000; Robb & Stone, 2016). This misconception has been attributed to beliefs regarding the relationship between mental illness and firearm violence specifically (Barry et al., 2013, 2015; McGinty & Webster, 2015; Swanson, McGinty, Fazel, & Mays, 2015). The media had been suggested as perpetuating these stereotypes (McGinty et al., 2014; Schildkraut & Elsass, 2017). Although mass shootings tend to get the most publicity, other high-profile acts of weapon-involved violence have been attributed to mental illness, particularly in the absence of information regarding the motive of the perpetrator (e.g., Chavez & Sanchez, 2017; Moye, 2016). As reviewed above, national surveys suggest that the American public supports harsher firearm regulations and blames the mental health system for

recent shootings. Taken together, this implies an assumption that mentally ill perpetrators are responsible for many acts of weapon-involved violence (particularly shocking, unexplainable attacks) and that specialized legislation is necessary to protect American citizens.

Indeed, this assumption is reflected in federal and state laws. Firearm prohibitions for psychiatric categories exist in every jurisdiction in the country. Additionally, many executive reforms on firearm prohibitions have occurred following high-profile mass shootings by perpetrators believed to be mentally ill. For example, President George W. Bush signed into law the NIAA (strengthening the national background check system) shortly after the Virginia Tech campus shooting in 2007. President Barack Obama issued his 2013 legislative proposals after the tragedy at Sandy Hook and his 2016 executive orders following the mass shooting in San Bernardino. Thus, the legislative and executive terrains lend credence to the contention that weapon-involved violence is a recurrent problem, particularly among mentally ill persons. In sum, the policy assumption that weapon-violence is prevalent among mentally disordered persons can be inferred from public opinions that drive policy, nation-wide restrictions for firearm violence, and executive actions. The relevant research questions for this policy assumption are two-fold. First, what is the prevalence of weapon-involved violence in the United States? Second, how common is violence (and weapon-involved violence in particular) among mentally disordered persons?

***Prevalence of weapon-involved violence.*** This section reviews the prevalence of weapon-involved violence generally, including violence involving a firearm. Details for firearm violence specifically are reviewed in the following sections. According to

estimates from the National Crime Victimization Survey (NCVS), weapons (including firearms) are used in approximately a quarter of violent crimes (Perkins, 2003; Truman & Rand, 2010). From 1993 to 2001, an average of more than two million victimizations per year featured a weapon (Perkins, 2003). Yet, the number of weapon-involved violence has decreased over the past two decades. In 2009, only 904,820 violent crimes involved a weapon (Truman & Rand, 2010). Similarly, the number of weapon-involved violence in “serious violent crime,” which includes rape/sexual assault, robbery, and aggravated assault, decreased from 2005 to 2014 (Truman & Langton, 2015). Despite this drop in numbers, the percentage of violent crimes featuring a weapon has remained relatively stable since the early nineties (Perkins, 2003; Truman & Rand, 2010). In terms of offense type, weapons are featured most prominently in homicides (91%), followed by robberies (47-50%), simple and aggravated assault (19-24%), and sexual assaults (8-10%; Perkins, 2003; Truman & Rand, 2010).

While firearms are the most common type of weapon used in violent crimes (see below), most acts of weapon-involved violence feature other types of weapon. NCVS data from 1993 to 2001 indicate 63% of armed violence did not involve a firearm. Specifically, 25% of armed violence involved a knife, 16% involved a blunt object, and 18% entailed some other type of weapon (Perkins, 2003). The most recent (i.e., 2009) NCVS data to distinguish among types of weapons used in armed violence indicated comparable estimates for the percentage of armed violence not featuring a firearm (64%; Truman & Rand, 2003).

***Prevalence of firearm violence.*** An examination of violent crime statistics reveals that firearms feature prominently in the United States for both lethal and non-fatal violent

crimes. A special report on firearm violence by the U.S. Department of Justice estimated 478,400 violent crimes were committed with a firearm in 2011 (Planty & Truman, 2013). While violence in general has decreased in the past few decades (Wintemute, 2015), the proportion of crimes committed with a gun has remained stable for nearly 20 years (falling between 6% and 9% of all violent crimes). What makes firearms such an important feature of violence is the extent of harm that they cause. The damage caused by firearm violence is considerable. A report issued by the Children's Safety Network estimated that firearm injuries cost the United States \$174 billion in 2010, averaging an injury cost of \$645 per gun in the country. This expense was primarily attributed to firearm violence (Miller, 2012). More recently, the Centers for Disease Control and Prevention published an economic analysis of fatalities in the United States from 2013 and concluded that firearm-related deaths accounted for 22% of costs associated with fatal injuries and, more specifically, 75% of homicide-associated costs (Florence, Simon, Haegerich, Luo, & Zhou, 2015).

*Firearm homicide.* Firearms are easily the leading method for killing another human being in the United States. Relative to other high-income countries, the U.S. has exponentially more firearm violence. In 2003, the U.S. has the highest firearm homicide rate among wealthy nations, with a rate 19.5 times higher than 23 other high-income countries (Richardson & Hemenway, 2011). By 2010, this rate had increased to 25.2 times higher than other high-income countries, seven times higher than the second highest country on the list (Canada). By comparison, the U.S. non-firearm homicide rate was just 2.7 times higher than other wealthy countries (Grinshteyn & Hemenway, 2016). According to the U.S. Department of Justice, firearms account for about 70% of all

homicides in the U.S. This holds true for nearly all types of homicide, including those involving intimate partners, teens and young adults, and law enforcement officers killed in the line of duty. Over the past 20 years, the use of firearms in homicides has increased in the context of gang-related homicides (73% to 92%) and murders committed during the commission of a felony (59% to 74%), suggesting the use of guns in homicides is not limited to any particular setting (Planty & Truman, 2013). Thus, firearms play a key role in murder across contexts, including areas in which we might be surprised to see severe mental illness (e.g., gang conflicts).

Although homicide represents the most lethal form of firearm violence, it accounts for merely 2.3% percent of all firearm-related crimes. Similarly, the prevalence of so-called “mass shootings”—the intentional killing of multiple victims in one incident—is an extremely rare event despite the considerable media coverage of such tragedies (Bjelopera, Bagalman, Caldwell, Finklea, & McCallion, 2013; Knoll & Annas, 2016; Meloy, Hempel, Gray, Mohandie, Shiva, & Richards, 2004; Schildkraut & Elsass, 2017). According to a recent congressional report on public mass shootings by Krouse and Richardson (2015), the prevalence of mass shootings has increased overall since 1970. However, a closer review of these numbers reveals that the numbers have been relatively stable since the 1990s (averaging 4.0 mass shootings in the 1990s, 4.1 in the 2000s, and 4.5 in the first four years of the 2010s). Furthermore, the average number of mass shootings in the last five years has been largely driven by a few outlier cases with high casualties in 2012 (e.g., Newtown). The average would actually be less than the preceding 5-year period (2004-2008) if these outliers were removed from analyses (Krouse & Richardson, 2015). Likewise, school-related gun homicides have been on the

decline since the 1990s and account for merely 2% of youth homicides (Planty & Truman, 2013). Krouse and Richardson (2015) reported that only 10.6% of public mass shootings occurred in schools or universities, and that 27.3% had occurred in workplaces.

*Non-fatal firearm violence.* In 2014, nearly half a million incidents of non-fatal firearm violence occurred in the United States (Truman & Langton, 2015). According to a special report on firearm trends issued by the Bureau of Justice Statistics, the number of crimes in which an offender possessed, revealed, or used a firearm decreased 69% from 1993 to 2011 (Planty & Truman, 2013). This number, however, is deceiving when one considers that overall violence has also decreased and that non-fatal firearm crimes have consistently accounted for 6% to 9% of violence in this time period. While most firearm violence is non-fatal, the opposite is not true; firearm violence accounts for less than 10% of non-lethal crimes. Less than a quarter (23%) of victims are injured and, of those, approximately 82% receive treatment from a professional health care provider. Perhaps due to the severity of injury involved in this type of violence, the proportion of victim who report non-fatal firearm violence to police is substantially higher compared to other forms of violence (61% versus 46%). As might be expected the most common reason for not reporting was fear of reprisal from the perpetrator (31%).

Besides homicides, the crimes in which firearms are most likely to be used are robberies (25.7%) and aggravated assaults (30.6%). Since 1993, between 20% to 30% of robberies and 22% to 32% of aggravated assaults involved a firearm (Planty & Truman, 2013). In 2004, few inmates reported carrying a gun during the commission of their crime (16% of State inmates; 18% of Federal inmates). This differs only slightly from rates in 1997 (18.4% for State inmates and 14.8% for Federal inmates, respectively); yet, this

percentage more than doubled when narrowing results to prisoners convicted of a violent offense, such as homicide, sexual assault, robbery, and assault (30.2% for State inmates; 35.4% for Federal inmates; Harlow, 2002). Approximately half of State offenders discharged the firearm (18%) and only about a quarter of Federal offenders did (9%; Harlow, 2002). As might be expected, non-lethal firearm violence is most prevalent in high density locations, more likely involve a stranger as the victim, and tend to occur near the victim's home or in an open, public area (Planty & Truman, 2013).

Taken together, approximately a quarter of violent crimes involve the use of some type of weapon. Although most weapon-involved crimes do not involve a firearm, relative to other weapon options, firearms are easily the most common type of weapon used. The prevalence of firearm violence is substantial although it is fairly uncommon in the forms typically highlighted by the mass media and politicians, such as mass killings and school shootings. Given the focus of public opinion and legislation on firearm violence among mentally ill persons, the next relevant question is how frequently violence, and weapon-involved violence more specifically, is perpetrated by the mentally ill.

***Violence base rates for the mentally ill.*** The majority of individuals with mental illness do not go on to perpetrate violence. Yet, this estimate is variable depending on the setting and diagnosis. In one of the earliest comprehensive studies of its kind, the MacArthur Violence Risk Assessment Study evaluated violence in the community by discharged psychiatric patients. The authors reported a recidivism rate of 25.7% for violence, defined as acts of aggression that were serious enough in nature to result in victim injury (Monahan et al., 2001). More recently, Joyal and colleagues (2007)

conducted a review of studies investigating violence and mental illness and reported the absolute value of violence by mentally ill perpetrators was very low, accounting for 5-15% of violence in the community.

In fact, multiple studies have indicated mentally ill persons as being substantively more likely to be the victims than perpetrators of violence (Choe, Teplin, & Abram, 2008; Desmarais et al. 2014; Monahan, Vesselinov, Robbins, & Appelbaum, 2017; Teplin, McClelland, Abram, & Weiner, 2005). Additionally, victimization and violent offending tend to overlap more than originally believed and share many of the same risk factors (Jennings, Piquero, & Reingle, 2012; Silver, Piquero, Jennings, Piquero, & Leiber, 2011).

***Weapon-involved violence base rates for the mentally ill.*** The prevalence of violence by the mentally ill is expectedly less than violent behavior more generally. Among a sample of involuntary outpatients, Swanson and colleagues (1999) found that only 26 (7.8%) of 331 patients reported using a weapon to harm or threaten another person over a 4-month follow-up period. The most common type of weapon used was a knife or other sharp object (50%), followed by blunt object (e.g., club; 42%), firearm or explosive (15%), or “other weapon” (15%). Other studies have found similarly low base rates, with firearms used less frequently than other types of weapons, such as knives or blunt objects (Hiday, Swartz, Swanson, Borum, & Wagner, 1998).

Somewhat higher base rates were found for civil psychiatric patients in the MacArthur study (Monahan et al., 2001). Investigators reported 29.3% of violent incidents involved the use of a weapon or a “weapon threat,” defined as any threat in which the subject was holding a weapon. This finding is strikingly similar to the

proportion of weapon-involved violence reported in national crime statistics over the past two decades (i.e., 22-26%; Perkins, 2003; Truman & Rand, 2010). A special report by the Bureau of Justice Statistics (BJS) indicated 37% of violent offenders in state prisons reporting mental problems had used a weapon during the offense (James & Glaze, 2006). By specific type of weapon, slightly less than a quarter (24%) had used a firearm, while a tenth (10%) had used a knife or sharp object. This is contrary to the previously cited research in which firearm use was reported less than other weapons.

Among psychotic inpatients on a forensic unit, Alia-Klein and colleagues (2007) found that 25% of threatening behaviors and 75% of physical assaults involved the use of a weapon. Notably, physical assaults included homicides, which may have substantially elevated the base rate of weapon use for physical aggression. In a unique study design, Labrum and Solomon (2016) surveyed a national sample of family members who had committed their relatives with psychiatric disorders. Of the respondents, 10% reported being threatened with a weapon and 4.5% reported being harmed with a weapon since the relative was first diagnosed. When isolated to the past six months, these rates dropped to 4% and 2%, respectively.

***Firearm violence base rates for the mentally ill.*** Very little research has been conducted on the prevalence of firearm violence among psychiatric populations specifically. In a study with the MacArthur dataset, Steadman and colleagues (2015) concluded that merely two percent of civil psychiatric patients had committed violence using a gun over the period of one year in the community. Interestingly, the victim in half of these incidents involved a stranger. A nation-wide survey of inmates found comparable rates of firearm use among state prison and local jail prisoners. Less than a

quarter (24.4%) of state inmates with mental illness reported using a firearm compared to 27.5% of inmates without mental illness. A similar pattern emerged for local jail prisoners; 12.3% of mentally ill inmates had used a firearm compared to 13.1% of inmates without a mental illness (James & Glaze, 2006). In a recent study, Kivisto (2017) evaluated data on 838 firearm offenders incarcerated at a state prison. Of the sample, only 12% had a previous psychiatric hospitalization.

Taken together, these results suggest that violence in general is uncommon among the mentally ill and that weapon-involved violence is even more uncommon. Threats with a weapon in hand tend to be more common than harm with a weapon. When weapons are used, they are most likely to be weapons other than firearms, such as knives or blunt objects. Few studies have addressed the base rate of firearm violence in particular and no studies have examined weapon-involved base rates among psychiatric inpatients.

**Weapon perpetrators are unique.** The categorical exclusion of certain types of individuals from owning dangerous weapons, particularly firearms, suggests that perpetrators who will use weapons are somehow distinguishable from the typical violent offender. Additionally, there appears to be an underlying belief that mental illness is an integral component for membership as a weapon perpetrator. A similar framework has been implemented for the involuntary civil commitment of sex offenders (aka, “Sexually Violent Predators”), who the law defines as distinct from traditional sex offenders (i.e., presence of mental disorder, high risk for recidivism). The relevant question for this policy assumption is whether weapon offenders present discernable features (e.g., cognitions, mental diagnosis, risk factors, etc.) that significantly and reliably distinguish them from other types of offenders.

Although different types of violence may share the same risk—and perhaps protective—factors, some forms of violence are distinct enough to require additional considerations. For instance, Fein and Vossekuil (1999) conducted an analysis to identify risk factors in actual or attempted assassinations towards public figures and found that very few subjects presented with a history of violence—one of the most salient risk factors for general violence. Similarly, sexual recidivism presents with unique risk factors, such as deviant sexual interests (Hanson & Morton-Bourgon, 2004). Some risk factors appear to transcend the typology barrier and predict violence of multiple types (e.g., psychopathy).

While developing the MacArthur Violence Risk Assessment Study, Steadman and colleagues (1994) devised a scheme for classifying violence risk factors into four types: dispositional, historical, contextual, and clinical. Dispositional risk factors refer to demographic factors, such as age, race, gender, and social class. They also consist of individual characteristics, including personality traits (e.g., anger, impulsivity) and cognitive functioning (e.g., IQ, head injury). Historical risk factors encompass significant events experienced by the individual in the past. These include elements of social history (e.g., family abuse, level of education, employment difficulties), psychiatric history (e.g., prior hospitalizations, treatment compliance), criminal history (e.g., juvenile justice involvement, prior arrests), and violence history (e.g., self-harm, self-reported harm to others). Contextual risk factors pertain to environmental and social influences proximate to the violent event itself. Examples of these include perceived stress, social support, living arrangements, and weapon access around the time of the crime. Lastly, clinical risk factors consist of features of psychopathology, including psychiatric symptoms (e.g.,

delusions, hallucinations), substance abuse, mental illness, personality disorder, and level of functioning (Steadman et al., 1994). Risk factors for violence, weapon-involved violence, and firearm violence will be reviewed below according to this scheme. However, evidence for mental illness (a clinical risk factor) will be specifically addressed in the next section.

***Risk factors for violence.*** The literature on violence risk assessment is massive and numerous investigators have systematically examined risk factors associated with violence (Bonta, Law, & Hanson, 1998; Elbogen & Johnson, 2009; Douglas, Guy & Hart, 2009; Mills, 2017; Monahan, 2006; Monahan et al., 2001; Swanson et al., 2015). Risk factors for violence tend to be comparable between mentally disordered offenders and those without mental illness (Bonta et al., 1998; Helen et al., 2005; Skeem, Winter, Kennealy, Loudon, & Tatar, 2014). In terms of dispositional risk factors, the literature indicates young male minorities are at significantly elevated risk for violence. In general, one's risk for violence decreases as one gets older (Sampson & Lauritsen, 1994; Piquero, Jennings, Diamond, & Reingle, 2015; Monahan et al., 2001; Monahan, 2006). While men are more likely to be arrested for violent crimes (Sampson & Lauritsen, 1994; Skeem, Monahan, & Lowenkamp, 2016), some researchers have noted equalizing effects for gender when accounting for the context, timing, or type of violence (Johnson, 2006; Robbins, Monahan, & Silver, 2003). Various review articles have reported non-Whites as being at higher risk than Whites (Bonta et al., 1998; Gendreau, Little, and Goggin, 1996; Piquero et al, 2015) although some have attributed these differences to other social factors, such as parental marital status and neighborhood conditions (e.g., Sampson, Morenoff, & Raudenbush, 2005). Additionally, proneness to anger and impulsivity have

been linked to risk for violence recidivism (Douglas & Skeem, 2005; Monahan, 2006; Witt, van Dorn, & Fazel, 2013).

A substantive amount of historical risk factors for violence have been identified in the literature. Perhaps the most robust predictor of violence is previous violence and criminal behavior (Bonta et al., 1998; Elbogen & Johnson, 2009; Joyal et al., 2007; Witt et al., 2013). Problems with employment have been identified as relevant to violence risk whereas lower educational achievement has been less consistently demonstrated (Joyal et al., 2007; Bonta, Blais, & Wilson, 2014). Contextual predictors include recent stressors (e.g., divorce, unemployment) and victimization (Elbogen & Johnson, 2009; Johnson et al., 2016). Among psychotic patients in treatment, non-adherence with psychological therapies and medication has been tied to recidivism (Joyal et al., 2007; Witt, et al., 2013). The most relevant clinical risk factors for violence are antisocial personality disorder and substance use, which have consistently been associated as robust predictors of violence (Bonta et al., 2014; Douglas et al., 2009; Joyal et al., 2007; Elbogen & Johnson, 2009; Monahan et al., 2001).

***Risk factors for weapon-involved violence.*** Risk assessment studies do not frequently consider weapon use as the outcome of interest. Rather, the use of a weapon is often considered as a risk factor or, if it is the outcome variable, collapsed along with other features of violence. For example, the MacArthur study (Monahan et al., 2001; Steadman et al., 1998) defined “violent incidents” as severe forms of violence that included battery resulting in injury, threats made with a weapon in hand, and assaults involving a weapon. As such, weapon use was regarded as a feature of severe violence rather than a unique outcome itself. This approach has been replicated by other

researchers investigating violence in various contexts (e.g., Elbogen, Van Dorn, Swanson, Swartz, & Monahan, 2006; Kivisto & Watson, 2016; Mericle & Havassy, 2008).

The available literature for weapon use suggests similar risk factors as those identified for violence generally. In an epidemiological study of Israelis, Stueve & Link (1997) found that weapon users were more likely to be male, younger, and less educated. Further, respondents diagnosed with substance abuse problems or antisocial personality disorder were more likely to report weapon use. Among adolescents, male gender has been touted as one of the most significant risk factor for weapon carrying in schools (Kodjo, Auinger, & Ryan, 2003). These findings were replicated by Casiano and colleagues (2008) using data from the National Comorbidity Survey Replication. Additionally, they reported an association between weapon threats and poor income. By contrast, several studies on intimate partner violence have found females were more likely to use a weapon than males (Kernsmith & Craun, 2008; Maume, Lanier, Hossfeld, & Wehmann, 2014). Early exposure to weapon use and weapon violence has been linked to future commission of weapon violence as an adult (Murrell, Merwin, Christof, & Henning, 2005; Henrich, Brookmeyer, & Shahar, 2005).

***Risk factors for firearm violence.*** As with violence, men are more likely to use firearms during the commission of a crime than females (Brennan & Moore, 2009; Felson and Pare, 2010; Friedman & Loue, 2008; Willits, Broidy, & Denman, 2012). However, as with weapon-involved violence, women are more likely to use firearms in the context of intimate partner violence (Brennan & Moore, 2009; Wilkinson and Hamerschlag, 2005). Blacks are more likely to carry, use, and be killed by firearms than Whites (Nielsen et al.,

2005; Felson and Pare, 2010). Young adults (18 to 24) are more likely to use guns in assaults and homicides than juveniles and older adults (Nielsen, Martinez, & Rosenfeld, 2005). Casiano and colleagues (2008) found an association between threats with a firearm and male gender, minority status, and lower education. Thus, like violence in general, age, gender, race, and lower education appear to be related to firearm violence.

Historical risk factors for firearm violence include history of juvenile offending or victimization (Loeber et al., 2005; Smith et al., 2005). Perhaps because most firearm aggression studies have focused on adolescents, aspects of juvenile delinquency, such as gang membership and adolescent drug dealing, are positively correlated with carrying a firearm. Consistent with some of the research on violence in general, socioeconomic status does not appear to correlate with gun carrying (Casiano et al., 2008; Lizotte, Krohn, Howell, Tobin, & Howard, 2000). In terms of contextual risk factors, firearms are more frequently used in group violence than offending committed alone (Wilkinson et al., 2009). Willits et al. (2012) found that residential instability, defined as percentage of house vacancies, single mother households, and frequent moving, decreased the likelihood of firearm use in violent incidents.

Similar to findings on violence and weapon-involved violence, recent reviews and meta-analyses have found acute and chronic alcohol misuse are positively associated with firearm ownership, firearm injuries, risk behaviors involving firearms, and risk for perpetrating firearm violence towards others and self (Branas, Han, & Wiebe, 2016; Wintermute, 2015). Substance misuse (beyond alcohol use) has been positively correlated with firearm use (Lizotte et al., 2000; DuRant et al., 1999). In a community-based survey, Casiano and colleagues (2008) found that firearm threats were positively associated with

alcohol and drug use disorders. More recently, McGinty, Choksy, & Wintemute (2016) attempted to review the literature between substance use and firearm violence but were only able to locate one study that satisfied methodological muster.

In summary, a multitude of dispositional, historical, contextual, and clinical risk factors have been identified for violence generally. However, less is known about risk factors for weapon-involved violence or firearm violence specifically. Weapon use is often investigated as a risk factor or collapsed into a general “severe violence” construct, which makes unique characteristics difficult to ascertain. The available research suggests that correlates of weapon-involved and firearm violence do not vary from those identified for violence generally, including dispositional (gender, race, age), historical (exposure to violence/weapon use as a youth, less education, teenage delinquency), and clinical (alcohol and drug abuse) risk factors. Presently, firearm regulations fail to account for risk factors and categorically prohibit individuals on the bases of mental health status. As such, the extent to which mental illness specifically is associated with violence will be reviewed next.

**Mental illness causes weapon-involved violence.** The position that weapon prohibitions assume a relationship between firearm violence and mental illness is not difficult to establish. This perspective is reflected in surveys on mental illness and firearm policy, media portrayals of weapon-involved violence, and the letter of the laws themselves. The pertinent question for researchers is “What is the relationship between weapon-involved violence and mental illness?” Stated more specifically, is having a mental illness a risk factor for future perpetration of violence involving a weapon? As

with risk factors above, this question shall be addressed for violence generally and then firearm violence explicitly.

*Mental illness as a risk factor for violence.* The amassed scientific literature suggests that mental illness is significantly, but modestly, associated with violence in general (Monahan, 1992; Silver, 2006; Stuart, 2003; van Dorn, Volavka, & Johnson, 2012). As noted above, there are numerous risk dispositional, historical, contextual, and clinical risk factors that contribute to the violent behavior even before accounting for mental illness. Indeed, scholars have noted mental illness accounts for a relatively small proportion of violent behavior (Monahan, 2006; Rozel & Mulvey, 2017; Swanson et al., 2015). Moreover, even the modest association between psychopathology and violence is not without criticism. Researchers have pointed to numerous methodological and conceptual variations across studies (Douglas, Guy, & Hare, 2009), and critics have raised the concern that mental illness is linked to other risk factors that make individual attribution difficult, including age, socioeconomic status, substance abuse, and personality disorder (Walsh, Buchanan, & Fahy, 2002).

Elbogen and Johnson (2009) analyzed data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), which involved over 34,000 participants, and concluded that mental illness did not independently predict future violence. Rather, individuals with mental illness merely endorsed more risk factors for violence (e.g., past violence, substance abuse, unemployment), which artificially suggested that mental illness was itself a risk factor. After controlling for these associations, mental illness ceased to be a significant predictor of violence. These findings suggest that mental illness may actually be a proxy predictor and may not have

the relationship to violence that was previously presumed. A follow-up study subsequently echoed these findings and investigators concluded severe mental illness (SMI) had the weakest link to violent behavior after accounting for other risk factors, such as substance use, anger, and situational stressors (Elbogen, Dennis, & Johnson, 2016).

*Mental illness as a risk factor for weapon-involved violence.* The extent to which mental illness is involved in weapon-involved violence is not well understood (Rozel & Mulvey, 2017). Whatever challenges exist for understanding mental illness and violence are compounded by the dearth of research addressing this topic with weapon use. The majority of studies examining mental illness and weapon use have used exclusively psychiatric samples, rendering comparisons between mentally ill and non-mentally ill weapon offenders impossible.

In 2006, the BJS published a special report on mental illness among state and federal inmates (James & Glaze, 2006). Using inmate interview data, investigators concluded that violent offenders with mental health problem were no more likely to have used a weapon of any kind than inmates with no such history. Unfortunately, more up-to-date findings have not yet been published by the BJS. Using nationally-representative data from the National Comorbidity Survey Replication, Casiano and colleagues (2008) found that respondents with any mental illness were significantly more likely to have threatened another person with a weapon in their lifetime. This included threats with a firearm as well as any other type of weapon. Interestingly, the investigators also compared the age of onset for mental illness compared to the age at which the person reported to have engaged in the threatening behavior. While only correlational, results

indicated that most participants experienced mental illness prior to perpetrating threatening behaviors with a weapon in their lifetime.

***Mental illness as a risk factor for firearm violence.*** Similarly, practically no research has investigated the distinct role of mental illness in firearm violence throughout comparisons of mentally ill and non-ill individuals. The aforementioned BJS report (James & Glaze, 2006) found comparable rates of firearm use among violent offenders who reported mental health problems and those who did not. This was the case for inmates in State prisons (24.4% with mental problems, 27.5% without) and inmates in local jails (12.3% with mental problems, 13.1% without). Casiano and colleagues (2008) found the same relationship with mental illness and threats with firearms as they did with threats involving other types of weapons. Namely, the presence of almost any mental illness was associated with an increased likelihood of threatening someone with a firearm in their lifetime. Among homicide offenders, Matejkowski and colleagues (2014) reported a negative association between severe mental illness and firearm involvement, suggesting that mentally ill murderers were less likely to use firearms. Although much more research in this area is needed, evidence that mentally ill individuals are more violent in general than non-mentally ill persons, or more likely to commit gun violence, is equivocal at best.

**Risk is the same for all mentally ill persons.** No firearm prohibition distinguishes among diagnosis. That is, any mental illness that results in the qualified legal membership (e.g., commitment, adjudication) is sufficient to ban firearm ownership. Similarly, not all firearm prohibitions distinguish among the types of commitment or adjudication with regards to disqualification (although some do). For states who fail to make this distinction, individuals committed for conservatorship or

defendants determined to be incompetent to stand trial due to cognitive impairments (versus, for example, psychosis) are categorically precluded from owning guns just as those committed for dangerousness to others or individuals committed as Sexually Violent Predators (SVPs). As such, the critical research question for this issue is whether different mental illnesses present unique risk for violence.

***Diagnostic differences for violence.*** The inherent difficulty in addressing the relationship between mental illness and firearm violence is that psychopathology is not a homogeneous construct (Fazel et al., 2009; Monahan et al., 2001). This has led many researchers to parse out the relationship between various disorders. The findings reveal that psychiatric diagnoses vary in their relationship to violent behavior.

The relationship between schizophrenia and violence is one of great debate. While earlier findings suggested a link, the results of the MacArthur Violence Risk Assessment Study—the most comprehensive and methodologically sound study on the relationship between mental illness and violence—cast doubts on this conclusion (Monahan et al., 2001). Investigators found that schizophrenia presented a *lower* risk of violence. A meta-analysis on psychosis and violence by Douglas et al. (2009) concluded that few individuals with schizophrenia perpetrate violence (i.e., absolute risk) but that schizophrenia is more likely to be associated with violent behavior (i.e., relative risk). These results were similar in a meta-analysis conducted by Fazel and colleagues (2009). However, they found that alcohol mediated the relationship between schizophrenia and violence; that is, violence risk estimates were comparable between substance abusers and substance abusers with psychosis. Although the MacArthur study failed to find a relationship to schizophrenia, select psychotic symptoms presented elevated risk.

Specifically, delusions and hallucinations were only predictive if they involved Threat Control Override symptoms (e.g., beliefs to harm others) or command hallucinations to harm others, particularly for male patients (Monahan et al., 2001; Teasdale, Silver, & Monahan, 2006). Psychotic patients tend to present with similar risk factors (e.g., hostility, impulsivity) for violence as non-psychiatric participants (Witt, van Dorn, & Fazel, 2013), echoing Bonta et al.'s (1998) assertion that mentally ill persons are not a distinct category of offenders. In a recent review, Silverstein and colleagues (2015) concluded that individuals with schizophrenia present greater risk for violence but that this relationship is exacerbated by other factors (e.g., comorbidity, other risk factors).

Mood disorders, such as major depressive disorder and bipolar disorder, have been associated with an increased risk for violence (Fovet et al., 2015; Johnstone, 2013). Posttraumatic stress disorder (PTSD) has a relationship to select forms of violence, including domestic violence (Sippela & Marshall, 2011) and aggression by veterans (Marham, 2013). Evidence between Pervasive Developmental Disorders, such as autism and Asperger's syndrome, and violence have been mixed (Bjorkly, 2009; Touhami et al., 2011). Substance abuse has a robust association with violence and can exacerbate risk already presented by mental illness (Elbogen & Johnson, 2009; Johnstone, 2013; Monahan et al., 2001).

Three personality disorders are consistently associated with violent behavior: antisocial personality disorder, borderline personality disorder, and psychopathy (Johnstone, 2013; Logan & Johnstone, 2010). Although the *Diagnostic and Statistical Manual for Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association, 2013) does not recognize psychopathy as a distinct disorder, researchers have demonstrated that

these constructs are not redundant and that psychopathic personality is clinically useful (Widiger, 2006). Psychopathy has been consistently demonstrated as a robust predictor of violent behavior (Porter & Woodworth, 2006; Skeem, Polaschek, Patrick, & Lilienfeld, 2011) and was found to be the most significant contributor of violence out of 134 variables in the MacArthur study (Monahan et al., 2001). While distinctions among various mental illnesses are present, risk for violence is compounded by comorbidity, particularly for severe mental illness, substance abuse, and antisocial personality disorder (Elbogen & Johnson, 2009; Ogloff, Talevski, Lemphers, Wood, & Simmons, 2015; Wilton & Stewart, 2017).

*Diagnostic differences for weapon-involved violence.* Stueve and Link (1997) found the prevalence of weapon use was significantly higher among individuals diagnosed with psychotic (11.1%) or bipolar disorders (6.7%) than non-disordered individuals (1.1%). These findings were significant in a regression model even after controlling for lifetime substance abuse, antisocial personality disorder, demographic characteristics, and social desirability. There were no differences in risk for weapon use for major depression without psychosis (1.7%), generalized anxiety disorder (1.3%), or phobias (1.0%). A follow-up study found TCO symptoms to be associated with greater risk for weapon use (Link, Stueve, & Phelan, 1998). By contrast, Casiano and colleagues (2008) found that many disorders were positively associated with threats involving weapons other than firearms, including panic attacks, adult separation anxiety disorder, alcohol and drug use disorders, oppositional defiant disorder, and conduct disorder.

Michie and Cooke (2006) examined Scottish prisoners and found that weapon use was positively correlated with psychopathy and aggressive fantasies, and negatively

associated with anger and impulsivity. Catanesi and colleagues (2011) examined weapon choice among perpetrators with psychopathology and found that different diagnoses were associated with distinct methods of violence. For instance, delusional disorders were more closely related to the use of sharp objects and depression was affiliated with asphyxia.

*Diagnostic differences for firearm violence.* The literature on the relationship between specific mental illnesses and firearm violence suggests similar dynamics as those observed with violence generally and weapon-involved violence. The only study identified which examined firearm violence and specific mental illness was conducted by Casiano and colleagues (2008) using data from the National Comorbidity Survey Replication. In a multivariate analysis, they found PTSD, substance use disorder, and conduct disorder have a stronger association with threatening others with a gun in one's lifetime. The findings are generally consistent with findings for violence in general.

The above findings suggest that severe mental illnesses, particularly bipolar disorder and schizophrenia, are most consistently associated with violence relative to other psychiatric diagnoses. The risk for violence is exacerbated with comorbid substance abuse and certain personality disorders, including borderline, antisocial, and psychopathic personality disorder. The findings for weapon-involved violence and various mental illnesses are less consistent, but suggest a similar positive correlation for severe mental illness, substance use, and psychopathy. Only one known study has investigated the role of firearm violence (specifically threats with a firearm) and different mental illnesses. The findings suggested similar mental disorders may be involved in firearm violence as have been demonstrated in violence more generally.

*Weapon use and admission status.* The two most prominent psychiatric admission categories for firearm disqualification are commitment and adjudication for mental health reasons. Each of these categories encompasses multiple populations that may vary with respect to risk for violence.

*Adjudication.* There are two forms of adjudication which qualify for firearm disqualification: Not Responsible by Reason of Insanity (NRRI) and Incompetent to Stand Trial. Competence to stand trial has been defined by the courts as the capacity to understand one's criminal charges and present ability to aid defense counsel in one's own defense (*Dusky v. U.S.*, 1960). Incompetence to stand trial, therefore, is an impairment of these capacities as a result of some type of mental illness, impaired intelligence, or other health condition. It is apparent prima facie that the psychological impairments that interfere with one's legal competency may be unrelated to a tendency to perpetrate firearm violence. States may differ in their version of the Dusky standard; however, the competency bears little resemblance to NRRI, the other form of adjudication that is eligible for firearm disqualification.

The insanity defense varies by state (Melton, Petrila, Poythress, & Slobogin, 2007). Unlike competency to stand trial, the legal standards for NRRI can be substantially different. Thus, the psychological impairments for a verdict of NRRI may involve a cognitive test, volitional test, or some combination of the two. Studies looking at recidivism for released NRRI patients have found them to have comparable or lower reoffense rates to felons and mentally disordered offenders (Fazel, Fimińska, Cocks, & Coid, 2016; Silver, Cohen, & Spodak, 1989; Pantle, Pasewark, & Steadman, 1980; Rice,

Harris, Lang, & Bell, 1990). The extent to which these findings carry over to weapon-involved violence, however, is unclear.

*Involuntary civil commitment.* Involuntary civil commitment is a mechanism for inpatient mental health treatment that can be instated for numerous reasons. These include: harm to self, harm to others, inability to manage one's own affairs, chronic substance abuse issues, and treatment as a "Sexually Violent Predator." Although the criteria for each of these commitment procedures may vary, it is not the variation of the standards but rather the population variety itself that demonstrates the scope of individuals who may be committed. It should be apparent that some of these groups will pose unique risk for firearm violence. Indeed, it is difficult to associate, for example, the intellectual deficit that prevents management of basic life skills to firearm violence with the same conviction as the sexual deviancy that renders a sex offender unable to resist the impulse to sexually reoffend.

Dangerousness is not a component of all committed patients. Even amongst commitments that do involve risk for violence, determinations of dangerousness for purposes of involuntary hospitalization are often decided on a case-by-case basis (Fisher & Grisso, 2010). Given the broad range of disorders that may qualify a person as "mentally ill and dangerous," evidence for this psychiatric category may be best informed through research on mental illness and violence (reviewed above). More specific, at least in terms of offense behaviors, is the psychiatric population of "Sexually Violent Predators (SVPs)." Unlike patients committed for dangerousness generally, SVPs are committed for sexually violent behavior specifically. As such, the implications for this unique group and weapon-involved violence bear further discussion.

SVP laws are designed to apply to sex offenders who continue to be at high risk to commit a new sexual offense unless they are preventatively detained and treated. Since rehabilitation is mandated, all SVP statutes require the presence of a mental illness, or the statute equivalent, that requires treatment before the individual is able to manage his/her own sexual behavior in the community. To date, 20 states and the federal government have enacted SVP. Although the specific requirements and statutory language may vary across jurisdictions, Jackson (2008) identified at least four elements common to all SVP laws: (1) a past act of sexually harmful conduct; (2) a current mental disorder or abnormality; (3) a finding of risk of future sexually harmful conduct; and (4) some relationship between the mental abnormality and the likelihood of sexual violence.

Criticisms against SVP laws are plentiful. A summary of these is useful for understanding how SVPs may be incorporated into the mental illness and firearm violence argument. First, the criterion for mental illness is statutorily defined and may not require a psychiatric diagnosis. Indeed, some states (e.g., Washington) employ the term “mental abnormality,” perhaps to distinctly set it apart from the psychiatric nomenclature. As such, an individual need not have a psychiatric diagnosis to qualify for SVP commitment, unlike traditional civil commitment procedures, which do require a mental illness. Second, states vary in the triggering act for past sexually violent behavior. These vary from being charged with a sexually violent crime (e.g., Washington), convicted of a sexually violent crime (e.g., New Jersey), or currently incarcerated for a sexually violent crime (e.g., California; Buck, 2012). Through this rubric, a mentally ill person who may have not been committed or even convicted of a felony could be committed as an SVP and hence restricted from owning a firearm. The third consideration is the state’s

determination of “dangerousness” for future sexual violence. Janus and Prentky (2008) noted that SVP statutes tend to regard the respondents themselves (i.e., status) as risk factors rather than stipulating the presence of risk factors (i.e., condition). As can be gleaned from these criticisms, SVPs constitute an atypical population for firearm prohibitions based upon mental health status. The relevant research question for this issue is whether sex offenders are likely to use firearms in their offenses.

The term “sexual violence” does not refer to a single behavior but is a collective moniker referring to a “sexual act that is committed or attempted by another person without freely given consent of the victim or against someone who is unable to consent or refuse” (Basile, Smith, Breiding, Black, & Mahendra, 2014, p. 11). As such, sexual violence involves many facets, including whether the act was attempted or completed, degree of harm (e.g., penetration, fondling), extent of force (e.g., physical, intimidation, verbal pressure), presence of contact, and even the participants involved (e.g., victim forced to commit a sexual act with a third party). Drug-facilitated sexual violence, such as alcohol, features prominently in these circumstance (Basile et al., 2014). The uniform dimension across all of these forms of sexual violence is absence of consent and sexual misconduct.

The scientific literature often parses sexual violence into two types: sexual coercion and sexual aggression. *Sexual coercion* involves the perpetrator acquiring sexual compliance through the use of non-physical tactics, such as deception, persistence, manipulation, and the use of alcohol or drugs to deliberately lower victim inhibitions. *Sexual aggression* entails more severe strategies and includes sexual compliance by way of threats of violence, physical force, or the deliberate use of alcohol and drugs in order

to impair the victim's ability to resist the assault (DeGue & DiLillo, 2004; Tharp et al., 2013). As such, weapon use will necessarily involve sexual aggression since sexual coercion is, by definition, exempt from weapon use.

National surveys of victims suggest that sexual assaults do not usually involve a weapon. In a review of crime BJS statistics from 1993 to 2001, approximately a twelve of all sexual assaults involved an armed assailant. When a weapon was used, knives and firearms were comparably reported as the weapon (2.8% versus 3.4%). Weapon use in sexual assaults has remained relatively stable in the past two decades although the type of weapon used has changed (Harlow, 2002). In 2009, 10% of sexual assaults involved a weapon, with 8% involving a knife and less than one percent involving a firearm (Planty & Truman, 2013).

Rates of weapon use in sex offenses are substantially higher when using methods other than victim report. For examples, Dawson and colleagues (2014) conducted an analysis of weapon-enabled sex offenders in the UK using agency files that had been coded by an analytical police unit. Their findings revealed that 20% of assailants used a weapon, of which 8% were firearms. Similarly, Leclerc and Cale (2015) performed semi-structured interviews with convicted sex offenders in Canada and found a prevalence rate of 25%. Another explanation for these divergent rates of weapon use is that the above studies were conducted with non-US samples (i.e., Canadian, English). Yet, this is perplexing given the abundance of firearm violence in the United States for all other crimes. English and colleagues (2002) investigated a sample of adult, male sex offenders participating in Colorado's sex offender treatment program. They coded weapon use from a combination of victim statements, presentence investigation reports, police reports, and

mental health evaluations. Results revealed that 7% of the sample had used a weapon at the time of the crime. In sum, the prevalence of weapon use among sex offenders is somewhat unclear. Further the extent to which this generalized to SVPs, a high-risk population, remains unclear.

Many aspects of sexual assault have been linked to weapon use. Specifically, weapon use during an assault is positively associated with adult victim preference (as opposed to child victim preference), interracial rape, severity of harm, male victims, and rape completion (Dawson & Goodwill, 2012). Dawson, Goodwill, and Dixon (2014) found the presence of a weapon in a sexual crime distinguished multiple aspects of the assault, including degree of precaution used by the perpetrator, victim involvement, extent of injury and degradation to the victim, attack behaviors, victim approach, and attack location. Cohen and colleagues (2007) found that the likelihood of weapon use increased with victim age.

In sum, firearm prohibitions tend to focus on individuals adjudicated as NRRI or involuntarily civilly committed, either as mentally ill and dangerous or sexually dangerous. While the literature on mental illness and violence can inform assumptions about insanity acquittees and those committed for dangerousness, research on weapon use among sex offenders may be the best approximation of risk for weapon-involved violence by SVPs. National victimization surveys suggest weapon use by sex offenders is uncommon, but offender report and file review suggest these rates may be higher. Nonetheless, the extent to which these findings carry over to SVPs or, more importantly, mentally ill as it relates to sexual violence involving a weapon, is unclear.

**Other assumptions specific to firearm prohibitions.** While many similarities exist between firearm prohibitions and bans for owning “other dangerous weapons,” there are several policy assumptions specific to firearms that have been identified by scholars in this area (Gold & Simon, 2016; Schildkraut & Elsass, 2016; Swanson et al., 2015;). These shall be reviewed briefly.

*All types of firearms present universal risk.* Although some firearm prohibitions distinguish among the type of firearm that is prohibited, many do not. This variability introduces the issue of whether or not certain firearms are more likely to be used in violent crimes than others. In a review of firearm violence from 1993 to 2011, Planty and Truman (2013) found that most firearm violence, of all types, is committed with a handgun. Handguns consistently accounted for 70% to 80% of firearm homicides. Nine out of 10 non-fatal firearm offenses were committed with a handgun. The other types of firearms included shotguns and rifles. A 2004 survey of state and federal inmates indicated that 13% of state inmates and 16% of federal prisoners carried a handgun while perpetrating their index offense. Approximately 2% reported having a shotgun and 1% had a rifle. Approximately 7% of state inmates and 8% of federal prisoners who were carrying guns were armed with a single shot firearm or conventional semiautomatic. Only 2% of state inmates and 3% of federal inmates reported being armed with a military-style semiautomatic or fully automatic firearm (Bureau of Justice Statistics, 2004). Unfortunately, less is known about the firearm use habits of individuals with mental illness. While there may be no reasons to suspect that disordered persons would have different weapon preferences, it nonetheless presents an empirical question that has yet to be addressed.

*Dangerous mentally ill persons acquire firearms from licensed firearm dealers.*

The government only regulates the sale of firearms through licensed firearm dealers. This strategy presumes that a significant portion of firearms that are used in crimes are being acquired through retailers. The Bureau of Justice Statistics has conducted a number of inmate surveys to inquire about firearm acquisition. Additionally, the ATF traces the sources of all firearms apprehended from crime scenes. These findings are reviewed below.

In 1997, only 8.2% of state prison inmates who used a firearm had purchased it from a retail store. Approximately 37.3% obtained the firearm illegally (i.e., theft, drug deal, black market) and 40% obtained the weapon from a family member or friend (Harlow, 2002). A subsequent survey of prisoners in 2004 revealed similar findings (7.3% from retailers, 37.4% from friends/family, and 40.0% from illegal sources). Broken down more specifically, the most common method of firearm procurement by state prison inmates in 1997 and 2004 was from a drug dealer or off the street (20.3% and 25.2%, respectfully; Planty & Truman, 2013). The amount of firearms being purchased from firearm dealers is less than the amount of gun being stolen during the commission of other crimes. From the period of 2005 to 2010, approximately 1.4 million firearms, averaging just over half a million. Thus, firearm legislation is targeting less than 10% of the firearms being used by criminals, a trend that has remained consistent for several years.

In addition to survey data, the ATF has been responsible for tracing all firearms involved in a criminal investigation since the passing of the GCA in 1968. The National Tracing Center (NTC) is the facility responsible for carrying out the immense task. For

the 2014 fiscal year, the NTC performed approximately 360,000 trace requests. The number of trace requests has increased annually since 1988. For each firearm, the NTC traces the serial number to its original purchase date and subtracts it from the date the weapon was recovered from a crime. This is known as the “time-to-crime” estimate. For the year 2014, the national average time-to-crime was 10.88 years, with the lowest average reported for the state of Missouri (8.57 years) and the highest occurring for Hawaii (16.46 years; ATF, 2014). Taken together, this information suggests that most firearms are acquired through illegal or private means. While most firearms that end up being used in a crime appear to be initially purchased from a licensed dealer, this is not the original purpose of the transaction. Several years, and transactions, may pass before the gun is used in a violent crime.

Lastly, Miller, Hepburn, and Azrael (2017) recently conducted a national survey and found that many firearm owners who are able to purchase a firearm legally obtain their guns without ever obtaining a background check. For respondents who reported purchasing a firearm in the last two years, 22% did so without a background check. For private purchases not from a store or pawnshop, purchasers were 50% likely to avoid a background check. As expected, the proportion of firearm owners who did not undergo a background check was twice as high in states without regulations on private sales (57% versus 26%). Thus, even citizens who have no reason to avoid being flagged frequently purchase their firearms without being screened by the background check system.

Taken together, these figures suggest that most firearms involved in a crime will initially, and legally, be purchased from a retailer but that criminals ultimately obtain firearms they plan to use in crimes from another source. While these statistics provide

insight to the purchase trajectory of firearms used in crimes, they fail to differentiate this pattern among mentally disordered offenders. The means of firearm procurement by mentally disordered persons remains an area in need of further evaluation.

***Firearm access increases risk for firearm violence.*** A foundational assumption in firearm restriction laws is the supposition that access to firearms increases the likelihood of engaging in firearm violence. This is evident in the nature of the regulations themselves, which seek to promote public safety by thwarting access to guns. This belief has an analogue in the research literature and is known as the “weapon effect” (Berkowitz & LePage, 1967). According to this theory, access to guns represents a “priming” effect whereby an individual become familiar with the weapon. This not only predisposes the consideration for firearm use but also desensitizes the individual to the typically aversive effects being near a deadly weapon. Unfortunately, the weapon effect has never been tested in a real-world setting. An alternative pathway for exploring this hypothesis is to examine the relationship between gun availability and firearm violence.

A previous review by Hepburn & Hemenway (2004) concluded that access to a firearm does increase the likelihood that it will be used in a violent crime. However, Kleck (2015) recently conducted a critique of these studies and, after controlling for methodological deficits, concluded that firearm ownership rates do *not* have a noticeable effect on firearm violence rates. Ilgen and colleagues (2008) evaluated firearm ownership using data from the National Comorbidity Study: Replication study. Results suggested that mental illness had no bearing on firearm access. Individuals with a lifetime prevalence of mental illness reported comparable firearm access, firearm safety practices, and were just as likely to carry a firearm as those without any history of psychopathology

(Ilgen, Zivin, McCammon, & Valenstein, 2008). Decker and colleagues (1997) utilized data from the Drug Use Forecasting (DUF) program to evaluate firearm access among arrestees and found that 37% of respondents claimed they could acquire a firearm if desired. This percentage is comparable to estimates reported by Ilgen et al. (2008) for non-disordered individuals (36.3%) and mentally ill persons (34.1%).

Although these findings suggest mentally disordered individuals have comparable access to guns as other populations, the above surveys contain notable methodological limitations. First, participants from the National Comorbidity Study: Replication study were community members, not psychiatric patients who met eligibility for disqualification. Second, the measurement of firearm access from this survey was relatively modest. Respondents were asked “How many guns that are in working condition do you have in your house, including handguns, rifles, and shotguns?” This did not account for firearms availability more generally (e.g., through other locations) and access was not correlated with violence (Ilgen et al., 2008). The results from the review papers by Hepburn & Hemenway (2004) and Kleck (2015) did not evaluate gun availability for mentally ill persons specifically. In short, it remains unclear whether availability of firearms actually increases the risk for firearm violence among mentally disordered person who would be disqualified from owning a gun.

***The federal background check system is effective.*** As previously noted, the restrictive parameters of firearm bans apply only to licensed firearm dealers. Retailers implement these regulations by conducting a digitalized background check (i.e., NCIS) on the person who intends to purchase the firearm. This strategy entails a belief that firearms used in crimes are acquired through licensed dealers (addressed above) as well

as the assumption that NCIS is an effective method for intercepting such efforts. Furthermore, the impact of high-profile shootings has stimulated doubt in the background check system, causing allegations of so-called “loops” in the process (i.e., individuals who should be getting flagged are somehow not; The White House, 2013).

Evidence suggests the background check system suffers from poorly maintained records and reporting deficits. Although the Brady Act requires a background check be conducted for firearm sales by licensed dealers, it cannot require states to make this information available to federal or state agencies (*Printz v. U.S.*, 1997). Reporting mental health information is therefore voluntary and varies considerably by state. As of February 28, 2015, the NICS has records for 3,835,432 individuals prohibited for mental health reasons (FBI, 2015). As of 2014, 11 states and the District of Columbia do not have reporting laws, and 12 states that do have such laws report a limited number of cases (i.e., fewer than 100 records collectively; Everytown for Gun Safety, 2014). For states that report disqualification only to their own state agency, a prohibited person may still be able to purchase the firearm in another state (Law Center to Prevent Gun Violence, 2014). Although these figures represent an improvement over previous years, they reveal large gaps in efficacy for regulating firearm transactions.

### **Hypotheses and Data Analysis Plan**

A review of public perceptions and policy opinions indicates a negative perception of mentally ill persons regarding violence and firearm violence in particular. A review of firearm prohibitions makes clear these stereotypes are permeating legal restrictions aimed at individuals with mental illness. However, a review of the literature on violence and weapon-involved violence indicates these assumptions may be ill

informed or have not been properly researched. The following hypotheses will attempt to inform some of these policy assumptions. Research questions are posed for firearm violence and mental illness specifically and firearm experiences between community and psychiatric participants generally. Additionally, the use of other types of weapons used in violence will be explored in relation to mental illness.

***Firearm violence.*** While the relationship between mental illness and violence in general has been well researched, this issue has not been explored with regard to firearm violence specifically. This issue will be explored in various ways. First, the prevalence of firearm violence will be explored in both samples. Second, analyses will examine characteristics of the crime as reported by the perpetrator, including mental state before and during the time of the crime. Third, multiple comparisons will be performed between firearm perpetrators and non-perpetrators to identify historical and clinical risk factors for firearm violence. Of note, the base rate of firearm violence is expected to be particularly low. Should there be too few cases for inferential statistics, subsequent analyses for firearm violence will be limited to the psychiatric sample only.

Firearm perpetrators will be defined as anyone who reports using a firearm to illegally threaten or harm another person. Non-firearm perpetrators will include anyone who has not endorsed firearm violence and may include non-violent participants (i.e., no violent arrests and never used a gun or weapon to threaten or harm another person) as well as other violent individuals who have not used weapons (i.e., reported an arrest for violence but did not endorse firearm or weapon use), and individuals who report using other weapons during violence.

*Prevalence.* The base rate for firearm violence is expected to be less than 15% for both samples. Additionally, it is expected that firearm violence will disproportionately present among the psychiatric sample than the community sample, similar to comparisons in the rate of violence between these groups. Frequency statistics for self-reported firearm violence will be conducted for each sample in order to inform the prevalence of firearm violence among these groups. A chi-square statistic will be used to examine whether the base rate of firearm violence is significantly different between the samples.

*Mental state at the time of the offense.* It is hypothesized that a disproportionate number of firearm perpetrators will endorse items reflective of destabilization, including feelings of stress and being hospitalized within two weeks of the offense, as well as violent ideation before the offense. All of these hypotheses will be examined using a chi-square statistic.

It is hypothesized that Threat Control Override (TCO) symptoms will be disproportionately present in firearm offenses. All firearm perpetrators will be asked whether they were experiencing various psychotic symptoms at the time of the offense. TCO symptoms include endorsing any of the following statements: 1) "I was under the control of some person power or forces so that my actions and thoughts were not my own." 2) "Strange thoughts that were not my own were being put directly into my mind." 3) "Someone or something could take or steal my thoughts out of my mind." And 4) "Strange forces were working on me, as if I was being hypnotized or magic was being performed on me, or I was being hit by x-rays or laser beams." A goodness-of-fit chi-square statistic will be used to explore the proportion of TCO symptoms in firearm violence.

Lastly, it is hypothesized that a disproportionate amount of perpetrators will report using substances and being intoxicated at the time of the crime. The self-reported use of any substance prior to the incident will be collapsed and dichotomized (i.e., substance abuse: yes/no) in order to determine whether firearm perpetrators were using drugs or alcohol at the time of the event. Additionally, the question asking whether the perpetrator believed he was “drunk or high” at the time of the crime will be examined. Goodness-of-fit chi-square statistics will be used to address both of these hypotheses.

*Characteristics of firearm violence.* Various features of the crime will be explored, including the relation of the perpetrator to the victim, location of the incident, and age of the perpetrator at the time of the offense. Firearm perpetrators are expected to have victims that are disproportionately comprised of strangers rather than other relationships (e.g., romantic partner, family member). The setting of firearm violence will disproportionately occur in street/outdoor settings compared to other settings (e.g., residence, workplace). Lastly, firearm perpetrators will most often be young adults (i.e., 19-24). In order to investigate age as developmental periods, age at the time of the offense will be coded as one of three categories: adolescence (i.e., 9-18), early adulthood (i.e., 19-24), and middle adulthood (i.e., 25-69). All hypotheses will be explored using a goodness-of-fit chi-square statistic.

*Risk factors for firearm violence.* Although some risk factors for firearm violence are known, these studies are limited and many have been conducted with adolescent samples. The present study will aim to identify historical and clinical risk factors for firearm violence. For all risk factors, bivariate analyses (i.e., t-test, chi-square) will be

performed to determine whether a relationship exists between the independent variable and firearm violence. Hypotheses are generated for each type of risk factor.

In terms of historical risk factors, a number of violence history features will be examined. Using a t-test, it is expected that firearm perpetrators will report significantly more violent arrests than non-perpetrators. Using a chi-square statistic, firearm perpetrators are predicted to endorse a significantly higher percentage of past convictions for violent misdemeanors and felonies. Using a chi-square statistic, firearm perpetrators are predicted to endorse a significantly higher percentage of juvenile delinquency (i.e., defined as committing delinquent behaviors ages from the ages of 13 to 17) than non-perpetrators. In addition to violence history, markers of childhood abuse will be explored using chi-square analyses. It is predicted that firearm perpetrators will report significantly higher percentages of sexual victimization (i.e., endorsement of sexual abuse as a child) and physical parental abuse (i.e., hospitalization due to abuse as a child by parents) compared to non-firearm perpetrators. Compared to non-firearm perpetrators, firearm perpetrators will report significantly lower education levels of education. This will be analyzed with a t-test.

In terms of clinical risk factors, participants who report having a *severe* mental illness (i.e., psychotic, depressive, and bipolar disorders) will endorse firearm violence disproportionately more than individuals who identify as having other mental illnesses (e.g., ADHD). A chi-square statistic will be used for these comparisons. It is expected that SMI participants will manifest significantly more firearm violence than other categories. Firearm perpetrators are expected to report significantly higher psychopathy

scores on the PPI-R compared to non-violent participants, which will be evaluated by comparing mean total, factor, and content scale scores using a t-test.

*Firearm awareness, knowledge, and experience.* In addition to investigating the relationship between mental illness and firearm violence, this dissertation will explore general differences in firearm experiences between psychiatric patients and community participants. Previous research on “gun culture” has neglected to address these features of firearm experiences and no studies have investigated differences in firearm experiences between those with and without mental illness. These samples will be compared on their experiences with, and knowledge of, firearms using their replies on the Firearm Use and Belief Records (FUBR), a survey designed for this dissertation (see Method section below). Five different domains will be explored: Upbringing with firearms, knowledge of firearms, knowledge of federal firearm regulations, methods of previous firearm acquisition, and victimization with firearms. Each of these hypotheses is explained below.

*Upbringing with firearms.* Participants will be asked to answer 10 questions on the FUBR addressing exposure to firearms as a youth. These questions include whether the participant’s parents owned firearms, if firearms were common in their community, if firearms were present in the home, formal firearm education as a youth, and whether the person played video games involving firearm violence. In light of an absence of empirical evidence and conceptual rationale, no differences are expected between samples with regard to exposure to firearms as a youth. This hypothesis shall be explored using a series of chi-square statistics.

*Knowledge of firearms.* Similar to the rationale stated above, no differences are expected with regard to knowledge of firearms between the samples. This will be measured on the FUBR via 15 items assessing basic firearm knowledge, ammunition knowledge, and firearm safety knowledge. The number of correct responses will be calculated for each of these three domains. Additionally, a total score will be computed by adding the number of correct responses across all items. This hypothesis will be explored by calculating the number of items correctly answered and comparing mean scores via a t-test.

*Knowledge of federal firearm prohibitions.* Given their legal and psychiatric status, it is expected that psychiatric patients will have more knowledge of federal firearm prohibitions than community participants. This will be measured with an item on the FUBR asking participants to identify which of 11 types of individuals are prohibited from owning firearms according to federal regulations (of which 10 are prohibited). A total score will be calculated by summing the number of disqualified individuals correctly identified. Mean total scores will be compared between samples using a t-test.

*Past firearm acquisition.* By virtue of the psychiatric sample's past legal involvement, and current prohibited status, it is expected psychiatric patients will report using disproportionately more illegal means (i.e., off the street, theft or burglary, straw purchase) to obtain firearms in the past compared to community participants, who are expected to have used more legitimate means of acquiring firearms previously (i.e., legal purchase or trade). Since these questions entailed dichotomous response options (yes/no), this hypothesis will be explored through a series of chi-square statistics.

*Firearm violence victimization.* In light of literature suggesting the mentally ill are more likely to be victims of violence generally, it is expected this trend will carry over to violence involving a firearm or other weapon. This will be measured through a series of yes/no questions on the FUBR asking participants to indicate whether they have been the victim of a violent crime, been victimized by someone using a firearm, or been victimized by someone using a weapon other than a firearm. It is thus hypothesized that psychiatric patients will disproportionately endorse being the victim of firearm violence (as well as violence by weapons other than a firearm) compared to community participants. This will be explored via a series of chi-square statistics.

*Other weapon violence.* In addition to exploring the relationship between mental illness and firearm violence, this dissertation will examine the role of mental illness and “other weapon violence,” defined as the use of any weapon, other than a firearm, to illegally threaten or harm another person. Other weapon violence will be explored separate from firearm violence for a number of reasons. First, given the expected base rate of firearm violence to be particularly low, other weapon violence may be more common since it is less restrictive and therefore allow for more in depth analyses (i.e., greater statistical power). Second, analysis of other weapon violence separate from firearm violence presents an opportunity to observe unique relationships to one or the other. As with firearm violence, the base rate for other weapon violence is not expect to be especially high. Therefore, inferential statistics for other violence will be limited to the psychiatric sample.

Notably, firearm violence and other weapon violence will be measured independently, with questions for each domain assessed separately from one another.

Other weapon violence will be explored in the exact same fashion as firearm violence. Namely, the prevalence of other weapon violence will be detected and compared for both samples. Analyses will examine characteristics of the crime as reported by the perpetrator, including mental state before and during the time of the crime. Multiple comparisons will be performed between firearm perpetrators and non-perpetrators to identify historical and clinical risk factors for firearm violence.

Previous research has not indicated unique features of violence involving firearms compared to the use of other types of weapons. As such, hypotheses for other weapon violence are not expected to differ from those for firearm violence (see above). These hypotheses will therefore not be reiterated here. Unlike firearm violence, however, other weapon violence is expected to occur with somewhat greater frequency, enabling the possibility to explore historical and clinical risk factors in a predictive model with the psychiatric sample. This hypothesis is explained below.

*Predictive model for other weapon violence.* A binary logistic regression will be utilized to determine whether other weapon perpetrators can be distinguished from non-perpetrators among the psychiatric sample. It is hypothesized that the final model will significantly predict other weapon violence. A series of iterations will be used for designing the model. First, historical and clinical risk factors (described above) will be identified through bivariate analyses (i.e., t-test, chi-square statistic) as potential covariates for the model. Second, all risk factors shown to be significantly related to other weapon violence will be tested for collinearity. Collinearity will be explored via a series of t-tests (for continuous variables) and chi-square statistics (for categorical variables). Any variables that are highly collinear will be omitted from the model. Lastly, predictors

with a large amount of missing cases will be removed in order to maximize the number of cases considered in the model.

## CHAPTER 2 – METHOD

### Participants

This dissertation consisted of two samples ( $n = 254$ ) involving community participants and forensic psychiatric inpatients. Demographics for each sample are presented individually below, followed by a discussion of the samples when combined into one larger sample.

**Community sample.** The community sample consisted of 154 adult males recruited through Amazon's Mechanical-Turk (M-Turk), a national database of people who select to participate in research studies. Participants ranged in age from 21 to 79 ( $M = 38.0$ ,  $SD = 11.13$ ). The sample was primarily White ( $n = 136$ , 88.3%) and of non-Hispanic origin ( $n = 146$ , 94.8%). In terms of religious preference, approximately a third identified as Atheist/Non-religious ( $n = 53$ , 34.4%), followed by Protestant Christian ( $n = 35$ , 22.7%), and Agnostic/Spiritual ( $n = 29$ , 18.8%). Nearly the entire sample identified as straight ( $n = 150$ , 97.4%) and exclusively attracted to females ( $n = 143$ , 92.9%). Approximately half of participants were single ( $n = 79$ , 51.3%) and most had never been married ( $n = 111$ , 78.7%). Another third were currently married and living with their partner ( $n = 53$ , 34.4%). Years of school attendance ranged from four to 16 ( $M = 11.9$ ,  $SD = .99$ ). Every participant reported obtaining a high school diploma or GED and more than half of the sample had acquired a bachelor's degree or higher ( $n = 88$ , 57.5%). Most of the sample had never been suspended from school ( $n = 110$ , 71.4%) and few had ever been expelled ( $n = 16$ , 10.4%). A summary of the categorical demographic characteristics for the community sample is presented in Table 2.1.

Table 2.1

*Summary of Categorical Demographic Characteristics (M and SD) and Differences among Combined (n = 234), Community (n = 134), and Psychiatric (n = 80) Samples*

Variables	Combined	Community	Psychiatric	$\chi^2$ (p-value)
Ethnicity				5.31 (.021)
Non-Hispanic	214 (91.5)	146 (94.8)	68 (86.1)	
Race				24.88 (<.001)
White	194 (82.9)	136 (88.3)	58 (72.5)	
Black	15 (6.4)	10 (6.5)	5 (6.3)	
Multiracial	13 (5.6)	3 (1.9)	10 (12.5)	
Asian	4 (1.7)	4 (2.6)	0 (0.0)	
Native American	4 (1.7)	0 (0.0)	4 (5.0)	
Other	4 (1.7)	1 (0.6)	3 (3.8)	
Religious Preference				37.91 (<.001)
Protestant	72 (30.8)	35 (22.7)	37 (46.3)	
Atheist	64 (27.4)	53 (34.4)	11 (13.8)	
Catholic	39 (16.7)	24 (15.6)	15 (18.8)	
Agnostic/Spiritual	34 (14.5)	29 (18.8)	5 (6.3)	
Other	17 (7.3)	5 (3.2)	12 (15.0)	
Jewish	7 (3.0)	7 (4.5)	0 (0.0)	
Hindu	1 (0.4)	1 (0.6)	0 (0.0)	
Sexual Orientation				42.57 (<.001)
Straight	204 (87.2)	150 (97.4)	54 (67.5)	
Gay/Lesbian	9 (3.8)	2 (1.3)	7 (8.8)	
Bisexual	21 (9.0)	2 (1.3)	19 (23.8)	
Sexual Attraction				46.48 (<.001)
Only females	190 (81.2)	143 (92.9)	47 (58.8)	
Mostly females	22 (9.4)	9 (5.8)	13 (16.3)	
Equal	10 (4.3)	0 (0.0)	10 (12.5)	
Mostly males	2 (0.9)	0 (0.0)	2 (2.5)	
Only males	8 (3.4)	2 (1.3)	6 (7.5)	
Not sure	2 (0.9)	0 (0.0)	2 (2.5)	
Marital Status				53.69 (<.001)
Single	155 (66.2)	79 (51.3)	76 (95.0)	
Marital History				13.24 (.010)
Never married	162 (69.2)	111 (78.7)	51 (63.7)	
Divorced (once)	38 (16.2)	24 (17.0)	14 (17.5)	
Divorced (many)	17 (7.3)	5 (3.5)	12 (15.0)	

*Note.* All comparisons were conducted between the psychiatric and community samples.

Of the 154 community participants, 27 (17.5%) reported being diagnosed with a mental illness at some point in their lifetime. The most common diagnosis identified by

participants was major depressive disorder ( $n = 15, 9.0\%$ ), followed by attention deficit hyperactivity disorder (ADHD;  $n = 12, 7.8\%$ ), bipolar disorder ( $n = 5, 3.2\%$ ), substance-related disorders ( $n = 4, 2.6\%$ ), anxiety-related disorders ( $n = 4, 2.6\%$ ), and post-traumatic stress disorder ( $n = 4, 2.6\%$ ). Only one participant reported a diagnosis for schizophrenia ( $0.6\%$ ). In terms of personality disorder, three individuals identified as having received a diagnosis for antisocial personality disorder ( $1.9\%$ ) and one person indicated having a diagnosis for borderline personality disorder ( $0.6\%$ ).

Among those who reported having a mental illness, nearly half endorsed having more than one ( $n = 12, 44.4\%$ ). Seven community participants ( $4.5\%$ ) reported they had been hospitalized for mental health reasons. Of note, one of those seven did not report ever receiving a diagnosis for a mental illness. The majority of previously hospitalized participants had been hospitalized had been more than once ( $n = 5, 71.4\%$ ), and the most common reason was due to harm to self ( $n = 6, 85.7\%$ ), rather than harm to others ( $n = 1$ ) or legal adjudication. Just over a quarter of the sample reported having a family member, or knowing a close friend, with some sort of mental health or substance abuse issue that involved treatment ( $n = 41, 26.6\%$ ).

**Psychiatric sample.** The psychiatric sample consisted of 80 male patients recruited from the Lincoln Regional Center (LRC). The 80 participants in this sample ranged in age from 19 to 75 ( $M = 47.0, SD = 13.46$ ). A summary of the categorical demographic characteristics for the psychiatric sample is presented in Table 2.1. Participants were primarily White ( $n = 58, 72.5\%$ ) and of non-Hispanic origin ( $n = 68, 86.1\%$ ). In terms of religious preference, nearly half of participants identified as Protestant Christian ( $n = 37, 46.3\%$ ), followed by Catholic ( $n = 15, 18.8\%$ ), and Other ( $n$

= 12, 15.0%). The majority of participants reported being straight ( $n = 54, 67.5\%$ ) and exclusively attracted to females ( $n = 47, 58.8\%$ ) with nearly a quarter identifying as bisexual ( $n = 19, 23.8\%$ ). Nearly all participants were presently single ( $n = 76, 95.0\%$ ) and most had never been married ( $n = 51, 63.7\%$ ). Years of education ranged from five to 12 years ( $M = 11.0, SD = 1.58$ ) and most participants reported obtaining their GED or high school diploma ( $n = 62, 78.8\%$ ). The majority of psychiatric participants reported being suspended at least once ( $n = 41, 51.9\%$ ) and expelled ( $n = 63, 78.8\%$ ).

Of the 80 psychiatric participants, 37 (46.3%) were hospitalized as “sexually dangerous offenders (SDO),” 29 (36.3%) had been civilly committed as mentally ill and dangerous (MID), and 14 (17.5%) were adjudicated as Not Responsible by Reason of Insanity (NRRI). Records were reviewed to ascertain patient diagnoses ( $n = 77$ ). The most common diagnostic categories were paraphilic disorders ( $n = 61, 79.2\%$ ), personality disorders ( $n = 41, 53.2\%$ ), substance-related and addictive disorders ( $n = 38, 49.4\%$ ), and schizophrenia-spectrum and other psychotic disorders ( $n = 19, 24.7\%$ ). Notably, comorbidity among the sample was extremely high ( $n = 68, 88.3\%$ ).

In terms of the diagnostic makeup of the psychiatric sub-samples, a few trends were observed. A summary of significant differences is provided in Table 2.2. MID patients were significantly more likely to have a diagnosis for intellectual disability (37.9%) compared to SDOs (8.1%) or NRRI patients (9.1%). This group was also more likely to have a bipolar-related diagnosis (31.0%) than NRRI patients (18.2%) or SDOs (5.4%). NRRI patients were much more likely to be diagnosed with a schizophrenia-spectrum disorder (81.8%) than MID patients (27.6%), who received the diagnosis more than SDOs (5.4%). Although the group did not differ with regards to having a substance-

related disorder in general, NRRI patients were diagnosed with cannabis use disorder (63%) than either of the other groups (SDO = 24.3%, MID = 24.1%). As might be expected, nearly all SDO patient had been assigned a diagnosis for some type of paraphilic disorder (97.3%), usually pedophilic disorder (86.1%), which was proportionately more frequent than MID (82.8%) or NRRI patients (9.1%). The groups did not significantly differ with regards to personality disorder (SDO = 22, 59.5%; MID = 14, 48.3%; NRRI = 5, 53.2%). The most frequently diagnosed personality disorder for all individuals who were assigned a personality disorder was antisocial personality disorder, which did not differ across psychiatric groups (SDO = 13, 59.1%; MID = 5, 50.0%; NRRI = 3, 60.0%).

**Combined sample.** A summary of the demographic characteristics for the combined sample (fusing psychiatric and community participants) is presented in Table 2.1. The 234 participants in this sample ranged in age from 19 to 79 ( $M = 41.1$ ,  $SD =$  Table 2.2

*Significant Differences between Diagnostic Categories and Admission Status among the Psychiatric Sample*

Diagnosis	Admission Status ( $n = 80$ )			$\chi^2$ (p-value)
	SDO ( $n = 37$ ) n (%)	MID ( $n = 29$ ) n (%)	NRRI ( $n = 14$ ) n (%)	
Intellectual disability	3 (8.1)	<b>11 (37.9)</b>	1 (9.1)	10.10 (.006)
Schizophrenia spectrum	<b>2 (5.4)</b>	<b>8 (27.6)</b>	<b>9 (81.8)</b>	26.85 (<.001)
Bipolar-related	<b>1 (2.7)</b>	<b>9 (31.0)</b>	<b>2 (18.2)</b>	9.99 (.007)
Cannabis-related	9 (24.3)	7 (24.1)	<b>7 (63.6)</b>	6.99 (.030)
Paraphilic disorder	<b>36 (97.3)</b>	<b>24 (82.8)</b>	<b>1 (9.1)</b>	40.43 (<.001)
Pedophilic d/o +	<b>31 (86.1)</b>	<b>18 (75.0)</b>	0 (0.0)	4.01 (.045)

*Note.* Significant groups are in boldface. SDO = sexually dangerous offender; MID = mentally ill and dangerous; NRRI = not guilty by reason of insanity; d/o = disorder. + Percentage within the paraphilic category and chi-square value reflects comparison between SDO and MID groups only.

12.7). The sample was primarily White ( $n = 194$ , 82.9%) and of non-Hispanic origin ( $n = 214$ , 91.5%). The religious preference of participants was fairly diverse: Protestant Christian ( $n = 72$ , 30.8%), Atheist/Non-religious ( $n = 64$ , 27.4%), Catholic ( $n = 39$ , 16.7%), Agnostic/Spiritual ( $n = 34$ , 14.5%), Other ( $n = 17$ , 7.3%), Jewish ( $n = 7$ , 3.0%), and Hindu ( $n = 1$ , .4%). The majority of the sample identified as straight ( $n = 204$ , 87.2%) and exclusively attracted to females ( $n = 190$ , 81.2%). Most participants were single ( $n = 155$ , 66.2%) at the time of the survey and had never been married previously ( $n = 162$ , 69.2%). Years of school attendance ranged from 4 to 16 ( $M = 11.6$ ,  $SD = 1.3$ ), with the majority of participants having acquired their GED or high school diploma, or higher ( $n = 217$ , 92.7%). Most of the sample had never been suspended from school ( $n = 148$ , 63.2%) and few had ever been expelled ( $n = 33$ , 14.1%).

A series of one-way ANOVAs and chi-squares showed the subsamples differed from one another with regards to all demographic categories (see Table 2.1). Specifically, the community participants were significantly younger (mean age of 38.0 versus 47.0) and proportionately more White (88.3% versus 72.5%) and less religious (34.4% versus 13.8% identified as Atheist). Additionally, the community sample identified as substantially more straight (97.4% versus 67.5%) and almost exclusively attracted to females (92.9% versus 58.8%). By contrast, the psychiatric sample was significantly more likely to be single (95.0% versus 51.3%) and to have been divorced more than once (15.0% versus 3.5%). Lastly, the psychiatric sample was significantly less educated (78.8% versus 100.0% with GED or high school equivalent education), more likely to have been expelled (21.3% versus 10.4%), and reported more suspensions on average than the community sample.

## Measures

**Demographics Form.** A 35-item demographics form (see Appendix H) was created for this study to measure participant demographics and individual characteristics associated with violence, such as age, marital status, childhood abuse, early maladjustment, parental characteristics (e.g., criminal history), school troubles, employment difficulties, delinquency, and criminal history (Monahan et al., 2001). Other demographic characteristics, such as sexual orientation and religious preferences, were assessed for exploratory rather than theoretical reasons.

**Firearm Use and Beliefs Record (FUBR).** The FUBR (see Appendix I) is a 123-item survey designed for this study to assess background, knowledge, ownership status, attitudes, and personal experiences regarding firearms. Questions consist of multiple-choice, Likert Scale, True/False, and fill-in-the blank formats. The survey entails nine sections: Culture and Upbringing, Firearm Knowledge, Firearm Regulations Knowledge, Firearm Ownership Status, Firearm Acquisition, Firearm Use Attitudes, Firearm Regulations Attitudes, Firearm and Mental Illness Policy Attitudes, Experiences with Mental Illness, and Experiences with Firearm Victimization. The construction of questions was largely influenced by policy issues and other firearm use surveys, including the National Gun Policy Survey (Kuby, Imhof, & Harter, 2001; Smith, 2001) and two surveys developed by Barry and colleagues (2013) to assess public support for gun policies and attitudes about mental illness policies.

**Firearm Use and Risk Inventory (FURI).** The FURI (see Appendix J) is a 149-item survey designed for this study to assess the use of firearms or other weapons to perpetrate violence against others. Questions consist of multiple-choice, Likert Scale,

True/False, and fill-in-the blank formats. Items were constructed to directly inform policy issues (e.g., background check concerns). The FURI asks participants to consider their most severe act of firearm violence and provide incident details, such as means of acquisition, type of firearm used, method of use, mental state at the time of the offense (i.e., stress depression, mania, psychosis, agitation, and aggressive ideation), victim characteristics, and severity of victim injury. Additionally, participants are asked to determine the difficulty of acquiring a firearm in the future. For individuals who have not engaged in firearm violence, they are asked to answer the same items with regard to their most serious act of violence involving any other type of weapon.

To assess motives for firearm and other-weapon violence, the FURI imbedded the Impulsive/Premeditated Aggression Scale (IPAS; Stanford et al., 2003), a 30-item self-report questionnaire with 15 items assessing impulsive aggression and the other 15 items addressing premeditated aggression. Items are scored on a 5-point Likert-type scale (strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1). The extent to which a participant endorses items on each scale is used to characterize that person's typical expression of aggression as impulsive or premeditated. The IPAS has been described as the most promising self-report scale for differentiating modes of aggression (Meloy, 2006).

**Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005).** The PPI-R (see Appendix K) is a 154-item self-report instrument designed to capture psychopathic traits in nonclinical (e.g., undergraduate) samples. Unlike many other measures of psychopathy, the PPI-R does not rely on antisocial or criminal content. It is organized into two, independent factors consisting of seven subordinate content

scales: PPI-I: Fearless Dominance (subscales: Social influence, Fearlessness, Stress immunity) and PPI-II: Self-Centered Impulsivity (subscales: Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalization, Carefree Nonplanfulness). The final content scale, Coldheartedness, does not load on either factor. Additionally, the PPI-R contains three validity scales: Virtuous Responding (VR), Deviant Responding (DR), and Inconsistent Responding. The instrument generates a total score, two factor scores, and eight content scores. The PPI-R has evidenced acceptable construct validity with other measures of psychopathy (Poythress et al, 2010) and independent review of the validity scales demonstrated rates of sensitivity and specificity (Anderson, Sellbom, Wygant, & Edens, 2013). Internal consistencies for the content scales range from .79 (Coldheartedness) to .88 (Carefree Nonplanfulness; Lilienfeld & Widows, 2005).

**Record Review Form.** The review of patient mental health files and subsequent coding of a record review form (see Appendix L) was performed by the primary investigator and a trained UNL research assistant. Coded domains included index offense details, psychiatric diagnoses and treatment history, as well as psychological testing results. Index offense details were reviewed for the mention of firearm use as disclosed in available mental health reports and presentence investigations. When available, psychological testing results were recorded for eight different measures for assessing violence risk (i.e., HCR-20: v2 and v3), sexual violence risk (i.e., STABLE-2007, Static-99R), personality psychopathology (i.e., MCMI-III, MMPI-II, PCL-R, 2<sup>nd</sup> Edition), and intelligence (i.e., WAIS-IV, WASI-II).

## **Procedure**

Participation consisted of completing a 90-minute battery of surveys (described above) regarding personality characteristics, attitudes towards gun policy and mental illness, and firearm/weapon use. The order of survey materials was equally divided and randomly assigned among the sample in order to control for the possibility of testing fatigue and the quality of answers on latter instruments in the survey. Following completion of the Demographics Form, half of participants completed the surveys in one order (PPI-R, FUBR, and the FURI), while the other half of participants completed the surveys in a reversed order (FURI, FUBR, PPI-R). Survey order was randomly assigned using an online calculator.

All persons assisting with participant recruitment and data management completed CITI and HIPAA training as required by UNL IRB policy. Participants were recruited by the primary investigator and graduate-level research assistants who had successfully completed a mandatory Department of Health and Human Services (DHHS) criminal background check. Data entry was completed by undergraduate research assistants. All research assistants were trained and supervised by the primary investigator about the protocol and research-related duties and functions, such as consent procedures, screening out patients who have decision-making impairments, reconciling coding issues, and clarifying data entry errors.

**Community participants.** Community participants were recruited through Amazon's M-Turk. M-Turk is a national marketplace website that enables individuals to complete surveys for monetary payment. Participant accounts are anonymous and money is securely transferred through an Amazon Payment account. M-Turk protects the security of users' information by using Secure Socket Layer (SSL) software, which encrypts the

information behind multiple firewalls. Only male participants, who were 19 years-of-age and older were eligible for participation. An M-Turk recruitment ad (see Appendix A) describing the content of the survey was posted on the website. If eligible M-Turk members elected to participate in the study, they were provided a link directing them to Qualtrics, a research software site that provided the Consent Form (see Appendix D) and survey materials online. Following the completion of the Qualtrics survey, participants were provided with a unique, randomly generated code that could be renewed for reimbursement. Community participants were initially compensated \$1.00, but this amount was later increased to \$3.00 a participant in order to increase recruitment efforts. The proportion of participants that received \$1.00 versus \$3.00 was not registered in the Qualtrics database. Completed online data for community participants was retained in a password-protected Qualtrics account that was accessible only by primary investigator. This data was protected according to Qualtrics' privacy policy and did not include any identifying information about the participants. The final Qualtrics database generated a total of 156 participants, of which two were screened out due to unreliable responding.

**Psychiatric patients.** The psychiatric sample was recruited from the Lincoln Regional Center (LRC), a state forensic psychiatric hospital. Eligible participants included males, at least 19-years-old, who had been acquitted as Not Responsible by Reason of Insanity (NRRI) or involuntarily committed as mentally ill and dangerous, or mentally ill and sexually dangerous (i.e., “Dangerous Sex Offender”). Multiple safeguards were implemented to ensure the patient could provide competent consent and study participation would not interfere with treatment. Prior to approaching potentially eligible patients, their primary physician was consulted to ensure that the patient was

appropriate for the purposes of the study and that participation would not interfere with LRC treatment goals. If approved, the attending physician signed an Attending Physician Approval Form (see Appendix C). Following physician approval, the patient was recruited using a scripted description (see Appendix B) of the study by the primary investigator or a trained, graduate-level research assistant.

After signing a financial disclosure form (see Appendix G) and reviewing the consent form (see Appendix E), all eligible LRC patients were required to successfully complete a short key-point quiz (i.e., Consent Quiz; see Appendix F) about the project. Patients who completed the study were reimbursed \$10.00, which was deposited directly into their institutional account. Following study completed, official record data was coded on the participants by the primary investigator and a trained, graduate-level research assistant. All identifiable documents (e.g., consent forms) were stored separate from study material in a locked filing cabinet housed in a securely locked room on UNL's campus. All questionnaire answers and patient file information was de-identified and coded with a unique identifier. A password-protected, electronic document linked the unique identifier to the patient's name, which was deleted immediately following data collection.

## CHAPTER 3 – RESULTS

### **Data Preparation**

Prior to analysis, data screening methods were used to assess the accuracy of data entry and the presence of missing values. Univariate statistics were used to check for data entry errors, non-normal distributions (i.e., examination of skewness and kurtosis values  $\pm 1.96$  and visual inspection of histograms), or values outside of the range of possible data points. All errors were resolved by reviewing data coding forms for relevant cases, and correcting the erroneously entered data in the electronic database.

Regarding the community sample, an SPSS database for all responses was automatically generated by Qualtrics. The original database contained data for 249 participants, of which only 156 had completed the survey in its entirety and entered the necessary completion code. The majority of participants who discontinued the study did so after completing 25% of the battery. Of those 156, two individuals were screened out due to an unacceptably high proportion of missing responses and failing the impression management items. Thus, the final number of community participants was 154. Once the number of valid cases was isolated, variable labels and values were examined to ensure proper response coding and consistency with the psychiatric sample database (for purposes of merging the databases). With few exceptions, most answers were correctly coded. In particular, on the FURI, collapsible questions (i.e., those requesting participants to “mark all that apply”) occasionally required manual recoding of answers coded as missing cases that should have been coded as negative responses.

Regarding the psychiatric sample, all participant survey responses and record review forms were manually entered into an SPSS database by three undergraduate

assistants. Multiple steps were taken to ensure valid data entry. First, each coder documented any coding questions or issues, which were reviewed and addressed by the primary investigator and Dr. Scalora. Second, following initial data entry, each coder was randomly assigned 20 cases (not originally coded by him/her) to review for entry errors. Cases were not recoded but reviewers visually inspected each response to ensure it was correctly entered in the database. In total, seven coding errors (e.g., response entered as a 0 instead of a 1) were identified and corrected. In terms of record review, the only issue was that record review forms were missing for three participants. As such, official record data were not available for these three participants. After the community and psychiatric sample databases were separately cleaned, they were merged.

### Firearm Violence

Of the 234 participants in this study, only 13 (5.6%) reported committing firearm violence, defined as unlawfully using a gun to threaten or harm another person. Figure 3.1 illustrates the nature of firearm violence as described by the 13 firearm perpetrators.

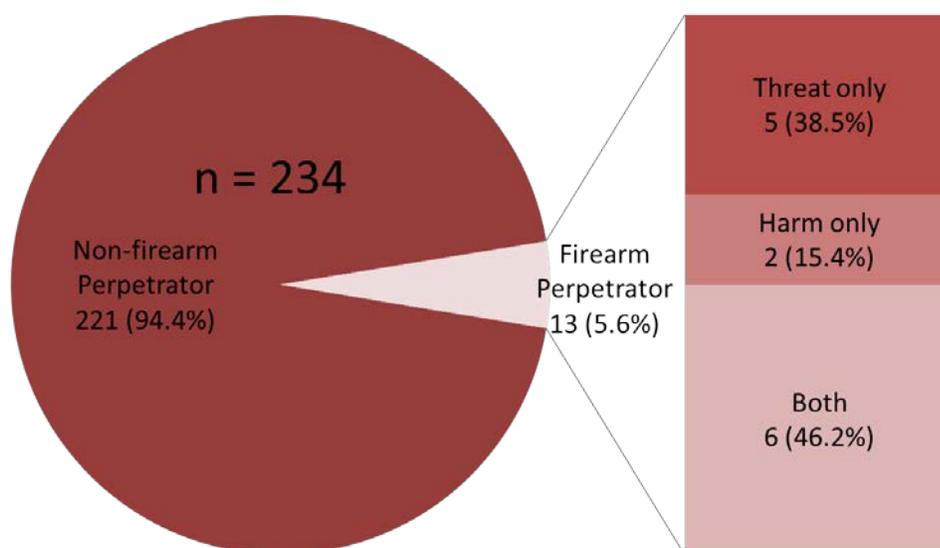


Figure 3.1

*Prevalence of Firearm Violence for the Combined Sample*

Most endorsed both threatening and harming the victim (46.2%), while fewer reported only making a threat (38.5%) or only causing physical harm (15.4%). It was hypothesized that the psychiatric sample would endorse a significantly higher percentage of firearm violence than the community sample. This hypothesis was supported,  $\chi^2(1) = 20.67$ ,  $p < .001$ . Specifically, only one participant (0.6%) in the community sample identified as a firearm perpetrator. By contrast, 12 participants (15.0%) in the psychiatric sample reported perpetrating firearm violence.

In light of such a low base rate, post hoc power analyses<sup>1</sup> were conducted for each sample, yielding a power estimate of three percent for the community sample, and 34.7% for the psychiatric sample. Both of these estimates fall below recommended power thresholds that have been suggested for detecting effects (e.g., at least .80; Cohen, 1992, Field, 2013). To achieve the recommended level of power, a sample size of 300 would have been required.<sup>1</sup> Given such a low base rate among the community sample for firearm violence, all subsequent bivariate analyses were conducted with the psychiatric sample only related to firearm violence. Similarly, multivariate statistics for both samples could not be conducted due to too few cases of firearm violence.

**Mental state at the time of the offense.** Participants were asked to report on their mental state before, and during, the time of the crime (see Table 3.1). It was hypothesized that a disproportionate number of firearm perpetrators would endorse items reflective of destabilization, including feelings of stress and being hospitalized within two weeks of

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<sup>1</sup> An online computer was used for conducting all post hoc power analyses:  
<http://clincalc.com/stats/power.aspx>.

the offense, as well as violent ideation before the offense. Prior to the incident, most firearm perpetrators reported feeling frustrated and annoyed ( $n = 8, 66.7\%$ ) or

Table 3.1

*Self-Reported Mental State Before and During the Time of Firearm Violence for the Psychiatric Sample ( $n = 12$ )*

Mental State	n (%)
<u>Before the Incident</u>	
Easily frustrated and annoyed	8 (66.7)
Feeling “on edge”	6 (50.0)
Extremely stressed	5 (41.7)
Thoughts about hurting others	3 (25.0)
Feeling depressed, hopeless, or suicidal	2 (16.7)*
Feeling hyper, restless, or distractible	1 (8.3)*
<u>At the Time of the Incident</u>	
Use of any substance	7 (58.3)
“High” or “drunk” on alcohol or drugs	7 (58.3)
Taking prescribed medication	2 (16.7)*
Feeling depressed and hopeless	1 (8.3)*
Delusional beliefs	4 (33.3)
Someone was plotting against me	3 (25.0)*
People were spying on me	2 (16.7)*
People were following me	2 (16.7)*
I was being secretly tested or experimented on	2 (16.7)*
+ I was under the control of some person, power, or forces	2 (16.7)*
+ Strange thought were being placed into my mind	1 (8.3)*
+ My thoughts were being stolen	1 (8.3)*
+ Strange forces were working on me	1 (8.3)*

+ Threat Control Override symptoms.

\*  $p < .05$ .

“on edge” ( $n = 6, 50.0\%$ ). However, these distributions were not significant when entered into a goodness-of-fit chi-square statistic. Only one perpetrator reported being hospitalized within two weeks of perpetrating the crime,  $\chi^2(1) = 8.33, p = .004$ , which was significant in the opposite direction of what was hypothesized. Also contrary to hypotheses, a significant proportion of firearm perpetrators did not endorse violent ideation (i.e., daydreams or thoughts about physically hurting or injuring others). Only

three individuals reported having such thoughts. A disproportionate amount of firearm perpetrators failed to endorse feeling depressed, hopeless or suicidal ( $n = 2, 16.7\%$ ),  $\chi^2(1) = 5.33, p = .021$ , or feeling hyper, restless, or distractible ( $n = 1, 8.3\%$ ),  $\chi^2(1) = 8.33, p = .004$ , prior to the crime.

With regards to mental health symptoms at the time of the offense, it was hypothesized that Threat Control Override (TCO) symptoms would be disproportionately present in firearm offenses. The majority of firearm perpetrators did not report mental health symptoms at the time of the offense, such as feelings of depression and hopelessness ( $n = 1, 8.3\%$ ) or delusional beliefs ( $n = 4, 30.8\%$ ). More specifically, the proportion of firearm perpetrators who endorsed delusional beliefs was not significantly different from an equiprobability model,  $\chi^2(1) = 1.33, p = .248$ , although the proportion of those who reported feelings of hopelessness and depression was significant,  $\chi^2(1) = 8.33, p = .004$ . Only two (15.4%) firearm perpetrators endorsed TCO symptoms (i.e., controlled by others, thought insertion, theft of thoughts, or influenced by magical forces). Contrary to what was hypothesized, the distribution of TCO symptoms was significantly *less* than what would be expected by an equiprobability model,  $\chi^2(1) = 5.33, p = .021$ . Unfortunately, the degree of stated influence of these delusional beliefs could not be tested due to all cells having expected frequencies less than five. As such, goodness-of-fit chi-square statistics could not be performed.

In addition to mental health symptoms, substance use during the time of the crime was also examined. It was hypothesized that a disproportionate amount of perpetrators would report being intoxicated at the time of the crime. However, the amount of firearm offenders who reported being “drunk” or “high” at the time of the incident ( $n = 8, 61.5\%$ )

was not significant, thereby failing to support this hypothesis. However, a review of specific substances being used (regardless of perceived intoxication) revealed that fewer individuals reported using marijuana and “other” substances than would be expected in an equiprobability model,  $\chi^2(1) = 5.33, p = .021$ , and  $\chi^2(1) = 8.33, p = .004$ , respectively. The majority of perpetrators who reported using substances (six out of seven) indicated that they were using more than one substance. The distribution of firearm perpetrator substance use is detailed in Table 3.1.

**Characteristics of firearm violence.** In terms of features of the crime itself, it was hypothesized that victims would be disproportionately comprised of strangers, the location of the crime would most likely occur in street/outdoor settings, and that perpetrators would more often be young adults (i.e., 19-24). Contrary to these predictions, no significant trends were observed with regards to the relationship to the victim, location of the incident, or perpetrator’s age. Half of firearm incidents ( $n = 6, 50.0\%$ ) occurred in street/outdoor setting and involved strangers, while the remainder of incidents involved persons known to the perpetrator (e.g., parent, friend/acquaintance) and took place in various settings (e.g., perpetrator’s residence or workplace). While not significant, most firearm perpetrators reported being adolescents at the time of the offense ( $n = 7, 63.6\%$ ), with fewer of them being middle-aged adults ( $n = 13, 27.3\%$ ) and young adults being the smallest age category ( $n = 1, 9.1\%$ ).

**Historical risk factors.** A summary of the significant historical risk factors is summarized in Table 3.2. In terms of family history, it was hypothesized that firearm perpetrators would disproportionately report childhood abuse, including sexual victimization and parental physical abuse. Consistent with this hypothesis, firearm

perpetrators were more likely to report severe physical abuse (i.e., hospitalization due to abuse as a child by parents),  $\chi^2(1) = 6.90, p = .009$ . However, contrary to what was

Table 3.2

*Significant Bivariate Statistics for Historical Risk Factors for Firearm Violence among the Psychiatric Sample*

Variable	Non-Perpetrators ( <i>n</i> = 68) M (SD) or <i>n</i> (%)	Perpetrators ( <i>n</i> = 12) M (SD) or <i>n</i> (%)	t-score or $\chi^2$ (p-value)
<b>Criminogenic Factors</b>			
No. of criminal charges	5.71 (7.16)	11.75 (8.30)	-2.63 (.010)
No. of violent arrests	1.91 (3.24)	6.08 (6.24)	-2.26 (.043)
No. of criminal peers	2.87 (4.21)	10.09 (9.50)	-2.48 (.031)
Violent misdemeanors	18 (26.5)	7 (58.3)	4.82 (.028)
+ No. of violent charges	2.69 (1.86)	4.17 (2.08)	-2.48 (.016)
+ No. of violent convictions	1.95 (1.62)	3.08 (2.02)	-2.13 (.036)
<b>Childhood Disruption</b>			
Severe physical abuse	5 (7.4)	4 (33.3)	6.90 (.009)
Maternal criminal history	5 (7.4)	5 (41.7)	10.98 (.001)
Paternal criminal history	12 (17.6)	7 (58.3)	9.32 (.002)
<b>Juvenile Delinquency</b>			
Delinquent behaviors	35 (51.5)	12 (100.0)	9.91 (.002)
Drug dealing	10 (14.7)	6 (50.0)	7.94 (.005)
Gang affiliation	6 (8.8)	7 (58.3)	18.37 (<.001)

*Note.* No. = Number.

+ Variable coded from record review.

predicted, firearm perpetrators were no more likely to report childhood sexual abuse.

Although not considered in hypotheses, firearm perpetrators were significantly more likely to report parental criminal history (i.e., prior arrests or convictions) for both parents, including fathers,  $\chi^2(1) = 9.32, p = .002$ , and mothers,  $\chi^2(1) = 10.98, p = .001$ .

Multiple indices of educational and occupational background were examined. It was hypothesized that firearm perpetrators would report fewer years of education compared to non-perpetrators. However, no differences were observed between groups in

this regard. Additionally, groups did not differ regarding GED/high school diploma status, number of suspensions, or whether the participant had ever been expelled. Firearm perpetrators were also comparable to non-perpetrators in terms of employment history.

Criminal history was examined through both self-report and mental health record review. It was predicted that firearm perpetrators would report more violent arrests and be more likely to endorse juvenile delinquency and prior convictions for misdemeanors and felonies of a violent nature. When examining self-report variables, firearm perpetrators indicated a significantly greater number of criminal charges,  $t(78) = -2.63, p = .010$ , and arrests for violent crimes,  $t(12.06) = -2.26, p = .043$ , as hypothesized. Groups did not differ with regards to number of prior arrests, criminal convictions, or parole/probation violations. As predicted, firearm perpetrators were significantly more likely to report having violent misdemeanors,  $\chi^2(1) = 4.82, p = .028$ , but the two groups were not significantly different with regards to whether they had any violent felonies (83.3% of firearm perpetrators versus 68.7% of non-perpetrators). Additionally, firearm perpetrators were significantly more likely to report juvenile delinquency,  $\chi^2(1) = 9.91, p = .002$ , defined as committing delinquent behaviors ages from the ages of 13 to 17, and to endorse individual features of delinquency, including drug dealing,  $\chi^2(1) = 7.94, p = .005$ , and gang affiliation as a youth,  $\chi^2(1) = 18.37, p < .001$ . Interestingly, firearm perpetrators also reported significantly more friends who have a criminal record than non-perpetrators,  $t(10.65) = -2.48, p = .031$ . Thus, most hypotheses regarding differences in criminal history between groups were supported. Namely, firearm perpetrators were significantly more likely to report juvenile delinquency and prior arrests, and convictions, for violent crimes.

In addition to self-report, patients' mental health records were reviewed and all documented charges and convictions were coded. This method was used to augment hypotheses concerning criminal history in order to identify whether firearm perpetrators were more likely to have been charged or convicted of certain types, or categories, of offenses as informed by official records. Consistent with self-report data on criminal history, firearm perpetrators had, on average, more charges and convictions for violent crimes,  $t(75) = -2.48, p = .016$ , and  $t(74) = -2.13, p = .036$ , respectively. This corroborated findings from self-report data and supported the hypothesis that firearm perpetrators would demonstrate more violent criminal histories than non-perpetrators. Of note, records did not indicate any significant differences between groups for weapon-related charges or convictions.

**Clinical risk factors.** Patients' mental health records were reviewed in order to examine whether firearm perpetrators were differentially assigned specific diagnoses. It was hypothesized that firearm perpetrators would be disproportionately diagnosed with mental illnesses classified as "severe mental illnesses" (i.e., psychotic, bipolar, and depressive disorders). Given the vast array of diagnoses available in the DSM, diagnoses were collapsed into diagnostic categories as they are organized in the DSM-5. For instance, psychotic disorders such as brief psychotic disorder, schizophrenia, and schizoaffective disorder were grouped into the category of "schizophrenia and other psychotic disorders" as reflected in the DSM-5. Exceptions applied to three diagnostic categories, which were also coded for individual diagnoses. These included: substance-related & addictive disorders, paraphilic disorders, and personality disorders. Firearm perpetrators were diagnostically indistinguishable from psychiatric patients who did not

report committing firearm violence. The exception to this was that firearm perpetrators were much more likely to have a diagnosis for antisocial personality disorder (58.3% versus 24.6%),  $\chi^2(1) = 5.50, p = .019$ . Additionally, a grouping was created for “severe mental illnesses,” which included any diagnosis belonging to three diagnostic categories: schizophrenia spectrum and other psychotic disorders, bipolar and related disorders, and depressive disorders. Contrary to what was hypothesized, firearm perpetrators were no more likely to have been diagnosed with a severe mental illness than psychiatric patients who did not report firearm violence. In fact, firearm perpetrators were slightly less likely (33.3% versus 55.4%) to have been diagnosed with a disorder that could be classified as a severe mental illness, although this difference was not significant.

**Psychopathy.** In order to test the presence of psychopathic personality traits, analyses considered participants’ scores on the PPI-R, which was administered as part of this dissertation. It was hypothesized that firearm perpetrators would display significantly higher PPI-R scores than non-perpetrators. Mean differences between firearm perpetrators and non-perpetrators are presented in Table 3.3.

Prior to running analyses, the three validity scales of the PPI-R were evaluated for all participants to ensure that only valid testing protocols were considered (Anderson, Sellbom, Wygant, & Edens, 2013; Lilienfeld & Widows, 2005). Cases were excluded for inconsistent responding (i.e., > 44 on the Inconsistency scale), over-reporting of symptoms (i.e., > 23 on the Deviant Responding scale), and under-reporting of symptoms (i.e., > 38 on the Virtuous Responding). This reduced the number of cases available for analyses to 54, eight for firearm perpetrators and 46 for non-perpetrators. No differences were observed between firearm perpetrators and non-perpetrators on most indices of

Table 3.3

*Differences (Mean and Standard Deviation) in Psychopathic Personality Inventory-Revised (PPI-R) Scores among Weapon-Involved Perpetrators and Non-Perpetrators in the Psychiatric Sample*

PPI-R Score	<u>Firearm Violence</u>		<u>Other Weapon Violence</u>	
	Perpetrators ( <i>n</i> = 8)	Non- Perpetrators ( <i>n</i> = 46)	Perpetrators <sup>a</sup> ( <i>n</i> = 25)	Non- Perpetrators ( <i>n</i> = 29)
<b>Content Scales</b>				
ME	47.25 (14.96)	42.85 (7.79)	45.48 (10.18)	41.79 (7.92)
RN	38.43 (11.56)	33.42 (8.08)	35.83 (10.21)	32.62 (6.97)
BE	30.63 (8.82)	32.61 (7.93)	32.44 (7.10)	32.21 (8.85)
CN	38.63 (8.38)	36.00 (6.67)	37.88 (6.85)	35.10 (6.85)
SI	49.25 (10.91)	44.89 (7.61)	47.88 (8.14)	43.52 (7.85)
F	39.88 (15.02)	32.58 (9.21)	35.64 (12.39)	31.93 (8.18)
SI	36.63 (8.75)	33.35 (6.41)	33.68 (7.96)	33.97 (5.77)
C	38.25 (9.38)*	32.69 (5.83)*	34.36 (7.20)	32.79 (6.22)
<b>Factors</b>				
FD	156.57 (41.42)	144.87 (19.58)	152.08 (25.66)	141.72 (20.54)
SCI	125.75 (30.82)	110.44 (15.60)	117.20 (21.89)	108.79 (15.53)
Total	319.71 (64.82)	288.43 (25.25)	302.88 (39.71)*	283.70 (26.01)*

*Note.* Cases were excluded for exceptionally high inconsistent responding (scoring > 44 on the Inconsistency validity scale), symptom over-reporting (scoring > 23 on the Deviant Responding validity scale), or symptom under-reporting (scoring > 38 on the Virtuous Responding validity scale) responses. ME = Machiavellian Egocentricity; RN = Rebellious Nonconformity; BE = Blame Externalization; CN = Carefree Non-planfulness; SI = Social Influence; F = Fearlessness; SI = Stress Immunity; C = Coldheartedness; FD = Fearless Dominance; SCI = Self-Centered Impulsivity.

<sup>a</sup>Scores for the eight firearm perpetrators were included in the 25 cases of other weapon violence since these individuals had also reported engaging in other weapon violence.

\* $p < .05$ .

psychopathy, including subscales, factors scores, and total scores. The one exception was that firearm perpetrators scored significantly higher on the Coldheartedness subscale,  $t(51) = -2.25, p = .029$ . Thus, contrary to what was hypothesized, firearm perpetrators did not report significantly higher psychopathy scores on the PPI-R except on the subscale for Coldheartedness. Notably, the absence of an effect for psychopathy may have been attributable to have so few testing protocols for firearm perpetrators ( $n = 8$ ).

### **Comparisons in Firearm Awareness, Knowledge, and Experience**

Responses on select sections of the Firearm Use and Beliefs Record (FUBR) were evaluated to inform hypotheses regarding firearm awareness, knowledge, and experiences. As described in the Method section, the FUBR consisted of 11 sections on various firearm topics ranging from upbringing with firearms to victimization with firearms. The FUBR can be viewed in Appendix I. To investigate hypotheses (stated below), responses were compared between community ( $n = 154$ ) and psychiatric samples ( $n = 80$ ) on Sections 1 (Family Background), 2 (General Firearm Knowledge), 3 (Knowledge of Firearm Regulations), 5 (Past Firearm Acquisition), and 11 (Victimization with Firearms) of the FUBR. In general, psychiatric patients reported more exposure to firearms growing up and greater victimization through use of weapons. By contrast, community participants reported greater knowledge of firearms and firearm regulations, and were more likely to acquire firearms from legal means. Details on these findings as they relate to hypotheses are reported in the following subsections.

**Upbringing with firearms.** Participants were asked to answer questions regarding their exposure to firearms as a youth, including firearm ownership in the home, firearm education and safety, and firearm use as a youth (see Table 3.4). No differences were predicted between the samples. However, the samples differed from one another on several items reflecting upbringing with firearms. In general, psychiatric patients reported more exposure to firearms. Compared to community participants, psychiatric patients were more likely to report firearms being present in the household, including their parents owning firearms (62.8% versus 38.3%),  $\chi^2(1) = 12.50, p < .001$ , and describing guns as a common item

Table 3.4

*Differences between Community and Psychiatric Participants in the Proportion (Number and Percentage) of FUBR Items Endorsed for Upbringing with Firearms*

FUBR Item	Community ( <i>n</i> = 154)	Psychiatric ( <i>n</i> = 80)	$\chi^2$ (p-value)
As a child, my parents owned firearms.	59 (38.3)	49 (62.8)	12.50 (<.001)**
During my childhood, it was not uncommon for people in my community to carry firearms.	62 (40.5)	47 (61.0)	8.65 (.003)*
I learned about firearm safety at a young age.	71 (46.1)	52 (65.0)	7.54 (.006)*
I went to a shooting range as a child at least one time.	59 (38.3)	26 (32.5)	.769 (.381)
I played with toy guns as a kid.	117 (76.0)	66 (82.5)	1.32 (.251)
Hunting was a normal activity in my childhood home.	37 (24.0)	38 (47.5)	13.32 (<.001)**
Firearms were a common item in my home as a child.	41 (26.6)	37 (46.3)	9.13 (.003)*
As a child, I was not allowed near firearms for safety reasons.	75 (48.7)	47 (58.8)	2.13 (.144)
As a child, I played video games involving firearm violence.	98 (63.6)	33 (41.3)	10.71 (.001)**

*Note.* FUBR = Firearm Use and Beliefs Record.

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

in the home (46.3% versus 26.6),  $\chi^2(1) = 9.13, p = .003$ . Further, they were more likely to endorse gun carrying as a feature of community life (61.0% versus 40.5%),  $\chi^2(1) = 8.65, p = .003$ . Lastly, psychiatric patients reported more familiarity with firearms as a youth, such as receiving firearm safety education (65.0% versus 46.1%),  $\chi^2(1) = 7.54, p = .006$ , and frequently going hunting (47.5% versus 24.0%),  $\chi^2(1) = 13.32, p < .001$ . The only experience which community participants reported more than psychiatric patients was playing video games involving firearm violence (63.6% versus 41.3%),  $\chi^2(1) = 10.71, p = .001$ . Thus, contrary to hypotheses, the samples differed from one another in many regards for exposure to firearms as a youth.

**Knowledge of firearms.** Participants' knowledge of firearms was measured via 15 items on the FUBR (Section 2). Items varied as True/False or multiple choice format questions. Responses assessed three domains: basic firearm knowledge, ammunition knowledge, and firearm safety knowledge. The number of correct responses was calculated for each section. Additionally, a total score was computed by adding the number of correct responses across all items. The proportion of correct answers for each sample on individual items is presented in Table 3.5.

No differences were expected between the sample with regards to firearm knowledge. However, when examining total scores for firearm knowledge, community participants had higher average scores ( $M = 11.82, SD = 2.00$ ) compared to psychiatric patients ( $M = 10.55, SD = 2.49$ ),  $t(133.13) = 3.96, p < .001$ . An examination of the three domain scores revealed no differences between groups regarding basic firearm knowledge. Further, none of the individual items distinguished participants. By contrast, community participants demonstrated significantly more knowledge about firearm ammunition than psychiatric patients,  $t(120.96) = 5.91, p < .001$ . Community participants were significantly more likely to correctly answer all five items on this domain. Lastly, community participants also reported greater knowledge concerning firearm safety,  $t(232) = 2.02, p = .044$ , although this was primarily attributable to accuracy differences on one item (i.e., the first step to making sure a firearm is safe is pointing the firearm in a safe direction). Thus, contrary to what was hypothesized, community participants demonstrated significantly greater knowledge of firearms, particularly regarding ammunition and firearm safety, than psychiatric participants.

Table 3.5

*Proportion of Correct Item Responses (Number and Percentage) between Community and Psychiatric Participants Concerning Firearm Knowledge on the FUBR*

FUBR Item	Community (n = 154)	Psychiatric (n = 80)	$\chi^2$ (p-value)
<u>Basic Firearm Knowledge</u>			
1. A firearm that does not require me to reload for every shot and continues to fire rounds as long as the trigger is pulled is known as a <b>fully automatic weapon</b> .	99 (64.3)	45 (56.3)	1.44 (.231)
2. The opening on the front of a firearm where the bullet comes out is known as the <b>muzzle</b> .	137 (89.0)	67 (83.8)	1.28 (.258)
3. A revolver is a type of pistol ( <b>true</b> ).	139 (90.8)	75 (93.8)	.59 (.442)
4. The part of the firearm that makes contact with the back of the bullet to burn the gun powder in the bullet and shoot it out of the gun is called the <b>hammer</b> .	132 (85.7)	61 (76.3)	3.26 (.071)
5. The <b>chamber</b> of a firearm holds the ammunition ready to fire.	137 (89.0)	67 (83.8)	1.28 (.258)
6. A semi-automatic rifle and shotgun is a type of <b>self-loading</b> firearm.	47 (30.5)	20 (25.0)	.79 (.376)
<u>Ammunition Knowledge</u>			
7. The term "caliber" typically refers to the width of a bullet or barrel size of a firearm ( <b>true</b> ).	144 (94.1)	66 (82.5)	7.97 (.005)**
8. The shaped piece of metal that is shot from the barrel after a firearm is fired is known as the primer ( <b>false</b> ).	128 (83.1)	51 (63.7)	10.98 (.001)**
9. When a firearm is shot, it spits out a <b>cartridge</b> , which is the cylinder holding the charge and projectile.	121 (78.6)	38 (47.5)	23.34 (<.001)***
10. "Amor-piercing rounds" have the ability to shoot through armors, such as bullet-proof vests ( <b>true</b> ).	147 (95.5)	68 (85.0)	7.71 (.005)**
11. Most bullets cannot be used with any type of gun ( <b>false</b> ).	149 (96.8)	69 (86.3)	9.12 (.003)**
<u>Firearm Safety Knowledge</u>			
12. Using a firearm's safety switch makes sure that a firearm will never accidentally fire ( <b>true</b> ).	38 (24.7)	12 (15.0)	2.93 (.087)
13. The first step to making sure a firearm is safe is <b>point the firearm in a safe direction</b> .	67 (43.5)	20 (25.0)	7.72 (.005)**

14. When unloading a loaded semi-automatic handgun, you have to remove the clip and eject the round that may be in the chamber ( <b>true</b> ).	143 (92.9)	76 (95.0)	.40 (.526)
15. <b>Extreme cold</b> is not dangerous for ammunition.	82 (53.2)	44 (55.0)	.07 (.799)

*Note.* Correct answers to multiple choice items are boldfaced. Correct answers to true/false questions are boldfaced and placed in parentheses. FUBR = Firearm Use and Beliefs Record.

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

**Knowledge of federal firearm prohibitions.** Knowledge of federal firearm prohibitions was measured by asking participants to identify which of 11 types of individuals were prohibited from owning firearms according to federal regulations (of which 10 are prohibited). Accuracy was calculated by summing the total number of disqualified categories that were correctly identified. The proportion of correctly identified categories for each sample is presented in Table 3.6. It was hypothesized that psychiatric patients would demonstrate a better knowledge of firearm prohibitions given their own prohibited status. In general, however, community participants correctly identified more disqualified categories ( $M = 6.09$ ,  $SD = 2.64$ ) than psychiatric patients ( $M = 5.13$ ,  $SD = 2.50$ ),  $t(232) = 2.71$ ,  $p = .007$ . More specifically, psychiatric patients were more likely to misidentify individuals with a major mental illness as being disqualified from owning firearms (80.0% versus 59.1%). Further, community participants were significantly more likely to correctly identify illegal aliens (65.6% versus 50.0%) and dishonorably discharged military servicemen (32.5% versus 15.0%) as prohibited from owning firearms. Most notably, community participants were twice as likely as psychiatric patients (51.3% versus 25.0%) to recognize individuals who have rejected their U.S. citizenship as being disqualified from firearm ownership. In sum, the Table 3.6

*Proportion of Correct Identification (Number and Percentage) of Firearm Disqualified Individuals between Community and Psychiatric Participants*

Category of Individual	Community ( <i>n</i> = 154)	Psychiatric ( <i>n</i> = 80)	$\chi^2$ ( <i>p</i> -value)
1. Any individual diagnosed with a major mental illness, such as schizophrenia	63 (40.9)	16 (20.0)	10.29 (.001)**
2. Indicted for a crime punishable by a prison sentence lasting more than a year	97 (63.0)	45 (56.3)	1.00 (.317)
3. Convicted of a crime punishable by a prison sentence lasting more than a year	116 (75.3)	63 (78.8)	.34 (.558)
4. Fugitives from justice	126 (81.8)	58 (72.5)	2.72 (.099)
5. Illegal users of or addicted to any controlled substance	73 (47.4)	31 (38.8)	1.60 (.206)
6. Adjudicated as a mental defective or who has been committed to a mental institution	99 (64.7)	58 (72.5)	1.45 (.228)
7. Illegal aliens	101 (65.6)	40 (50.0)	5.34 (.021)*
8. Anyone dishonorably discharged from the military	50 (32.5)	12 (15.0)	8.25 (.004)**
9. Anyone who has rejected his or her United States citizenship	79 (51.3)	20 (25.0)	14.92 (<.001)***
10. Restraining order due to harassing, stalking, or threatening intimate partner	77 (50.0)	36 (45.0)	.53 (.468)
11. Convicted of a misdemeanor crime of domestic violence	57 (37.0)	31 (37.6)	.07 (.795)

*Note.* All categories of individuals are federally prohibited from owning firearms except for “Any individual diagnosed with a major mental illness, such as schizophrenia.”

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

community sample was significantly more successful at identifying firearm disqualified categories than the psychiatric sample, which was contrary to hypotheses.

**Past firearm acquisition.** Participants were asked to indicate which means they had used in the past to obtain a firearm, both legal and illegal. It was hypothesized that psychiatric patients would report using more illegal means (i.e., purchasing off the street, theft or burglary, straw purchases) than community participants. Sixty-nine participants

reported acquiring a firearm in the past, on whom analyses were conducted for this hypothesis. Of these, 16 (23.2%) were psychiatric patients and 53 (76.8%) were community participants. Community participants were significantly more likely to have tried buying a firearm from a licensed firearm dealer than the psychiatric patients (35.1% versus 20.0%),  $\chi^2(1) = 5.69, p = .017$ . Similarly, community participants were more likely to have actually obtained firearms through licensed dealers (80.0% versus 37.8%),  $\chi^2(1) = 16.88, p < .001$ , gun shows (20.0% versus 5.4%),  $\chi^2(1) = 3.88, p = .049$ , and online purchases (10.9% versus 0.0%),  $\chi^2(1) = 4.32, p = .038$ . Psychiatric patients were more likely to have bought guns off the street/drug dealers (35.1% versus 3.6%),  $\chi^2(1) = 16.08, p < .001$ , through a straw purchase (16.2% versus 1.8%),  $\chi^2(1) = 6.52, p = .011$ , or stolen one by means of theft or burglary (21.6% versus 0.0%),  $\chi^2(1) = 13.02, p < .001$ . Thus, as hypothesized, community participants reported significantly more legal means of acquiring firearms in the past than psychiatric patients, who were more likely to have acquired firearms by illegal means.

**Weapon-involved victimization.** On the FUBR, participants were asked to indicate whether they had been the victim of a violent crime, been victimized by someone using a firearm, or been victimized by someone using a weapon other than a firearm. It was hypothesized that psychiatric patients would be significantly more likely to report victimization (of violence generally, firearm violence, and other weapon violence) than community participants. Regarding general violence victimization, psychiatric patients were significantly more likely to report being the victim of a violent crime in the past (61.3% versus 12.3%),  $\chi^2(1) = 61.10, p < .001$ , which is consistent with previous research on victimization among mentally ill individuals. Although psychiatric patients

were nearly twice as likely to report being the victim of firearm violence (16.3% versus 8.4), this did not rise to the level of being statistically significant,  $\chi^2(1) = 3.25, p = .071$ . However, participants from the psychiatric sample were significantly more likely to report being the victim of violence involving a weapon other than a firearm (28.7% versus 5.8%),  $\chi^2(1) = 23.40, p < .001$ . Thus, this hypothesis was partially supported. Additionally, psychiatric patients were more likely to report having a firearm stolen from them in the past (8.8% versus 1.3%),  $\chi^2(1) = 7.90, p = .005$ .

### **Prevalence for Other Weapon Violence**

In addition to exploring the prevalence of firearm violence, the base rate for violence involving other types of weapons (e.g., blunt object, knife) was evaluated. “Other weapon violence” was defined as the use of any weapon, other than a firearm, to illegally threaten or harm another person. Notably, other weapon violence was assessed separately from firearm violence. Thus, individuals who reported engaging in firearm violence (i.e., firearm perpetrators) could also have reported engaging in other weapon violence (i.e., other weapon perpetrator). In cases where a participant endorsed both forms of weapon-involved violence, this individual was classified as a perpetrator of other weapon violence in addition to being a firearm perpetrator. Of note, 12 of the 37 patients who identified as other weapon perpetrators were the same 12 individuals who were classified as firearm perpetrators from the psychiatric sample. As such, these 12 individuals were included in analyses for other weapon violence as well.

The prevalence of other weapon violence was examined among both the community and psychiatric samples. Similar to what was predicted for firearm violence, it was hypothesized that psychiatric patients would be significantly more likely to report

engaging in other weapon violence than community participants. Specifically, the base rate for other weapon violence among the community sample was expected to be less than 10% while the base rate among psychiatric patients was predicted to be greater than 10%. Among the community sample, only 10 participants (6.5%) reporting engaging in other weapon violence, supporting the hypothesis. Of these cases, all eight participants endorsed using threatening behavior only while the other two individuals reported using a weapon to both threaten and physically harm another. Among the psychiatric sample, 37 participants (46.3%) endorsed other weapon violence, as was hypothesized. Figure 3.2 illustrates the nature of weapon violence as described by psychiatric patients. Of these 37 patients, 11 endorsed threatening behavior with a weapon, seven individuals reported using a weapon to only physically harm another person, and 19 reported using a weapon to both threaten and physically harm someone in the past.

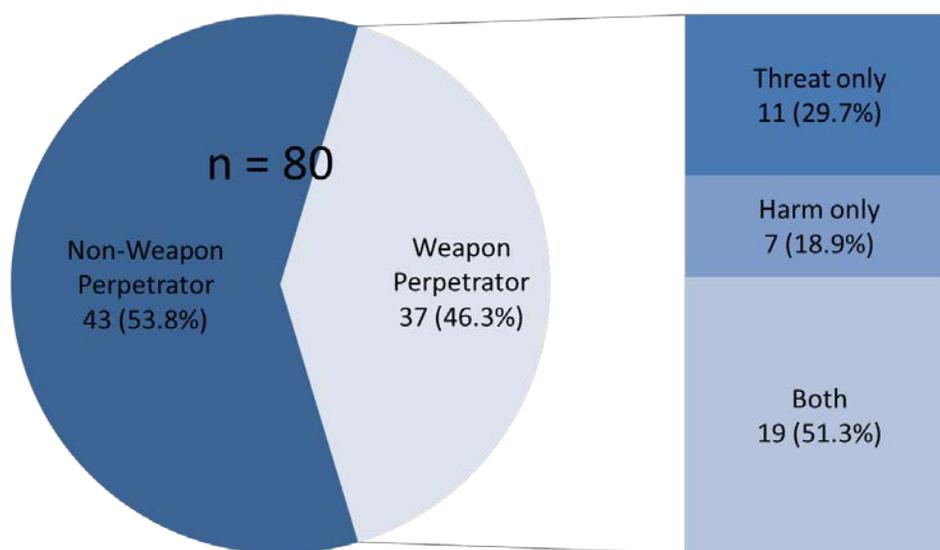


Figure 3.2

*Prevalence of Weapon Violence for the Psychiatric Sample*

Finally, when comparing base rates, psychiatric patients were significantly more likely to report committing weapon violence than community participants,  $\chi^2(1) = 51.85, p < .001$ . Thus, all hypotheses regarding the prevalence of other weapon violence were supported.

### **Risk Factors for Other Weapon Violence**

As was done with firearm violence, post hoc power analyses were conducted for weapon violence not involving firearms (i.e., other weapon violence). The power estimate for the community sample was 97.6% and 100.0% for the psychiatric sample, indicating sufficient power was achieved for detecting an effect for weapon violence. However, the limited number of community weapon perpetrators ( $n = 10$ ) was deemed insufficient for running bivariate and multivariate analyses. As such, the following bivariate and multivariate analyses were conducted for the psychiatric sample ( $n = 37$ ) only and not the community sample.

**Mental state at the time of the offense.** As with firearm violence, perpetrators of other weapon violence were asked to report on their mental state before, and during, the time of the crime (see Table 3.7). It was hypothesized that a disproportionate number of other weapon perpetrators would endorse items reflective of destabilization prior to the offense, including feelings of stress and being psychiatrically hospitalized, as well as violent ideation. Although most weapon perpetrators reported feeling “on edge” ( $n = 24, 64.9\%$ ), easily frustrated ( $n = 22, 61.1\%$ ), or extremely stressed ( $n = 22, 59.5\%$ ) prior to the incident, this not significant. Similarly, no other mental states (e.g., feeling hyper, depressed, etc.) were disproportionately present among weapon perpetrators when test with a goodness-of-fit chi-square statistic. The one

Table 3.7

*Self-Reported Mental State Before and During the Time of Other Weapon Violence for the Psychiatric Sample (n = 37)*

Mental State	n (%)
<u>Before the Incident</u>	
Easily frustrated and annoyed	24 (64.9)
Feeling “on edge”	22 (61.1)
Extremely stressed	22 (59.5)
Thoughts about hurting others	15 (40.5)
Feeling depressed, hopeless, or suicidal	13 (35.1)
Feeling hyper, restless, or distractible	8 (21.6)*
<u>At the Time of the Incident</u>	
Use of any substance	17 (45.9)
“High” or “drunk” on alcohol or drugs	15 (40.5)
Taking prescribed medication	10 (12.5)*
Feeling depressed and hopeless	12 (32.4)*
Delusional beliefs	13 (16.3)
Someone was plotting against me	11 (29.7)*
People were spying on me	8 (21.6)*
People were following me	6 (16.2)*
I was being secretly tested or experimented on	4 (10.8)*
+ I was under the control of some person, power, or forces	3 (8.1)*
+ Strange thought were being placed into my mind	3 (8.1)*
+ My thoughts were being stolen	3 (8.1)*
+ Strange forces were working on me	2 (5.4)*
+ Threat Control Override symptoms.	

\*  $p < .05$ .

exception was the proportion of weapon perpetrators who endorsed violent ideation, which was significantly *less* than what would be expected from an equiprobability model,  $\chi^2(1) = 11.92, p = .001$ . Only four perpetrators (10.8%) reported being hospitalized within two weeks of perpetrating the crime,  $\chi^2(1) = 22.73, p < .001$ . Thus, contrary to hypotheses, weapon perpetrators not only failed to endorse destabilization prior to the offense but also reported less, not more, fantasies about physically hurting or injuring others.

With regards to mental health symptoms during the offense, it was hypothesized that TCO symptoms would be disproportionately present in other weapon offenses. Similar to what was observed with firearm violence, the majority of weapon perpetrators did not report mental health symptoms at the time of the offense. Fewer individuals endorsed feeling depressed and hopeless ( $n = 12, 32.4\%$ ) than would have been expected in an equiprobability model,  $\chi^2(1) = 4.57, p = .033$ . Thirteen (35.1%) weapon perpetrators endorsed delusional beliefs at the time of the crime, which was not significantly different from an equiprobability model,  $\chi^2(1) = 3.27, p = .071$ . Of those, only six (16.2% of the sample) endorsed TCO symptoms, significantly *less* than what would be expected in an equiprobability model,  $\chi^2(1) = 16.89, p < .001$ , and contrary to what was hypothesized. The degree of reported influence for the various delusional beliefs did not reveal any significant trends; however, the greatest number of individuals who endorsed any one delusional belief was 11 (believing others were plotting against him). As such, inferences from so few cases should be interpreted with caution.

With regards to substance use during the time of the crime, it was predicted that other weapon perpetrators would disproportionately report being intoxicated at the time of the crime. Yet, the amount of weapon offenders who reported being “drunk” or “high” at the time of the incident ( $n = 15, 40.5\%$ ) was not significant. In fact, weapon perpetrators were disproportionately less likely to have been using marijuana,  $\chi^2(1) = 4.57, p = .033$ , cocaine,  $\chi^2(1) = 22.73, p < .001$ , methamphetamine,  $\chi^2(1) = 25.97, p < .001$ , and “other” substances,  $\chi^2(1) = 19.70, p < .001$ , than would be expected in an equiprobability model. Although 40.5% of weapon perpetrators reported consuming alcohol at the time of the offense, this was not statistically significant. When

use of the various substances was collapsed to one variable (i.e., use of any substance at the time of the offense), a significant relationship was not observed. Thus, this hypothesis was not supported.

**Characteristics of other weapon violence.** In terms of features of the crime itself, it was hypothesized the location of the crime would most likely occur in street/outdoor settings, perpetrators would more often be young adults (i.e., 19-24), and that victims would be disproportionately comprised of strangers. No significant findings emerged with regards to the perpetrator's age or location of the incident. Of note, other weapon violence often occurred in street/outdoor settings ( $n = 12, 33.3\%$ ), followed by "other" settings ( $n = 9, 25.0\%$ ) or the perpetrator's residence ( $n = 8, 22.2\%$ ). While not significant, other weapon perpetrators frequently reported being adolescents ( $n = 16, 43.2\%$ ), with slightly fewer of them being middle-aged adults ( $n = 13, 35.1\%$ ) and young adults being the smallest age category ( $n = 8, 21.6\%$ ). This is the same trend as observed for age at the time of committing firearm violence (reported above). Interestingly, victims of weapon violence were significantly more likely to be a friend or acquaintance of the perpetrator ( $n = 18, 22.5\%$ ) than a stranger ( $n = 13, 16.3\%$ ), family member ( $n = 3, 8.1\%$ ), current/former intimate partner ( $n = 2, 5.4\%$ ), or intruder ( $n = 1, 1.3\%$ ),  $\chi^2(6) = 57.78, p < .001$ . Overall, none of the hypotheses regarding features of other weapon violence were supported.

**Historical risk factors.** A summary of the significant historical risk factors is summarized in Table 3.8. Regarding family history, it was predicted that other weapon perpetrators would be significantly more likely to report histories of childhood sexual abuse and severe physical abuse. Yet, results indicated they were no more likely to report

Table 3.8

*Significant Bivariate Statistics for Historical Risk Factors for Other Weapon Violence among the Psychiatric Sample*

Variable	Non-Perpetrators ( <i>n</i> = 43) M (SD) or <i>n</i> (%)	Perpetrators ( <i>n</i> = 37) M (SD) or <i>n</i> (%)	t-score or $\chi^2$ (p-value)
<b>Criminogenic Factors</b>			
No. of arrests	4.42 (4.51)	9.43 (12.15)	-2.37 (.022)
No. of criminal charges	4.76 (5.16)	8.78 (9.32)	-2.34 (.023)
No. of violent arrests	1.58 (3.10)	3.65 (4.77)	-2.26 (.028)
No. of criminal peers	2.55 (4.24)	5.46 (6.89)	-2.20 (.032)
+ Obstruction justice charge	1 (2.4)	6 (16.7)	4.70 (.030)
+ Obstruction of justice conviction	1 (2.4)	6 (16.7)	4.70 (.030)
+ Traffic charge	7 (17.1)	14 (38.9)	4.60 (.032)
+ Murder charge	0 (0.0)	4 (11.1)	4.81 (.028)
+ Use of a deadly weapon charge	0 (0.0)	4 (11.1)	4.81 (.028)
+ Any weapon-related charge	2 (4.9)	10 (27.8)	7.64 (.006)
+ Any weapon-related conviction	1 (2.4)	8 (22.2)	7.27 (.007)
<b>Childhood Disruption</b>			
Paternal criminal history	4 (9.3)	15 (40.5)	10.72 (.001)
<b>Education and Employment</b>			
No. school suspensions	1.48 (2.73)	3.50 (4.20)	-2.50 (.015)
<b>Juvenile Delinquency</b>			
Delinquent behaviors	19 (44.2)	28 (75.7)	8.14 (.004)

*Note.* No. = Number.

+ Variable coded from record review.

either experience compared to non-perpetrators. Although not considered in hypotheses, other weapon perpetrators were significantly more likely to report fathers with criminal histories,  $\chi^2(1) = 10.72, p = .001$ . Unlike firearm perpetrators, maternal criminal history did not distinguish between weapon and non-weapon perpetrators.

Regarding educational history, it was hypothesized that other weapon perpetrators would report fewer years of education compared to non-perpetrators. However, these

groups were comparable to one another in this regard. The only significant difference between groups was that other weapon perpetrators reported being suspended more times from school compared to non-perpetrators,  $t(60.33) = -2.50, p = .015$ . They did not differ with regards to highest level of education, GED/high school diploma status, or whether the individual had ever been expelled. This is contrary to what was hypothesized. Additionally, no differences were observed regarding employment history, including number of times the person reported being fired from a job or quitting a job without having another in place.

In terms of criminal history, self-report and official records were reviewed. It was predicted that other weapon perpetrators would report more violent arrests and be more likely to endorse juvenile delinquency and prior convictions for misdemeanors and felonies of a violent nature. When examining self-report variables, other weapon perpetrators were significantly more likely to report juvenile delinquency,  $\chi^2(1) = 8.14, p = .004$ , defined as committing delinquent behaviors from the ages of 13 to 17. However, unlike firearm violence, other weapon perpetrators did not report significantly more features of delinquency, such as drug dealing and gang affiliation as a youth. Additionally, other weapon perpetrators indicated a significantly greater number of arrests,  $t(44.51) = -2.37, p = .022$ , criminal charges,  $t(54.28) = -2.34, p = .023$ , and arrests for violent crimes,  $t(60.17) = -2.26, p = .028$ , as hypothesized. Groups did not differ with regards to number of criminal convictions, parole/probation violations, or age when first convicted of a violent crime. Contrary to what was predicted, weapon perpetrators were no more likely to report having violent misdemeanors or violent

felonies. Similar to firearm perpetrators, weapon perpetrators reported significantly more friends with criminal records than non-perpetrators,  $t(56.37) = -2.20, p = .032$ .

When examining patient mental health records, no differences emerged regarding total amount of violent charges or convictions. This continued to be the case after dichotomizing variables to reflect the presence or absence of violent charges or convictions. By contrast, weapon perpetrators had, on average, more charges and convictions for weapon-related crimes,  $t(43.48) = -2.75, p = .009$ , and  $t(39.68) = -2.60, p = .013$ , respectively. In light of substantive skewness for weapon-related charges (2.52) and convictions (3.10), these variables were converted to dichotomous variables. Similar results were obtained when these new variables were tested via a chi-square statistic; weapon perpetrators were significantly more likely to report weapon-related charges (27.8% versus 4.9%),  $\chi^2(1) = 7.64, p = .006$ , and convictions (22.2% versus 2.4%),  $\chi^2(1) = 7.27, p = .007$ . All other continuous variables for number of criminal charges and convictions across types of offenses were converted to dichotomous variables and tested with a chi-square statistic. Results indicated other weapon perpetrators were disproportionately more likely to have charges for obstruction of justice,  $\chi^2(1) = 4.70, p = .030$ , traffic offenses,  $\chi^2(1) = 4.60, p = .032$ , use of a deadly weapon,  $\chi^2(1) = 4.81, p = .028$ , and murder,  $\chi^2(1) = 4.81, p = .028$ , as well as convictions for obstruction of justice,  $\chi^2(1) = 4.70, p = .030$ . In sum, hypotheses were partially supported. Other weapon perpetrators were more likely to report juvenile delinquency and more violent arrests but were indistinguishable in terms of violent misdemeanors and violent felonies.

**Clinical risk factors.** Patients' mental health records were reviewed in order to examine whether other weapon perpetrators were differentially assigned certain diagnoses (see Table 3.9). First examined were any trends among specific diagnostic categories. Other weapon perpetrators were more likely to have been diagnosed with a substance-related disorder,  $\chi^2(1) = 5.72, p = .017$ , specifically alcohol-related disorders,  $\chi^2(1) = 6.58, p = .010$ , and cannabis-related disorders,  $\chi^2(1) = 4.49, p = .034$ . Apart from these differences, other weapon perpetrators were diagnostically indistinguishable from psychiatric patients who did not report committing other weapon violence. This included personality disorders (e.g., antisocial personality disorder) and any paraphilic disorders.

In addition to comparisons among diagnostic categories, analyses explored the relationship of diagnoses clustered as severe mental illnesses (i.e., psychotic, depressive, or bipolar disorder). As with firearm perpetrators, it was hypothesized that other weapon

Table 3.9

*Significant Bivariate Statistics for Clinical Risk Factors for Other Weapon Violence among the Psychiatric Sample*

Variable	Non-Perpetrators ( <i>n</i> = 43) M (SD) or n (%)	Perpetrators ( <i>n</i> = 37) M (SD) or n (%)	t-score or $\chi^2$ (p-value)
Psychiatric Diagnoses			
+ Any substance-related disorder	15 (36.6)	23 (63.9)	5.72 (.017)
+ Alcohol-related disorder	11 (26.8)	20 (55.6)	6.58 (.010)
+ Cannabis-related disorder	8 (19.5)	15 (41.7)	4.49 (.034)
Psychopathy			
PPI-R Total Score	283.70 (26.01)	302.88 (39.71)	-2.06 (.045)

*Note.* PPI-R = Psychopathic Personality Inventory-Revised.

+ Variable coded from record review.

perpetrators would be disproportionately diagnosed with severe mental illnesses. However, other weapon perpetrators were no more likely to have been diagnosed with a severe mental illness than psychiatric patients who did not report other weapon violence. As was observed with firearm perpetrators, weapon perpetrators were slightly *less* likely (47.2% versus 56.1%) to have been diagnosed with a disorder that could be classified as a severe mental illness, although this difference was not significant.

**Psychopathy.** Mean differences between other weapon perpetrators and non-perpetrators are presented in Table 3.3. It was hypothesized that perpetrators would display significantly higher PPI-R scores than non-perpetrators. As hypothesized, other weapon perpetrators endorsed more psychopathic traits as indicated by total scores on the PPI-R,  $t(49) = -2.06, p = .045$ . No differences were observed between weapon perpetrators and non-perpetrators on the subscales or factors scores.

### **Predictive Model for Other Weapon Violence**

A binary logistic regression was utilized in order to determine whether other weapon perpetrators could be distinguished from non-perpetrators. It was hypothesized that the final model would significantly predict other weapon violence. Table 3.10 presents the final model, which included 10 predictors. A series of iterations were performed for revising the model. First, all 15 risk factors (reviewed above) that were shown to be significantly related to other weapon violence were tested for collinearity. Any variables that were highly collinear were omitted from the model. Specifically, number of arrests was highly correlated with number of criminal charges ( $r = .831, p < .001$ ) and number of violent arrests ( $r = .763, p < .001$ ). Therefore, the latter two variables were omitted from the model, thereby retaining number of arrests as a predictor.

Table 3.10

*Binary Logistic Regression Model Predictors for Other Weapon Violence*

Predictors	B	S.E	Wald	P-value	OR	95% CI
1. No. of suspensions	.31	.11	7.10	.008**	1.36	1.08 – 1.70
2. No. of criminal friends	.99	.06	2.57	.109	1.10	.98 – 1.24
3. Parental criminal history	-1.48	.87	2.90	.088	.23	.04 – 1.25
4. Number of prior arrests	.05	.05	1.08	.298	1.05	.96 – 1.16
5. Delinquent behaviors	.65	.82	.63	.427	1.92	.38 – 9.63
6. + Alcohol-related disorder	-1.11	.87	1.64	.200	.33	.06 – 1.80
7. + Cannabis-related disorder	-.51	.99	.27	.603	.60	.09 – 4.15
8. + Prior weapon-related charges	-2.10	.99	4.52	.034*	.12	.02 – .85
9. + Prior obstruction of justice charges	-1.99	1.33	2.24	.134	.14	.01 – 1.85
10. + Prior traffic charges	-.70	.75	.88	.349	.50	.12 – 2.15

*Note.* S.E. = standard error; OR = odds ratio; CI = confidence interval; No. = Number.  
+ Variable coded from record review.

\*  $p < .05$ . \*\*  $p < .01$ .

Second, predictors with a large amount of missing cases were removed in order to maximize the number of cases considered in the model. The only variable meeting this exclusion criterion was PPI-R total scores, for which there were 29 missing cases. Lastly, variables that were rarely endorsed by any participants were removed, including the presence of criminal charges for murder (four cases) and use of a deadly weapon (four cases).

After these iterations, the final model included 74 cases for analysis and consisted of 10 predictors (see Table 3.8). As hypothesized, the model was significant,  $\chi^2(10) = 39.78, p < .001$ , Nagelkerke  $R^2 = .555$ . It correctly classified 79.7% of cases, 84.6% of non-perpetrators and 74.3% of other weapon perpetrators. Although the model as a whole was significant, only two of the 10 predictors yielded unique predictive value: number of school suspensions,  $Exp(B) = 1.36, p = .008$ , and presence of past weapon-related charges,  $Exp(B) = .123, p = .034$ . These findings suggest few predictors contributed

uniquely to prediction although they collectively produced a model that significantly distinguished other weapon perpetrators from non-perpetrators.

## CHAPTER 4 – DISCUSSION

This study, examining weapon-involved violence among community and forensic psychiatric samples, allowed review of previously unexplored, or rarely explored, questions regarding the nature of weapon-involved violence as it relates to mental illness.

### *Prevalence of Weapon-involved Violence*

The current dissertation investigated the prevalence of two forms of weapon-involved violence, firearms and other types of weapons, among community and forensic psychiatric samples. Within the community sample, only one individual (less than one percent) reported using a firearm to unlawfully threaten or harm another person. Approximately seven percent of the community sample reported using another type of weapon (other than a firearm) to unlawfully threaten or harm another person. Thus, the prevalence for any type of weapon-involved violence (firearm or other weapon) was relatively low among community participants. These findings align with crime data and victimization surveys indicating most crimes, even violent ones, do not involve a weapon and the majority of firearm violence is not directed towards others (Perkins, 2003; Truman & Rand, 2010; Wintemute, 2015).

Psychiatric patients were significantly more likely to report engaging in both firearm violence and violence with some other form of weapon. Fifteen percent of psychiatric patients reported engaging in firearm violence. The prevalence of firearm violence among this small forensic psychiatric sample was greater than the base rate reported by Steadman and colleagues (2015) for the MacArthur sample (i.e., 2%). However, the occurrence of firearm violence was somewhere in between estimates provided by national surveys with state inmates (24.4%, James & Glaze, 2006; 12%,

Kivisto, 2017) and local jail prisoners (12.3%, James & Glaze, 2006). These populations may be more comparable to the present sample in terms of criminogenic characteristics. It is noteworthy, however, that the *majority* of patients did not report ever using a firearm to illegally threaten or harm another.

Nearly half (46%) of the psychiatric sample reported engaging in weapon-involved violence that did not involve a firearm. This is substantially higher than estimates for involuntary outpatients over the short-term (7.8% in four months; Swanson et al., 1999) and civil psychiatric patients over a one-year follow-up period (29.3%; Monahan et al., 2001). Yet, similar to the findings for firearm violence, rates for weapon use were comparable to figures provided for mentally ill violent offenders in state prisons (37%; James & Glaze, 2006). Additionally, this was a diverse forensic psychiatric sample; approximately a third were adjudicated NRRI, a third were committed as mentally ill and dangerous, and a third were SDOs. Rates of weapon use among sex offenders is typically low (Planty & Truman, 2013). Although results did not reveal significant differences in other weapon violence by admission groupings, the size and diversity of the current sample may have obscured clearer findings. The type of weapon used was roughly equally divided as blunt object (37%), knife (33%), or some other item (e.g., vehicle; 30%). This contrasted with crime data indicating knives as more common than other weapon types (Perkins, 2003; Truman & Rand, 2010).

Notably, every individual who identified as a firearm perpetrator in the psychiatric sample also identified as a weapon perpetrator using some other type of weapon, suggesting that firearm perpetrators do not constitute a distinct type of offender compared to individuals using other types of weapons during a crime. This is in keeping

with research suggesting similar risk factors for violence, firearm violence, and other weapon violence (Brennan & Moore, 2009; Elbogen & Johnson, 2009; Stueve & Link, 1997). In summary, the prevalence for firearm and other weapon violence was low among the community sample and substantially greater among psychiatric patients. Yet, most psychiatric patients did not endorse firearm violence although nearly half of them reported using some other type of weapon in a violent act.

#### *Differences in Firearm Experiences among Samples*

Secondary analyses regarding self-reported experience, knowledge, and awareness with firearms were conducted between community and psychiatric samples in order to inform whether differences in weapon-involved violence rates corresponded to other reported experiences with firearms. Psychiatric patients were more likely to endorse firearms as a part of their upbringing, including parental firearm ownership, community firearm carrying, firearm education, hunting, and having firearms in the home. The literature does not provide an obvious answer for this finding given the lack of research in this area. One possibility, however, may be the geographical contrast between the two samples. That is, the community sample was obtained through a national survey site (M-Turk) and the psychiatric sample was recruited from a state hospital in a mostly rural state (Nebraska). The greater exposure to firearms reported by psychiatric patients may therefore reflect their upbringing in a rural area, which is consistent with research suggesting bigger “gun culture” attitudes in rural areas (Celinska, 2007). Although community participants were significantly more likely to have played videos games involving firearm violence, this may have been attributable to generational differences between the samples. Namely, community participants were significantly younger on

average than psychiatric patients (38 versus 47) and there has been a substantial increase in video game use among youth over the past few decades (Rideout, Foehr, & Roberts, 2010).

In addition to examining upbringing with firearms, general knowledge of firearms and firearm prohibitions were examined between the samples. In general, community participants demonstrated more knowledge of firearms, particularly ammunition and firearm safety, as well as which categories of individuals are prohibited by federal law from owning a firearm. Notably, neither sample demonstrated a particularly good knowledge of the prohibited categories; the community participants knew an average of six of the 10 disqualified categories, while the psychiatric patients knew an average of five of the 10. In general, psychiatric patients generally had more exposure to firearms growing up but demonstrated less knowledge of firearms and firearm regulations than community participants.

In terms of previous firearm acquisition, psychiatric patients were significantly more likely to report illegal means of acquiring a firearm in the past compared to community participants. This is consistent with past studies on methods for firearm acquisition among criminal and correctional populations, with and without mental illness (Cook, Harris, Ludwig, & Pollack, 2014; Planty & Truman, 2013; Vittes, Vernick, & Webster, 2012). These findings suggest that forensic psychiatric patients, who are prohibited from owning firearms, tend to acquire them in the same fashion as criminals. Of note, all participants within this psychiatric sample also had criminal records. Thus, the extent to which this finding reflects weapon acquisition for mentally ill persons, rather than individuals with criminal records who happen to also have a mental illness, is

unclear. In sum, psychiatric patients were more likely to have acquired firearms through illegal means in the past than community participants.

Lastly, participants were asked to report whether they had been victims of violence generally, violence involving a firearm, and violence involving a weapon other than a firearm. Consistent with prior research on victimization among the mentally ill (Choe, Teplin, & Abram, 2008; Desmarais et al. 2014; Maniglio, 2011; Monahan et al., 2017; Teplin et al., 2005), psychiatric patients were substantially more likely to report being the victim of violence generally as well as violence with a weapon other than a firearm. While differences between groups regarding firearm violence victimization were not significant, psychiatric patients were twice as likely to report such an experience (16% versus 8%), indicating a trend in the expected direction. Thus, psychiatric patients were more likely to have reported victimization by means of violence generally and through use of a weapon other than a firearm.

In summary, community and forensic psychiatric participants differed in many ways with regards to experience, knowledge, and upbringing with firearms. Psychiatric patients tended to have more exposure to firearms growing up, were more likely to acquire firearms illegally in the past, and to have been victimized with a weapon (although not a firearm) in the past. By contrast, psychiatric patients demonstrated less knowledge of firearms and federal firearm regulations.

#### *Weapon-involved Violence and Mental Illness*

Due to the low prevalence of weapon-involved violence among the community sample (i.e., <1% for firearm violence and 6% for other weapon violence), analyses investigating both forms of weapon-involved violence (firearm and other weapon) and

mental illness were limited to the psychiatric sample. Regarding acts of firearm violence, perpetrators were unlikely to report symptoms of mental illness prior to the incident, including symptoms of depression (17%) or mania (8%). More common were feelings of frustration (67%) and feeling “on edge” (50%) although these were not significant. Approximately a third of firearm perpetrators endorsed delusional beliefs (33%) at the time of the crime. When delusions were present, they did not disproportionately consist of Threat Control Override (TCO) symptoms as has been observed in previous research on violence among psychiatric patients (Monahan et al., 2001; Stompe, Ortwein-Swoboda, & Schanda, 2004; Treasdale et al., 2006). While the majority of firearm perpetrators reported being intoxicated at the time (58%), this did not rise to statistical significance. Nonetheless, this trend is consistent with previous literature linking substance abuse to firearm violence among the general population and the mentally ill (Branas, Han, & Wiebe, 2016; Casiano et al., 2008; DuRant et al., 1999; Lizotte et al., 2000; Swanson et al., 2015). Most instances of substance use during the crime involved alcohol and entailed more than one substance. Thus, most firearm perpetrators did not report symptoms of mental illness before, or during, the time of the offense. In fact, the most common feature of firearm violence was substance use, particularly polysubstance use involving alcohol.

Few clinical differences emerged when comparing firearm perpetrators to non-perpetrators. An examination of mental health records did not reveal any diagnostic differences between the groups except that firearm perpetrators were more likely to have received a diagnosis for antisocial personality disorder. This finding stands in partial contrast to previous research in which severe mental illness, antisocial personality

disorder, and substance use disorders have been associated with risk for violence or firearm violence (Branas et al., 2016; Elbogen & Johnson, 2009; Wilton & Stewart, 2017). Lastly, firearm perpetrators did not endorse higher scores on most indices of psychopathy as measured by the PPI-R, which is inconsistent with research on psychopathy and general violence (Camp, Skeem, Barchard, Lilienfeld, & Poythress, 2013; Porter & Woodworth, 2006; Skeem, Polaschek, Patrick, & Lilienfeld, 2011). The only distinction between groups on the PPI-R was that firearm perpetrators scored significantly higher on the subscale for Coldheartedness, which measures callousness to the suffering of others, shallow interpersonal attachment, and lack of guilt. Thus, the only clinical differences between firearm perpetrators and non-perpetrators were that firearm perpetrators were substantially more likely to have received a diagnosis for antisocial personality disorder and to endorse calloused features of psychopathy. Of note, the absence of significant findings for firearm violence may have been attributable to the limited amount of firearm violence cases available for analyses ( $n = 12$ ), which was likely too low to detect many effects (i.e., Type II error due to insufficient power).

In light of the small amount of firearm violence reported for this dissertation, the relationship between mental illness and other forms of weapon violence was also explored. Notably, all firearm perpetrators in the psychiatric sample were classified as other weapon perpetrators. However, questions regarding acts of firearm violence were asked separate from questions for other weapon violence incidents, making analyses for these offenses independent. Thus, participants who endorsed firearm violence and answered questions about that incident also, quite separately, endorsed weapon violence that did not involve a firearm and then answered questions for that incident as well.

Regarding acts of weapon violence that did not involve a firearm, perpetrators were unlikely to report symptoms of mental illness prior to the incident, which is similar to the finding reported for firearm violence. Likewise, feeling “on edge” (65%), frustrated (61%), and stressed (60%) were common experiences before the incident although not significant. Interestingly, violent ideation was disproportionately unlikely to occur before incident (22%), which is contrary to prior research describing associations between aggressive fantasies and weapon violence (Michie & Cook, 2006). Few other weapon perpetrators endorsed delusional beliefs (16%) at the time of the crime and they did not disproportionately endorse Threat Control Override (TCO) symptoms, which is similar to what was observed for acts of firearm violence. Substance use was not disproportionately present in acts of other weapon violence and less than half of perpetrators reported being “high or drunk” at the time of the offense (41%). This stands in contrast to literature linking substance use to weapon violence (Karberg & James, 2005). Thus, most other weapon perpetrators did not report symptoms of mental illness before, or during, the time of the offense. Additionally, substance use was not a prominent feature of other weapon violence.

As was the case for firearm perpetrators, few clinical differences emerged when comparing other weapon perpetrators to non-perpetrators. An examination of mental health records did not reveal diagnostic differences between the groups regarding severe mental illnesses or personality disorders. However, other weapon perpetrators were significantly more likely to have been assigned a diagnosis for an alcohol- and cannabis-related disorder. When specific substance use disorders were collapsed into one variable (reflecting the presence of any substance use disorder), other weapon perpetrators were

substantially more likely to have received such a diagnosis. This finding is partially consistent with previous research indicating severe mental illness, antisocial personality disorder, and substance use disorders as correlates to violence (Johnstone, 2013; Ogloff et al., 2015; Monahan, 2006; Wilton & Stewart, 2017). Lastly, other weapon perpetrators endorsed higher total psychopathy scores on the PPI-R, which is consistent with research on the PPI-R and general violence (Camp et al., 2013; Porter & Woodworth, 2006; Skeem et al., 2011). However, no differences were observed with regard to the factor or subscale scores. Thus, other weapon perpetrators were more likely to have been diagnosed with a substance use disorder (specifically, alcohol- and cannabis-related disorders) and to have elevated total psychopathy scores on the PPI-R.

#### *Non-clinical Characteristics of Weapon-involved Violence*

In addition to exploring clinical and diagnostic features of weapon-involved violence, the current dissertation examined non-clinical characteristics of firearm violence and other weapon violence in order to detect correlates beyond those affiliated with mental illness. Regarding incidents of firearm violence, no significant effects were observed regarding the age of the offender, relationship to the victim, or location of the incident. However, most firearm perpetrators (64%) reported being adolescents at the time of the offense and 50% of firearm incidents occurred in street/outdoor settings and involved strangers. Thus, while trends were observed, no characteristics were significantly distinguishable for firearm violence incidents regarding location, victim, or age of perpetrator.

When compared to non-perpetrators, firearm perpetrators were more likely to have histories of criminality, juvenile delinquency, and childhood dysfunction.

Specifically, firearm perpetrators reported more criminal charges, arrests for violent crimes, and criminal peers. They were also more likely to report having misdemeanors for violent offenses and parents with criminal histories. A similar pattern emerged when examining mental health records, which revealed firearm perpetrators to have more charges and convictions for violent offenses. Taken together, these results echo previous findings linking violence to criminal history (Elbogen & Johnson, 2009; Joyal et al., 2007; Witt et al., 2013) and firearm violence to antisocial social networks (Tracy, Braga, & Papachristos, 2016). When asked to report on their childhood histories, firearm perpetrators were more likely to endorse teenage delinquency, including involvement in gangs and drug dealing, and severe physical abuse. Similarly, this is consistent with research identifying victimization and delinquency as risk factors for firearm violence (Loeber et al., 2005; Smith et al., 2005; Tracy et al., 2016). Overall, the findings for firearm violence are largely consistent with previous research on violence generally and, when available, firearm violence specifically.

The same non-clinical features were examined among other weapon violence incidents and perpetrators as for firearm violence and firearm perpetrators. No significant effects were observed regarding age of the perpetrator at the time of the offense or location of the incident. The trends that were observed in firearm violence (i.e., incidents were more likely to have occurred in outdoor settings when the offender was an adolescent) were present, but only slightly, among other weapon violence incidents. Interestingly, the victims of other weapon violence were significantly more likely to be a friend or acquaintance of the perpetrator. This is contrary to literature indicating weapon violence disproportionately involves strangers compared to intimates or known non-

intimates (Perkins, 2003). While the reasons for this finding is unclear, one possibility may be that use of weapons other than firearms, which are more common and readily available, can be used opportunistically in the context of interpersonal disputes. If so, this would lend credibility to the “weapon effect,” in which weapon access and familiarity increases the likelihood of its use (Berkowitz & LePage, 1967).

When comparing other weapon perpetrators to non-perpetrators, many of the same results were observed as those for firearm perpetrators. Specifically, other weapon perpetrators reported more arrests, arrests for violent crimes, criminal charges, and criminal peers. They were also more likely to report fathers with criminal histories (though not mothers). A review of mental health records indicated other weapon perpetrators were more likely to have charges for traffic offenses, obstruction of justice, and murder. Other weapon perpetrators were significantly more likely to have charges and convictions for any weapon-related offenses (e.g., use of a deadly weapon) as well. Overall, other weapon perpetrators evidenced greater criminal and violent histories, which is in keeping with the research identifying past criminal behavior as a strong predictor of future criminal behavior among those with mental illness (Bonta et al., 1998; Elbogen & Johnson, 2009; Joyal et al., 2007; Phillips et al., 2005; Witt et al., 2013).

In terms of childhood markers among other weapon perpetrators, they reported more school suspensions. However, they did not differ with regards to many other indices of school problems (e.g., degree obtained, level of education, expulsions). This contrasts with some findings linking poor educational achievement with risk for violence and weapon-involved violence (Bonta et al., 2014; Joyal et al., 2007; Stueve & Link, 1997). Weapon perpetrators were more likely to endorse general teenage delinquency but not

specific features of this behavior, such as drug dealing or gang affiliation. While this conflicts with evidence tying gang membership and drug dealing as a youth to carrying a firearm (Loeber et al., 2005; Smith et al., 2005), it does not contradict any known findings for weapon-involved violence specifically. Overall, other weapon perpetrators evidenced greater criminal histories, including teenage delinquency associated with school suspension and fathers with criminal histories. Generally, these findings are consistent with those above for firearm violence (with a few exceptions) and research on violent offenders.

#### *Classification of Other Weapon Perpetrators*

An insufficient number of firearm violence cases were available for multivariate analyses. The current dissertation did, however, test a predictive model for other weapon violence. The final logistic regression model consisted of 12 predictors and significantly distinguished between other weapon perpetrators and non-perpetrators. Covariates consisted of indicators for criminality (e.g., previous weapon-related charges), childhood dysfunction (e.g., number of school suspensions), and substance use disorders. Notably, the only clinical risk factors were diagnoses for alcohol- and cannabis-related disorders. Psychopathy did not substantially improve the model's predictive capacity, which is inconsistent with previous research indicating psychopathy as a strong predictor of violence (Johnstone, 2013; Skeem et al., 2011), weapon violence (Michie & Cooke, 2006), and weapon carrying (Saukkonen et al., 2015).

The final model demonstrated a moderate ability to classify perpetrators (80%) and non-perpetrators (85%) and accounted for approximately 66% of the variance. The 10 covariates in the model were related to facets of criminality (e.g., antisocial peers,

prior arrests, weapon-related charges), childhood disruption (e.g., delinquency, suspensions), and substance abuse (i.e., alcohol and cannabis use disorders). Taken together, these findings are consistent with literature linking violence risk to antisocial history, behavior problems as a youth, and abuse of substances (Bonta et al., 2014; Elbogen & Johnson, 2009; Joyal et al., 2007). Further, psychiatric diagnosis did not contribute to classification, which is in keeping with studies suggesting other risk factors may be more relevant to violence risk assessment than mental illness (Elbogen & Johnson, 2009; Joyal et al., 2007; Phillips et al., 2005).

### *Limitations*

Based on the above findings, implications for the relationship between mental illness and weapon-involved violence can be formed from the current dissertation. However, prior to exploring these possibilities, limitations should be considered. First, both samples were relatively small, particularly the psychiatric sample ( $n = 80$ ), and diverse across many demographic features (e.g., ethnicity, age). With the base rate for weapon-involved violence expected to be quite low, the sample size strained the power of statistical options and ultimately prevented multivariate analyses for firearm violence and precluded a logistic regression for other weapon violence among the community sample. Related to this point, the observed occurrence of weapon-involved violence was small in this study, which limited in-depth exploration of violence involving a firearm. Additionally, it is possible that other covariates would have been significant (e.g., psychopathy) with larger samples. Third, the attrition rate for the psychiatric sample was quite high. Specifically, 145 psychiatric patients were eligible for participation, of which 65 (44.9%) were not included in the study. Of those 65, 14 were excluded due to the

attending physician not granting approval (e.g., due to psychiatric instability or gross cognitive impairments), 43 were approved for the study but refused to participate, and eight were excluded due to failing the consent quiz or dropping out before finishing the study. Notably, many of those who were excluded due to physician disapproval or refusal demonstrated acute psychotic symptoms or expressed extreme suspiciousness about the nature of the study. Thus, the prevalence for firearm violence may have been influenced by sample size and the high attrition rate for the psychiatric sample. Further, ceiling effects may have precluded the inclusion of severely psychotic patients in the psychiatric sample, which may have obscured findings regarding mental illness and weapon-involved violence. Finally, the psychiatric sample was diverse and consisted of approximately a third NRRI patients, a third SDOs, and a third of patients committed as mentally ill and dangerous. This may have influenced the nature of findings and possible relationship observed between mental illness and weapon-involved violence.

Although the methodology of the current dissertation presented many advantages to understanding weapon-involved violence and mental illness, there are limitations to a survey-based, retrospective study design. First, a survey approach necessarily relies on participant recall, which may be unreliable, particularly if the individual was experiencing acute mental illness symptoms during the incident. However, this may be offset by research suggesting self-report measures of violent outcomes are more sensitive to actual base rates than violent incidents measured by official records (Heilbrun, Yasuhara, & Shah, 2010). Similarly, psychopathy was measured via a self-report scale, the PPI-R, which presents some disadvantages (e.g., dishonesty, lack of insight; Lilienfeld & Fowler, 2006). Yet, evidence suggests the PPI-R is effective at violence

prediction, possibly beyond that posed by other measures of psychopathy, such as the PCL-R (Camp et al., 2013).

Second, participants were asked to report on the most severe instance (if the individual engaged in multiple offenses) of weapon-involved violence, without any date restrictions. This approach prevented cases from being compared across a single time period. Scholars in violence risk assessment have commented on the limitations in drawing firm conclusions from retrospective research designs using singular or unfixed time periods since it becomes difficult to disentangle the sequence and influence of risk factors (Douglas & Skeem, 2005). Lastly, this dissertation arguably captured samples from two opposite ends of the clinical spectrum: community participants and forensic psychiatric patients. Distinguishing between clinical and criminological influences was therefore complicated and the extent to which findings generalize to other populations varying on the continuum of clinical severity, such as outpatients, civil psychiatric, or non-forensic inpatients, is unclear.

#### *Implications for Policy and Practice*

Despite these limitations, the current dissertation poses implications for both policy and practice. The present study directly informs many of the policy assumptions previously identified. First, prohibitions assume weapon-involved violence, particularly concerning the use of a firearm, is common among individuals with mental illness. The present findings indicated a minority (15%) of patients reported engaging in firearm violence. Notably, these are individuals who would be categorically disqualified from owning firearms. Further, less than half of the psychiatric sample (45%) endorsed other weapon violence. Taken together, these findings suggest weapon-involved violence

among forensic psychiatric patients is less robust than what is assumed by the public. This highlights the over-inclusive nature of current weapon prohibitions that include categories of individuals who have been psychiatrically hospitalized for reasons unrelated to dangerousness (e.g., gravely disabled).

Second, firearm prohibitions seem to regard perpetrators of firearm violence as a unique type of violent offender. However, results from this study failed to reveal unique risk factors for firearm or other weapon violence that have not been reported in the literature for violence generally. Namely, criminal history, disruptive youth, and substance abuse have all been consistently demonstrated as predictors of violence, regardless of weapon use. While these findings should be considered with caution in light of the small sample size, results provide preliminary support for the notion that weapon-involved perpetrators (even those with severe mental illness) are not qualitatively distinct from other violent offenders. Thus, weapon regulations may best serve their policy agenda if they seek to identify violent offenders rather than those with mental illnesses.

Third, weapon regulations aimed at categories of the mentally ill assume a causal relationship between weapon-involved violence and mental illness. However, findings in this study did not indicate any severe mental illnesses as significant for distinguishing perpetrators from non-perpetrators. This was the case for both firearm and other weapon violence. Further, a diagnosis for substance abuse was the only clinical risk factor that contributed to the final classification model for other weapon violence. These findings cast doubt onto the policy assumption that mental illness is to blame for acts of violence involving a weapon, particularly firearm violence. As such, disqualification may be most effective if it focuses on individuals possessing various risk factors associated with

weapon-involved violence rather than targeting psychiatric patients as a population or mental illnesses per se. This policy change been recommended by other commentators in this area (McGinty et al., 2014).

Lastly, the findings of this study inform the firearm policy assumptions that most firearms are acquired through legal, regulated means (thereby justifying reforms to the national background check system). However, the psychiatric sample was significantly more likely than community participants to obtain firearms from illegal means, indicating persons who are prohibited from owning firearms are nonetheless able to acquire them through other, non-regulated means. Additionally, of the 12 mentally ill patients who endorsed firearm violence, none of them reported acquiring their firearm from a licensed firearm dealer. All reported obtaining their firearms from illegal or unregulated means (e.g., private sale from a friend). These findings suggest disqualified individuals with mental illness are still able to acquire firearms despite government regulations and, more specifically, firearm perpetrators utilize both illegal and unregulated methods for obtaining firearms. Thus, while regulating the sale and purchase of firearms may be effective, this mechanism may be insufficient in itself to stifle the efforts of those who would perpetrate firearm violence and wish to obtain a gun to do so. In lieu of regulating the acquisition of firearms, several commentators have supported so-called gun violence restraining orders (GVROs), in which firearms are proactively removed from the individual's residence following a disqualifying event, such as a hospitalization or call to the police (Frattaroli et al., 2015; McGinty et al., 2014; Rozel & Mulvey, 2017). For instances in which a person already owns a firearm, but is later disqualified from owning

one, some states require voluntary surrender of the weapon and enable law enforcement to seize the firearm if not forfeited (e.g., Hawaii Revised Statutes 134-7c).

In addition to the policy implications noted above, the findings of this study have implications for clinical practice as well. In particular, the low prevalence of weapon-involved violence among this psychiatric sample, and poor contribution of mental illness to the classification of weapon-involved perpetrators, suggest weapon-involved violence may be best managed if addressed in the same fashion as violence risk assessment. Namely, risk should be identified and mitigated on an individual, not categorical, level (Douglas, Blanchard, & Hendry, 2013). In keeping with this framework, it has been suggested that risk for harm to others (including firearm violence) be assimilated into general clinical practice, including suicide risk assessment (Hodges & Scalora, 2015). Additionally, results indicated other considerations that may be relevant in evaluations with psychiatric patients, such as whether the individual has been the victim of weapon-related violence and the extent to which the person's upbringing familiarized them with firearms. Lastly, results of this study indicated a large portion of weapon violence involved the use of substances and that weapon perpetrators (both for firearms and other weapons) were more likely to have a substance-related diagnosis. Previous studies have also reported an association between substance use weapon selection (Branas et al., 2016; Chen & Wu, 2016; Brennan & Moore, 2009). As such, substance abuse treatment may be a focal point for mitigating risk for weapon-involved violence.

#### *Implications for Research*

The current dissertation benefited the existent literature on weapon-involved violence and mental illness in multiple ways. First, unlike previous studies on weapon-

involved violence, which have utilized correctional and civil psychiatric samples (Perkins, 2003; Leclerc & Cale, 2015; Steadman, Monahan, & Pinals, 2015), the current dissertation explored the nature of weapon-involved violence among community and forensic psychiatric samples. However, the low occurrence of firearm violence and relatively small psychiatric sample precluded an in-depth analysis of many of these issues. Future research should seek to explore the prevalence of weapon-involved violence, particularly firearm violence, among other forensic (e.g., jail and prison) and mentally ill populations (e.g., residential and outpatients) and replicate this research with larger sample sizes.

Additionally, a broader analysis of firearm-related experiences were investigated in this study and findings suggested that community participants differed from psychiatric patients in many respects, not simply risk for firearm or other weapon violence. Yet, the literature has failed to examine other ways in which individuals with mental illness may possess unique beliefs or attitudes regarding firearms. Understanding of the unique perspective of patients who own firearms can be critical for effective interventions among those who own weapons and may be at elevated risk (Betz & Wintemute, 2015; Rozel & Mulvey, 2017). The findings of this study underscore the need to better understand firearm beliefs and practices among psychiatric patients in order to enhance cross-cultural communication by mental health providers about firearms. This is an area with great potential for future investigation.

Second, this study is among few to examine mental illness and various types of weapon-involved violence (see Casiano et al., 2008; Perkins, 2003). Past studies generally lump the use of a weapon into the construct of “severe violence” or consider

weapon use generally (e.g., Elbogen et al., 2006; Kivisto & Watson, 2016; Michie & Cooke, 2006). Such a clustering of weapon use in violence makes generalization of findings difficult to ascertain. The present dissertation dichotomized the construct of weapon-involved violence (i.e., firearm violence and violence involving any weapon besides firearms). This allowed for a more precise examination of the nature of violence involving various types of weapons and the individuals who use them. Future research on weapon-involved violence and mental illness should parse out outcomes in order to inform policy decisions with more specific findings.

Third, prior studies on weapon-involved violence have explored a rather limited range of characteristics associated with this type of crime, such as base rates, mental health history, and severity of harm (Dawson & Goodwill, 2012; Matejkowski et al., 2014; Perkins, 2003; Planty & Truman, 2013). The present study employed a more rigorous investigation of weapon-involved violence by measuring various historical, attitudinal, and clinical factors, which were assessed through both self-report and record review. Of note, this study evaluated self-reported psychopathy as it relates to weapon-involved violence, which few studies have explored (Michie & Cooke, 2006; Saukkonen et al., 2015). Findings indicated psychopathy did not uniquely contribute to offender member classification, which stands in stark contrast to findings on violence (Camp et al., 2013; Porter & Woodworth, 2006; Skeem et al., 2011). This may have been attributable to many factors, including the size of the sample, number of valid PPI-R cases available for analyses, or psychopathy being measured via self-report. Given the significance of psychopathy as a predictor of multiple types of recidivism, it would be prudent for future investigators to better understand the role of this construct in weapon-involved violence

in addition to other unexplored risk factors. Additionally, protective factors have been described as a critical feature of risk management (de Ruiter & Nicholls, 2011; de Vries Robbe & de Vogel, 2013) and have yet to be investigated in the area of weapon-involved violence risk assessment.

Finally, this dissertation explored hypotheses directly related to policy assumptions and weapon use regulations for individuals with mental illness. Unfortunately, previous research studies on weapon-involved violence have largely neglected the implications of findings for policy and law (Perkins, 2003; Planty & Truman, 2013), or explored these issues post-hoc in studies not originally designed to investigate weapon-involved violence (Steadman et al., 2015). Further, the literature that does address policy and legal issues for weapon violence and mental illness are often limited to commentaries or review articles; these publications have not included experimental, quasi-experimental, or natural groups research designs (McGinty et al., 2014; Pinal, 2014; Swanson et al., 2014). Given the current political atmosphere regarding firearm violence and mental illness, it is imperative that research in this area directly inform policy questions. Additionally, Purtle, Brownson, and Proctor (2016) have discussed the importance of disseminating scientific research to both legislators and their constituents in order to effectuate change in policy. Similar recommendations have been made for providing clinicians with evidence-based education on effective firearm safety counseling practices (Rozel & Mulvey, 2017). In order to be truly effective, researchers must not only bolster empirical findings on weapon-involved violence and mental illness but also advance the distribution of that information to practitioners and law makers.

*Conclusions*

Current weapon prohibitions assume a relationship between mental illness and weapon-involved violence. This study addressed these assumptions by surveying community participants and forensic psychiatric patients. Overall, the prevalence of weapon-involved violence was greater among forensic psychiatric patients than community participants. However, the majority of psychiatric patients did not report using a firearm or other weapon in an act of violence. Further, the only diagnostic characteristic that distinguished weapon-involved perpetrators from non-perpetrators in a classification model was having a substance-related diagnosis. Ultimately, historical risk factors reflecting criminal involvement and childhood dysfunction distinguished groups to a greater extent than any clinical characteristics. A broader investigation of firearm-related experiences revealed that community and psychiatric populations may differ in many regards to firearms beyond risk for using a gun or other weapon in a violent act. Thus, the current study enhanced the understanding of the nature of weapon-involved violence and mental illness.

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## APPENDIX A – M-TURK RECRUITMENT AD

Title: Firearm Use and Mental Illness Survey for \$1.00

Description: This is a psychology survey that will ask you to answer questions about your firearm use, personality characteristics, and attitudes about mental illness and gun control issues. The estimated time to complete the survey is 90 minutes for \$1.00.

Requester: Psychology researcher

HIT Expiration Date:

Reward: \$3.00

Time Allotted: 30 minutes to 2 days

Keywords: survey, questionnaire, psychology, firearm, gun, mental illness

Qualifications Required: Location is US

## APPENDIX B – PSYCHIATRIC PATIENT RECRUITMENT SCRIPT

Name of Recruiter: \_\_\_\_\_

Name of Eligible Participant: \_\_\_\_\_

Date: \_\_\_\_\_

**Name of Study:** Firearm Use and Mental Illness**Name of Experimenter:** Heath Hodges**Name of LRC Liaison:** \_\_\_\_\_

*You have been selected as an eligible participant for this study because you have been hospitalized at the Lincoln Regional Center under statute LB 1199 as a “Dangerous Sex Offender,” committed as mentally ill and dangerous, or because you have been adjudicated as “Not Responsible by Reason of Insanity.” Your involvement will require you to answer questions about your firearm use, personality characteristics, and attitudes about mental illness and gun control issues. All information collected in this study will be kept anonymous and strictly confidential. Your decision to participate in this study will NOT 1) impact any pending legal charges you may have, 2) influence the treatment you receive at the LRC, 3) or initiate new legal charges. The expected amount of time to complete this study is 90 minutes and you will be compensated \$10.00 following completion of all survey materials. Study participation will take place in a private office at the LRC under the supervision of researchers from the University of Nebraska-Lincoln.*

*If you chose to participate in this study, you will be scheduled for a time to meet with a trained research assistant in order to review the consent procedure, ask any questions you may have, and, if you decide to participate, complete the survey materials.*

*Are you interested in participating in this study?*

No      *Thank you for your time.*

Yes.      Scheduled Date/Time: \_\_\_\_\_

## APPENDIX C – ATTENDING PHYSICIAN APPROVAL FORM

Principle Investigator: Heath Hodges

Protocol Number: 20150213833

I, \_\_\_\_\_, the attending physician for \_\_\_\_\_,  
*(physician name)* *(eligible patient name)*  
do hereby state that I am aware of this research protocol and make the following  
recommendation concerning the patient's participation:

- I APPROVE the patient's participation.
- I do NOT APPROVE the patient's participation.

\_\_\_\_\_  
*Signature of Attending Physician*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Signature of Researcher*

\_\_\_\_\_  
*Date*

## APPENDIX D – COMMUNITY PARTICIPANTS CONSENT FORM

**Firearm Use and Mental Illness  
Form A****Key Points:**

- You must be a member of Amazon’s M-Turk to participate.
- You must be at least 19 years old to participate.
- Participation will involve filling out surveys.
- Surveys may ask you about sensitive subjects that could cause mild discomfort.
- None of your responses to questions concerning illegal activity will be disclosed to law enforcement.
- The benefits to you, aside from the contribution to science, are minimal.
- Any identifying information collected will be kept strictly confidential.
- You have the right to ask questions at the contact information listed below.
- You have the right to withdraw at any time and the right to not answer any questions you wish.

**Purpose of the Research:**

The purpose of the research is to better understand various attitudes regarding mental illness and gun control issues. You are being invited to participate because: 1) you are a member of Amazon’s M-Turk, 2) you are 19 years of age or older, and 3) you have volunteered to participate. This study is being conducted by researchers in the Department of Psychology at the University of Nebraska-Lincoln (UNL) under the direction of Dr. Brian Bornstein, Professor of Psychology and Courtesy Professor of Law.

**Procedures:**

For this study, you will be asked to complete a series of self-report questionnaires that should take approximately 90 minutes. These questions ask about your demographic information, attitudes, and experiences with firearms. You will be asked to answer questions about many of your thoughts, opinions, and behaviors, including victimization experiences that you may or may not have had. Some of the items ask about violent or sexual behavior that may be considered problematic or sexually aggressive in nature. You will also be asked questions about your personal history and background information, including your criminal history.

**Risks and/or Discomforts:**

There are no known risks associated with this research. Taking part in this study will not change or affect any current or pending legal situations, nor will it affect your relationship with UNL. There could be mild discomfort associated with this research in that some of the questions that will be asked are personal and related to sensitive subjects. In the unlikely event that you feel upset after participating in this study, you may wish to contact a treatment provider in the community.

**Benefits:**

The only benefit from this study is the knowledge that you are contributing to our understanding of firearm violence and mental illness issues; however, it is hoped that the information gained through this research project will go on to help others in the future.

**Confidentiality:**

All information collected in this study will be kept strictly confidential. The collection of data through online means allows the possibility of breaches in confidentiality. While data collection is not anonymous, safeguards have been placed. Your materials will be identified by a code number only—not your name. You will NOT be asked to put your name on any questionnaires or forms, except for this consent form. This consent form will be saved in a separate file from your questionnaires. Your name will not be linked to your answers in any way. Only the researchers will have access to the information, which will be stored on secured computers. When completed, this research may be published in scientific journals and presented at scientific conferences in a manner that will present only summary results without identifying any individuals. This data may be kept by the principal investigator for up to seven years after publication of the data.

**Compensation:**

You will receive \$3.00 (deposited directly into your M-Turk account) upon completion of all research questionnaires included in the study. Following the completion of the survey, you will be provided with a unique, randomly generated code, which can be entered separately into M-Turk to verify study completion and initiate payment.

**Opportunity to Ask Questions:**

You may ask questions about the research and have those questions answered at any time by contacting the investigators at the numbers listed below. If you have questions about your right as a research participant that have not been answered by the investigator or to report any concerns about the study, you may contact the UNL Institutional Review Board at (402) 472-6965.

**Freedom to Withdraw:**

You are free to decide not to participate, withdraw from this study at any time, or choose not to answer any questions you wish without adversely affecting your relationship with the investigators or UNL. Your decision will not result in the loss of any benefits to which you are otherwise entitled.

**Consent, Right to Receive a Copy:**

You are voluntarily making a decision whether or not to participate in this research study. Your digital signature certifies that you have decided to participate having read and understood the information presented. Please print this document as a copy of your consent form.

**Signature of Participant:**

If you decide to participate, you will be asked to provide a **digital signature**.

**Name and Phone number of investigator(s)**

*Heath J. Hodges, M.A., Principal Investigator*  
*Brian H. Bornstein, Ph.D., Co-Investigator*

*Office: (402) 472-3126*  
*Office: (402) 472-3721*

## APPENDIX E – PSYCHIATRIC PARTICIPANTS CONSENT FORM

**Firearm Use and Mental Illness  
Form B****Key Points:**

- You must be a Lincoln Regional Center patient to participate.
- You must be at least 19 years old to participate.
- Participation will involve filling out surveys.
- Surveys may ask you about sensitive subjects that could cause mild discomfort.
- None of your responses to questions concerning illegal activity will be disclosed to law enforcement.
- The benefits to you, aside from the contribution to science, are minimal.
- Any identifying information collected will be kept strictly confidential.
- You have the right to ask questions at the contact information listed below.
- You have the right to withdraw at any time and the right to not answer any questions you wish.

**Purpose of the Research:**

The purpose of the research is to better understand various attitudes regarding mental illness and gun control issues. You are being invited to participate because: 1) you are a patient at the Lincoln Regional Center (LRC), 2) you are 19 years of age or older, and 3) you have volunteered to participate. This study is being conducted by researchers in the Department of Psychology at the University of Nebraska-Lincoln (UNL) under the direction of Dr. Brian Bornstein, Professor of Psychology and Courtesy Professor of Law.

**Procedures:**

This study will take place at the LRC, a part of the Nebraska Department of Health and Human Services (DHHS). You will be asked to complete a series of self-report questionnaires that should take approximately 90 minutes. These questions ask about your demographic information, attitudes, and experiences with firearms. You will be asked to answer questions about many of your thoughts, opinions, and behaviors, including victimization experiences that you may or may not have had. Some of the items ask about violent or sexual behavior that may be considered problematic or sexually aggressive in nature. You will also be asked questions about your personal history and background information, including your criminal history. Also, researchers will get detailed background and criminal history information from your records at the LRC. As part of this research study, the DHHS will allow researchers access to this information in your records, if you decide to take part in this study.

**Risks and/or Discomforts:**

There are no known risks associated with this research. Taking part in this study will not change or affect any current or pending legal situations, nor will it affect your privileges, treatment, or rights with the DHHS, or your relationship with UNL. There could be mild discomfort associated with this research in that some of the questions that will be asked are personal and related to sensitive subjects. In the unlikely event that you feel upset after participating in this study, you may wish to contact your regular treatment provider at the LRC for services.

**Benefits:**

The only benefit from this study is the knowledge that you are contributing to our understanding of firearm violence and mental illness issues; however, it is hoped that the information gained through this research project will go on to help others in the future.

**Confidentiality:**

All information collected in this study will be kept strictly confidential. Your materials will be identified by a code number only—not your name. You will NOT be asked to put your name on any questionnaires or forms, except for this consent form. This consent form will be saved in a separate file from your questionnaires. Your name will not be linked to your answers in any way. Only the researchers will have access to the information, which will be stored on secured computers. When completed, this research may be published in scientific journals and presented at scientific conferences in a manner that will present only summary results without identifying any individuals. This data may be kept by the principal investigator for up to seven years after publication of the data.

**Compensation:**

You will receive \$10.00 (deposited directly into your institutional account) upon completion of all research questionnaires included in the study.

**Opportunity to Ask Questions:**

You may ask questions about the research and have those questions answered at any time by contacting the investigators at the numbers listed below. If you have questions about your right as a research participant that have not been answered by the investigator or to report any concerns about the study, you may contact the UNL Institutional Review Board at (402) 472-6965.

**Freedom to Withdraw:**

You are free to decide not to participate, withdraw from this study at any time, or choose not to answer any questions you wish without adversely affecting your relationship with the investigators, staff at LRC, or the UNL. Your decision will not result in the loss of any benefits to which you are otherwise entitled.

**Consent, Right to Receive a Copy:**

You are voluntarily making a decision whether or not to participate in this research study. Your signature certifies that you have decided to participate having read and understood the information presented. You will be given a copy of this consent form to keep.

**Signature of Participant:**


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*Signature of Research Participant*

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*Date*

---

*Signature of Researcher/Research Assistant*

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*Date*

**Name and Phone number of investigator(s)**

*Heath J. Hodges, M.A., Principal Investigator*  
*Brian H. Bornstein, Ph.D., Co-Investigator*

*Office: (402) 472-3126*  
*Office: (402) 472-3721*

## APPENDIX F – CONSENT FORM QUIZ

1. My decision to participate in this study will *not* impact the treatment I receive at the Lincoln Regional Center.  
 True  
 False
2. If I chose to participate, the benefits to me will be (select any that may apply):  
 \$10 compensation to be deposited directly into my account upon study completion  
 Better treatment at the LRC  
 Faster discharge from the LRC treatment program
3. Some of my answers about illegal activity may be told to law enforcement.  
 True  
 False
4. The purpose of this study is to better understand different attitudes that people have about mental illness and gun control issues, including my own opinions and experiences.  
 True  
 False
5. Once I start, I cannot withdraw my participation at any time and must complete every question.  
 True  
 False
6. I have been asked to participate in this study because I am a patient at the Lincoln Regional Center.  
 True  
 False
7. My decision to participate in this study requires me to complete several questionnaires and all of my answers will be kept strictly confidential.  
 True  
 False
8. If I have any questions about this study, I should direct my questions to:  
 LRC staff  
 My lawyer  
 The primary investigators (listed on the consent form)

## APPENDIX G – RESEARCH PARTICIPANT DISCLOSURE FORM

Principal Investigator: Heath Hodges

Protocol Number: \_\_\_\_\_

I, the undersigned, acknowledge receipt of compensation in the amount of **\$10.00** for my time as a participant in the above research study. I also acknowledge that this information, but no other study responses, may be shared with the central business office of the University of Nebraska – Lincoln in order to verify that payment has been issued for participation.

Name: \_\_\_\_\_

Address:      Lincoln Regional Center  
                  801 W Prospector Place  
                  Lincoln, NE 68522

\_\_\_\_\_  
*Signature of Research Participant*\_\_\_\_\_  
*Date*\_\_\_\_\_  
*Signature of Researcher/Research Assistant*\_\_\_\_\_  
*Date*

## APPENDIX H – DEMOGRAPHICS FORM

1. How old are you? \_\_\_\_\_
2. I am
  - Male
  - Female
3. I consider myself to be (Please answer BOTH questions 3 and 4):
  - Hispanic origin
  - Non-Hispanic origin
4. I consider my race to be:
  - White
  - Black
  - Asian/Pacific Islander
  - Native American/Alaskan Native
  - Multiracial (please specify): \_\_\_\_\_
  - Other: \_\_\_\_\_
5. I would describe myself as:
  - Catholic
  - Protestant Christian
  - Jewish
  - Hindu
  - Buddhist
  - Agnostic/Spiritual
  - Atheist/Non-religious
  - Other: \_\_\_\_\_
6. I identify as (select one):
  - Straight
  - Gay or lesbian
  - Bisexual
7. People are different in their sexual attraction to other people. Which best describes your feelings? (select one)
  - Only attracted to females
  - Mostly attracted to females
  - Equally attracted to females and males
  - Mostly attracted to males
  - Only attracted to males
  - Not sure

8. Please indicate your *current* marital status:
- Single
  - Living with a romantic partner but not married
  - Married but separated
  - Married and living together

9. Please indicate your marital *history*:
- Never married
  - Divorced (once)
  - Divorced (twice or more)
  - Widowed

10. How many biological children do you have? \_\_\_\_\_

11. How many adopted/step-children do you have? \_\_\_\_\_

*School/Employment*

12. Approximately how many times have you been fired from a job? \_\_\_\_\_

13. Approximately how many times have you quit a job without having another one in place?  
\_\_\_\_\_

14. Approximately how many times were you suspended from school as a child (K-12 grade)?  
\_\_\_\_\_

15. Were you ever expelled from school as a child (K-12 grade)?

- No
- Yes

16. What is the highest grade that you completed in school (K-12 grade)? \_\_\_\_\_

17. What is your highest level of education so far?

- Less than 12<sup>th</sup> Grade
- GED/HS Diploma
- Vocational/Technical Certificate
- Some College
- Associate's Degree
- Bachelor's Degree
- Master's Degree or higher

*Criminal History*

18. About how many times have you been arrested (if never, enter 0)? \_\_\_\_\_

19. About how many times have you been charged with a crime (if never, enter 0)? \_\_\_\_\_

20. About how many times have you been convicted of a crime (if never, enter 0)? \_\_\_\_\_

21. How many times have you been arrested for a violent incident, including making threats or fighting (if never, enter 0)? \_\_\_\_\_

22. Have you ever been convicted of a misdemeanor of a violent nature, such as domestic violence?  
 No  
 Yes
23. Have you ever been convicted of a felony of a violent nature, such as assault or sexual assault?  
 No  
 Yes
24. How old were you when you were first convicted of a violent crime (if never, enter 0)? \_\_\_\_\_
25. Approximately how many times have you violated probation or parole (if never, enter 0)? \_\_\_\_\_
26. Approximately how many of your friends have a criminal record (if none, enter 0)? \_\_\_\_\_

*Childhood History*

27. Has your father ever been arrested or convicted of a crime that you know of?  
 No  
 Yes
28. Has your mother ever been arrested or convicted of a crime that you know of?  
 No  
 Yes
29. When I was a child, my father consumed alcohol:  
 Never  
 Occasionally  
 Sometimes  
 Frequently
30. When I was a child, my father used drugs:  
 Never  
 Occasionally  
 Sometimes  
 Frequently
31. When I was a child, my mother consumed alcohol:  
 Never  
 Occasionally  
 Sometimes  
 Frequently

32. When I was a child, my mother used drugs:
- Never
  - Occasionally
  - Sometimes
  - Frequently
33. As a child (younger than 18), did anyone ever bother you sexually or try to have sex with you against your will?
- No
  - Yes
34. As a teenager (ages 13-17), I was involved in delinquent behaviors (e.g., theft, fights, arson).
- No
  - Yes
35. As a child (younger than 18), one or both of my parents hit me enough to require hospitalization.
- No
  - Yes
36. Growing up, my parents fought with each other:
- Never
  - Occasionally
  - Sometimes
  - Frequently
37. Growing up, the fights between my parents involved:
- Words only
  - Restraint/Physical force
38. Before the age of 18, were you ever the member of a gang?
- No
  - Yes
39. Before the age of 18, did you ever deal drugs?
- No
  - Yes

## APPENDIX I – FIREARM USE AND BELIEFS RECORD

**Section 1: Family Background**

1. As a child, my parents owned firearms.  No  Yes
2. During my childhood, it was not uncommon for people in my community to carry firearms.  
 No  Yes
3. I learned about firearm safety at a young age.  No  Yes
4. How old were you when you first fired a firearm (if never, enter '0')? \_\_\_\_
5. I went to a shooting range as a child at least one time.  No  Yes
6. I played with toy guns as a kid.  No  Yes
7. Hunting was a normal activity in my childhood home.  No  Yes
8. Firearms were a common item in my home as a child.  No  Yes
9. As a child, I was not allowed near firearms for safety reasons.  No  Yes
10. As a child, I played video games involving firearm violence.  No  Yes

**Section 2: General Firearm Knowledge***Firearm Knowledge*

11. I know how to use a firearm.  False  True
12. A firearm that does not require me to reload for every shot and continues to fire rounds as long as the trigger is pulled is known as a:
  - a. Pistol
  - b. Semi-automatic weapon
  - c. Fully automatic weapon
  - d. Shotgun
13. The opening on the front of a firearm where the bullet comes out is known as the:
  - a. Muzzle
  - b. Breach
  - c. Hammer
  - d. Trigger
14. A revolver is a type of pistol.  False  True

15. The part of the firearm that makes contact with the back of the bullet to burn the gun powder in the bullet and shoot it out of the gun is called the:
- Muzzle
  - Breach
  - Hammer
  - Trigger
16. The chamber of a firearm:
- Holds the ammunition ready to fire
  - When operated opens the part of the firearm handling the ammunition
  - Prevents the firearm from firing
  - When pulled it strikes the back of the bullet
17. What type of firearm is a semi-automatic rifle and shotgun?
- Single shot
  - Manual-repeating
  - Self-loading

*Ammunition Knowledge*

18. The term "caliber" typically refers to the width of a bullet or barrel size of a firearm.  
 False  True
19. The shaped piece of metal that is shot from the barrel after a firearm is fired is known as the primer.  False  True
20. When a firearm is shot, it spits out a \_\_\_\_\_, which is the cylinder holding the charge and projectile.
- Bullet
  - Ammunition
  - Primer
  - Cartridge
21. "Armor-piercing rounds" have the ability to shoot through armors, such as bullet-proof vests.  
 False  True
22. Most bullets can be used with any type of gun.  False  True

*Firearm Safety Knowledge*

23. Using a firearm's safety switch makes sure that a firearm will never accidentally fire.  
 False  True
24. The first step to making sure a firearm is safe is:
- Remove all the ammunition
  - Examine the barrel for anything blocking it
  - Point the firearm in a safe direction
  - Examine the chamber
25. When unloading a loaded semi-automatic handgun, you have to remove the clip and eject the round that may be in the chamber.  False  True

26. Which of the following is NOT dangerous for ammunition?
- Being near sharp objects
  - Extreme heat
  - Getting hit really hard
  - Extreme cold

### Section 3: Knowledge of Firearm Regulations

#### *Federal Law*

27. I am knowledgeable about federal laws on the sale, ownership, and transfer of firearms.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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28. Which of the following categories of individuals are NOT allowed to own a firearm according to federal law (mark all that apply)?
- Any individual diagnosed with a major mental illness, such as schizophrenia
  - Anyone under indictment for a crime punishable by a prison sentence lasting more than a year
  - Anyone convicted of a crime punishable by a prison sentence lasting more than a year
  - Fugitives from justice
  - Illegal users of or addicted to any controlled substance
  - Anyone adjudicated as a mental defective or who has been committed to a mental institution
  - Illegal aliens
  - Anyone dishonorably discharged from the military
  - Anyone who has rejected his or her United States citizenship
  - Anyone subject to a restraining order due to harassing, stalking, or threatening an intimate partner or child of the intimate partner
  - Anyone convicted of a misdemeanor crime of domestic violence

### Section 4: Gun Ownership

29. Do you own a firearm, whether legally or illegally? This includes firearms that you own but may not be in your possession or are stored in another place.  No  Yes
30. How many firearms overall do you own? \_\_\_\_\_
31. How many handguns do you own? \_\_\_\_\_
32. How many shotguns do you own? \_\_\_\_\_
33. How many rifles do you own? \_\_\_\_\_
34. Are there currently firearms stored in your home, even if they do not belong to you?  
 No  Yes
35. Have you previously carried a firearm on your person when you knew it was illegal to do so?  
 No  Yes

36. How often have you carried a firearm in your vehicle during the last 12 months?
- Never
  - Only once
  - Several times a year
  - About once a month
  - Several times a month
  - About once a week
  - Daily or almost daily
  - Does Not Apply**
37. When you carry a firearm in your vehicle, do you keep it loaded?
- Never
  - Almost never
  - Sometimes
  - Almost every time
  - Every time
  - Does Not Apply**
38. What is your main reason for carrying a firearm?
- Personal protection in general
  - Threat from a particular person
  - Other: \_\_\_\_\_
  - Does Not Apply**
39. Do you have a permit to carry a handgun?  No  Yes
40. Do you have a permit to carry a concealed handgun?  No  Yes
41. How often have you carried a handgun on your person in the last 12 months?
- Never
  - Only once
  - Several times a year
  - About once a month
  - Several times a month
  - About once a week
  - Daily or almost daily
  - Does Not Apply**
42. How often is it loaded?
- Never
  - Almost never
  - Sometimes
  - Almost every time
  - Every time
  - Does Not Apply**

**Section 5: Firearm Acquisition**

43. Have you ever attempted to buy a firearm from a licensed firearm dealer?  
 No  Yes
44. When you attempted to buy a firearm from a licensed firearm dealer, how frequently was a background check performed?  
 Never performed (0%)  
 Rarely performed (25% or less)  
 Performed about half of the time (50%)  
 Usually performed (75% or more)  
 Performed every time (100%)  
 **Does Not Apply**
45. Have you ever attempted to purchase a firearm, even though you were prohibited by law from owning one?  
 No  Yes
46. Have you ever been disqualified from owning a firearm but nonetheless attempted to purchase a gun from a licensed dealer?  
 No  Yes
47. If so, was the background check performed?  
 No  
 Yes  
 **Does Not Apply**
48. Were you correctly flagged by the background check system?  
 No  
 Yes  
 **Does Not Apply**
49. If you were flagged by the background check system, did the dealer sell you the gun anyway?  
 No  
 Yes  
 **Does Not Apply**
50. What methods have you used to obtain a firearm in the past? MARK ALL THAT APPLY  
 Drug dealer/off the street  
 Theft or burglary  
 Straw purchase/black market  
 Private purchase or trade from a friend, family member, or other acquaintance  
 Purchased or traded from a licensed firearm dealer/retail store  
 Purchased or traded from a pawnshop  
 Purchased or traded from a flea market  
 Purchased or traded from a gun show  
 Purchased online

Other: \_\_\_\_\_

**Does Not Apply**

51. If I wished to get a firearm, I could do so easily.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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### Section 6: General Attitudes

Using the scale below as a guide, write a number beside each statement to indicate how true it is.

1	2	3	4	5	6	7
Not True			Somewhat			Very True

52. I sometimes tell lies if I have to. \_\_\_\_\_
53. I never cover up my mistakes. \_\_\_\_\_
54. There have been occasions when I have taken advantage of someone. \_\_\_\_\_
55. I never swear. \_\_\_\_\_
56. I sometimes try to get even rather than forgive and forget. \_\_\_\_\_
57. I always obey laws, even if I'm unlikely to get caught. \_\_\_\_\_
58. I have said something bad about a friend behind his/her back. \_\_\_\_\_
59. When I hear people talking privately, I avoid listening. \_\_\_\_\_
60. I have received too much change from a salesperson without telling him or her. \_\_\_\_\_
61. I always declare everything at customs. \_\_\_\_\_
62. When I was young I sometimes stole things. \_\_\_\_\_
63. I have never dropped litter on the street. \_\_\_\_\_
64. I sometimes drive faster than the speed limit. \_\_\_\_\_
65. I never read sexy books or magazines. \_\_\_\_\_
66. I have done things that I don't tell other people about. \_\_\_\_\_
67. I never take things that don't belong to me. \_\_\_\_\_
68. I have taken sick-leave from work or school even though I wasn't really sick. \_\_\_\_\_
69. I have never damaged a library book or store merchandise without reporting it. \_\_\_\_\_

70. I have some pretty awful habits. \_\_\_\_\_

71. I don't gossip about other people's business. \_\_\_\_\_

### Section 7: Firearm Use Attitudes

72. I am a current member of the National Rifle Association (NRA).  No  Yes

73. Carrying a firearm makes me feel safe.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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74. I believe the only use for a firearm is protection.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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75. Please indicate "Somewhat Disagree" for your answer.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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76. I would feel nervous holding a firearm.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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77. I am afraid of people who carry firearms.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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78. I don't like being around people with firearms because someone could get hurt.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
-------------------	-------------------	----------------------------	----------------	----------------

79. I feel very comfortable around firearms.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
-------------------	-------------------	----------------------------	----------------	----------------

80. "Guns don't kill people, people kill people."

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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### Section 8: Firearm Regulation Attitudes

#### *Assault Weapon and Ammunition Policies*

**How strongly do you favor the following policies?**

81. A ban on the sale of military-style, semiautomatic assault weapons that are able to shoot more than 10 bullets of ammunition without reloading.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

82. What if the government was required to pay firearm owners the fair market value of their weapons?

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

83. A ban on the sale of ammunition clips or magazines that allow some firearms to shoot more than **10 bullets** before reloading.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

84. What if the government was required to pay firearm-owners the fair market value of their ammunition clips?

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

85. A ban on the sale of ammunition clips or magazines that allow some firearms to shoot more than **20 bullets** before reloading.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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#### *Prohibited Person Policies*

#### **How strongly do you favor the following policies?**

86. Preventing a person convicted of two or more crimes involving alcohol or drugs within a 3-year period from having a firearm for 10 years.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

87. Preventing a person convicted of violating a domestic violence restraining order from having a firearm for 10 years.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

88. Preventing a person convicted of a serious crime as a juvenile from having a firearm for 10 years.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

89. Preventing a person under the age of 21 from having a handgun.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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90. Preventing a person on the “terrorist watch list” from having a firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

91. Preventing firearm ownership for 10 years for people who have been convicted of the following crimes:

a. Public display of a firearm in a threatening manner, not including self-defense

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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b. Assault & battery that does not result in serious injury or involve a lethal weapon

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

c. Drunk and disorderly conduct

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

d. Carrying a concealed firearm without a permit

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

e. Indecent exposure

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

92. Which categories of individuals do you believe should be restricted from owning firearms?

MARK ALL THAT APPLY

- Any individual diagnosed with a major mental illness, such as schizophrenia
- Anyone under indictment for a crime punishable by a prison sentence lasting more than a year
- Anyone convicted of a crime punishable by a prison sentence lasting more than a year
- Fugitives from justice
- Illegal users of or addicted to any controlled substance
- Anyone adjudicated as a mental defective or who has been committed to a mental institution
- Illegal aliens
- Anyone dishonorably discharged from the military
- Anyone who has rejected his or her United States citizenship
- Anyone subject to a restraining order due to harassing, stalking, or threatening an intimate partner or child of the intimate partner
- Anyone convicted of a misdemeanor crime of domestic violence

#### *Background Check Policies*

**How strongly do you favor the following policies?**

93. Requiring a background check system for all firearm sales, including private and online sales, to make sure a purchaser is not legally prevented from having a firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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94. Requiring private firearm sales to go through the same background check as sales by licensed dealers.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

95. Increasing federal funding to states for the background check system in order to improve reporting of people prevented by law from having a firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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96. Extending the turn-around period for background checks to five (5) business days. Currently, federal law only requires that law enforcement complete background checks within three (3) business days of submission.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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97. Requiring that health care providers report certain individuals (specifically, people who threaten to harm themselves or others) to the background check system in order to prevent them from having a firearm for 6 months.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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98. Requiring that states report to the background check system any person who is involuntary committed to a hospital for psychiatric treatment or declared mentally incompetent by a court of law.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

99. Requiring the military to report a person who has been rejected from service because of mental illness or drug or alcohol abuse to the background-check system to prevent them from having a firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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#### *Firearm Dealer Policies*

#### **How strongly do you favor the following policies?**

100. The Bureau of Alcohol, Tobacco, and Firearms should have the ability to temporarily take away a firearm dealer's license if an audit reveals record-keeping violations and the dealer cannot account for 20 or more firearms.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

101. Cities should have the option to sue licensed firearm dealers when there is strong evidence that the firearm dealer's careless sales practices allowed many criminals to obtain firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

102. The police and the public should have a list that details firearm dealers who have sold the most firearms used in crimes so that those firearm dealers can be prioritized for greater oversight.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
-----------------	-----------------	--------------------------	----------------	----------------

103. There should be a mandatory minimum sentence of 2 years in prison for a person convicted of knowingly selling a firearm to someone who cannot legally have a firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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#### *Firearm Registration*

#### **How strongly do you favor the following policies?**

104. Requiring registration of handguns and pistols.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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105. Requiring firearm owners to re-register their handguns and pistols at regular periods in order to establish that they still own them.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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#### *Concealment Licenses*

#### **How strongly do you agree with the following policies?**

106. Adults should be allowed to carry a concealed firearm in public, as long as they pass a criminal background check and a firearm safety course.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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107. Public places, such as stores, movie theaters and restaurants, should allow people to carry concealed weapons on their premises as long as they have a permit to do so.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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108. A license to carry a concealed firearm should only be issued to people with a special need to do so, such as private detectives, and not just any adult who has passed a background check and firearm safety course.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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*Handgun Restrictions***How strongly do you agree with the following policies?**

109. Legal restrictions on the sale and ownership of handguns are too strict and should be relaxed.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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110. Existing restrictions on the sale and ownership of handguns are plenty.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
-------------------	-------------------	----------------------------	----------------	----------------

111. Handgun owners should be licensed by the government and complete required training.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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112. There should be a total ban on private handgun ownership.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
-------------------	-------------------	----------------------------	----------------	----------------

113. Handgun possession should be allowed only by law enforcement personnel, but law abiding citizens should still be allowed to purchase and possess shotguns and rifles.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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114. Gun safety training should be required for anyone wanting to buy a gun.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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*Other Gun Policies***How strongly do you favor the following policies?**

115. A requirement that elderly people (e.g., over age 65) must be tested from time to time to ensure that they are functioning well enough mentally to continue owning a firearm.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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116. A requirement that people must obtain a license from local law enforcement before buying a gun in order to confirm their identity and that they are not legally prevented from having a gun.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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117. Government funding for research to develop and test “smart guns” designed to fire only when held by the owner of the gun or other authorized user.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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118. Laws that require a person to lock up guns in the home when not in use as a measure to prevent handling by children or teenagers without adult supervision.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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119. Laws that allow police officers to search for and remove firearms from a person, without a warrant, if they believe the person is dangerous because of a mental illness, emotional instability, or a tendency to be violent.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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120. The government should do everything it can to keep handguns out of the hands of criminals, even if it means that it will be harder for law-abiding citizens to purchase handguns.

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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### Section 9: Firearms and Mental Illness Policy

#### *Perceived Dangerousness*

#### **How strongly do you agree with the following policies?**

121. I am concerned about individuals with mental illnesses owning guns.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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122. The relationship between major mental illness and violence is strong.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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123. I would be concerned about having a gun in the house if someone with mental illness was present.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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124. People with serious mental illnesses are more dangerous than the general population.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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125. Locating a home for people with mental illness in a suburban neighborhood endangers local residents.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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126. I would be unwilling to work closely on a job with a person who has a serious mental illness.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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127. I would be unwilling to have a person with serious mental illness as a neighbor.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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128. Most people in prison do not have a mental illness but falsely claim to be mentally ill.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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129. How strongly do you favor the restoration of gun ownership rights for people who previously lost this right due to a mental illness but are currently determined not to be dangerous?

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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### *Treatment*

130. How strongly do you favor returning the right of gun ownership for people who previously lost this right due to a mental illness but are currently determined not to be dangerous?

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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131. How strongly do you favor the requirement that insurance companies offer benefits for mental health and drug and alcohol abuse services that are the same as benefits for other medical services?

strongly oppose	somewhat oppose	neither favor nor oppose	somewhat favor	strongly favor
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132. Would you like to see more, or less, government spending on mental health treatment?

much less	less	the same as now	more	much more
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133. Would you like to see more, or less, government spending on drug and alcohol abuse treatment?

much less	less	the same as now	more	much more
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134. I would like to see more government spending on screening and treatment for severe mental health issues as a way to reduce firearm violence.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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135. I would like to see more government spending on screening and treatment for substance abuse as a way to reduce firearm violence.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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136. Unfair treatment against people with mental illness is a serious problem.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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137. Most people with serious mental illness can, with treatment, get well and return to productive lives.

strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
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### Section 10: Personal Experiences with Mental Illness

138. I have been diagnosed with a mental illness (e.g., depression, ADHD, PTSD) in my lifetime.  
 No  Yes
139. Which diagnoses have you received? MARK ANY THAT APPLY  
 I have never been diagnosed with a mental illness  
 Schizophrenia or some other psychotic disorder (e.g., schizoaffective disorder)  
 Major Depressive Disorder (aka, clinical depression)  
 Bipolar Disorder (aka, manic-depressive)  
 Post-traumatic stress disorder  
 Attention Deficit Hyperactivity Disorder (aka, ADHD, ADD)  
 Borderline Personality Disorder  
 Antisocial Personality Disorder  
 Substance Abuse Disorder (e.g., alcohol, methamphetamine)  
 Unsure/unknown  
 Other (please specify): \_\_\_\_\_
140. Have you ever been hospitalized at a psychiatric hospital or crisis center for mental health reasons?  No  Yes
141. Approximately how many times have you been hospitalized for a mental illness? \_\_\_\_\_
142. What was the *main* reason for your most recent hospitalization?  
 I have never been hospitalized for psychiatric reasons  
 Danger to myself (e.g., suicide attempt, suicidal thoughts, threats of suicide)  
 Dangerousness to others (e.g., threatened or actual violence towards another person)  
 Legal proceedings (e.g., competence to stand trial, not guilty by reason of insanity)
143. Do you have an immediate family member, or another relative or close friend, that has been hospitalized, in counseling, or received prescription medication to treat a mental health or drug or alcohol abuse problem?  
 No  
 Yes

### Section 11: Victimization with Firearms

144. Have you ever had a firearm stolen from your home, car or truck, place of business, or off your person?  
 No  
 Yes

145. Have you ever been the victim of a violent crime (e.g., robbery, assault, sexual assault)?
- No
  - Yes
146. Have you ever been the victim of a violent crime that involved a firearm?
- No
  - Yes
147. If you have been the victim of a violent crime involving a firearm, how was the firearm used against you? MARK ANY THAT APPLY
- DOES NOT APPLY; I have never been the victim of a violent crime involving a firearm
  - The perpetrator threatened to use the firearm but I never saw it
  - The perpetrator showed me the firearm but did not use it against me
  - The perpetrator struck me with the firearm
  - I was shot
148. Have you ever been the victim of a violent crime that involved some weapon other than a firearm, such as a knife?
- No
  - Yes



## Section 2: Incident Details

*Please complete the following questions for the MOST SEVERE INCIDENT (i.e., resulted in the greatest harm to someone) in which you used a firearm unlawfully to threaten or harm another person. If you have NEVER used a firearm to unlawfully threaten or harm another person, please SKIP to Section 3.*

---

### *Firearm Acquisition*

10. How old were you at the time (estimate if you are unsure)? \_\_\_\_\_
11. Did you obtain the gun specifically for the purpose of committing this act?
- No, I already had the gun
- No, but the opportunity presented itself and I took advantage of the chance
- Yes, I got the gun for the purpose of committing this act
12. At the time you got the firearm, were you prevented from owning a firearm (mark all that apply)?
- No, it was legal for me to own a firearm at the time
- Yes, it was prevented due to a previous mental health hospitalization
- Yes, it was prevented due to my criminal record
- Yes, it was prevented due to the firearm being an illegal type (e.g., sawed-off shotgun)
- Yes, it was prevented for other reasons: \_\_\_\_\_
13. How difficult was it for you to get ahold of the firearm (circle one)?
- |                      |                    |               |           |
|----------------------|--------------------|---------------|-----------|
| Not Difficult at all | Somewhat Difficult | Somewhat Easy | Very Easy |
|----------------------|--------------------|---------------|-----------|
14. Did you get the firearm legally or illegally?       Legally       Illegally
15. How did you obtain the firearm that was used in the incident?
- Drug dealer/off the street
- Theft or burglary
- Straw purchase/black market
- Private purchase or trade from a friend, family member, or other acquaintance
- Rented or borrowed from a friend, family member, or other acquaintance
- Purchased or traded from a licensed firearm dealer/retail store
- Purchased or traded from a pawnshop
- Purchased or traded from a flea market
- Purchased or traded from a gun show
- Purchased online
- Other: \_\_\_\_\_
16. At the time, was it illegal for you to own a firearm?
- No, I was legally allowed to own a firearm
- Yes, I was not legally permitted to own a firearm
17. At the time, did you attempt to buy a firearm from a licensed firearm dealer?
- No    Yes

18. If so, was a background check performed?
- No
- Yes
- Does Not Apply**
19. Were you correctly flagged by the background check system?
- No
- Yes
- Does Not Apply**
20. If you were flagged by the background check system, did the dealer sell you the gun anyway?
- No
- Yes
- Does Not Apply**
21. What was your relationship to the person from whom you got the gun (select the best option)?
- Myself (already owned)
- Family member
- Former or current romantic/sexual partner
- Friend or associate
- Gang member
- Licensed retailer (i.e., a firearm shop)
- Firearm show vender
- Internet
- Unknown/stranger
- I had someone else purchase the firearm for me (i.e., straw person)
- Other \_\_\_\_\_

*Type of Firearm*

22. What type of firearm was it?
- Single shot rifle
- Revolver
- Semi-automatic
- Automatic
- Unknown (please describe the firearm as best as you can): \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
23. How many bullets was the firearm capable of holding at one time? \_\_\_\_\_
24. Did you use “armor-piercing” bullets?  No  Yes  I don’t know
25. What type of bullets did you use? \_\_\_\_\_

26. Had the firearm been modified in any way (e.g., silencer, serial numbers filed off, sawed-off barrel)? No Yes

27. If YES, How? \_\_\_\_\_

*Motive*

**Please discuss your reasons for the act as you remember them. Circle or check your response.**

28. I think the other person deserved what happened to them during the incident.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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29. I am glad the incident occurred.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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30. I wanted the incident to occur.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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31. The act led to power over others or improved social status for me.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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32. The act was an attempt at revenge.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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33. I feel my actions were necessary to get what I wanted.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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34. I felt my outburst was justified.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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35. I planned when and where my anger was expressed.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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36. I was under the influence of alcohol or other drugs during the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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37. I purposely delayed the act until a later time.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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38. Anything could have set me off prior to the incident.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

39. I felt pressure from others to commit the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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40. I consider the act to have been impulsive.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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41. I feel I lost control of my temper during the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

42. I feel I acted out aggressively more than the average person in the 6 months before the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

43. I was in control during the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

44. I reacted without thinking.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

45. My behavior was too extreme for the situation.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

46. I understood the consequences of the act before I acted.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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47. I usually can't recall the details of the incident well.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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48. Prior to the incident, I knew an argument was going to occur.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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*State of Mind at the Time*

49. How well do you remember the event?

Not at all	Only somewhat	Most of it	Completely
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50. At the time of the incident, which substances had you been using (mark all that apply)?
- Alcohol
  - Marijuana
  - Cocaine
  - Methamphetamine
  - Heroin
  - Others: \_\_\_\_\_
51. Would you consider yourself “drunk” or “high” at the time of the incident?
- No  Yes
52. Within two weeks of the incident, had you been hospitalized for mental health reasons?
- No  Yes
53. At the time of the incident, were you feeling depressed and hopeless?  No  Yes
54. At the time of the incident, had you been prescribed medications for mental health reasons?
- No  Yes
55. If yes, how were you taking these medications?
- Not at all
  - Less than prescribed
  - As prescribed
  - More than prescribed
  - Does Not Apply** (I was not prescribed medications)
56. Were you receiving mental health services at the time of the incident?  No  Yes
57. Before to the incident, did a mental health professional (e.g., psychiatrist, therapist) have any knowledge that you owned or had access to a firearm?  No  Yes
58. Before to the incident, did a mental health professional (e.g., psychiatrist, therapist) have knowledge that might have prevented the incident?  No  Yes
59. If YES, what was the result?
- The mental health professional chose to do nothing.
  - Doctor-patient confidentiality prevented the mental health professional from saying anything.
  - The mental health professional informed the person in danger
  - The mental health professional informed the police
  - The mental health professional informed the person in danger AND the police
  - I do not know what the mental health professional chose to do
60. Before to the incident, I was feeling extremely stressed.  No  Yes

61. Before to the incident, I had been feeling on edge about a lot of things in my life.  
No Yes
62. Before to the incident, I was feeling unusually depressed, hopeless, or suicidal.  
No Yes
63. Before to the incident, I was feeling unusually hyper, restless, or distractible (not because of drug use). No Yes
64. Before to the incident, I was having daydreams or thoughts about physically hurting or injuring others. No Yes
65. Before to the incident, I was feeling easily frustrated and annoyed. No Yes

**At the time of the incident, I believed:**

66. People were spying on me.  
 a) No Yes  
 b) How much did this influence your actions?  

No influence	Little influence	Some influence	Major influence
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67. People were following me.  
 a) No Yes  
 b) How much did this influence your actions?  

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------
68. I was being secretly tested or experimented on.  
 a) No Yes  
 b) How much did this influence your actions?  

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------
69. Someone was plotting against me or trying to hurt/poison me.  
 a) No Yes  
 b) How much did this influence your actions?  

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------
70. I was under the control of some person power or forces so that my actions and thoughts were not my own.  
 a) No Yes  
 b) How much did this influence your actions?  

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------
71. Strange thoughts that were not my own were being put directly into my mind.  
 c) No Yes  
 d) How much did this influence your actions?  

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------
72. Someone or something could take or steal my thoughts out of my mind.  
 a) No Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

73. Strange forces were working on me, as if I was being hypnotized or magic was being performed on me, or I was being hit by x-rays or laser beams.

a)  No  Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

74. Did you actually act on any of these beliefs?  No  Yes

#### *Firearm Use*

75. Was the firearm loaded at the time of the incident?  No  Yes

76. Was the firearm fired at the time of the incident?  No  Yes

77. Please indicate 'Yes' as your answer.  No  Yes

78. How was the firearm actually used against the persons harmed?

To threaten the person(s) (firearm never seen or was hidden)

To scare the person(s) (firearm merely shown to victim)

To strike the person(s)

To shoot the person(s) without killing

To kill the person(s)

79. Where did this incident take place?

My residence

Other's home

Street/outdoors

Bar

Workplace

Other: \_\_\_\_\_

#### *Characteristics of Persons Harmed*

80. How old was the person you intended to harm? \_\_\_\_\_

81. What was your relationship to the person you intended to harm?

Parent/step-parent

Sibling/half-sibling

Child/step-child

Other family

Former or current spouse/romantic/sexual partner

Friend/Acquaintance

Stranger

Intruder

82. How many people were harmed during the incident? \_\_\_\_\_

83. What was the worst degree of harm that resulted from the incident?
- No physical damage
  - Minor physical damage (no hospitalization required)
  - Major physical damage (hospitalization required)
  - Life-threatening (possibility of death)
  - Death
  - Unknown

### Section 3: Firearm Accessibility

84. If I wanted to, I could get a firearm:
- Immediately
  - Easily
  - With some trouble
  - With great difficulty
  - Unknown/uncertain
85. Do you currently know someone who would be willing to loan, give, sell, or purchase a firearm for you?       No    Yes
86. Do you currently know someone from whom you could steal a firearm if you desired?  
 No    Yes

### Section 4: Other Weapons Used to Harm a Person Offending

87. Have you ever used a weapon, other than a firearm, to *unlawfully threaten or harm* another person (e.g., knife, baseball bat, etc.)?  
 No    Yes
88. About how many times (enter '0' if never)? \_\_\_\_\_
89. Which of the following have you used to unlawfully threaten or harm another person (mark all that apply)?
- My own fists
  - Blunt object (e.g., baseball bat, beer bottle)
  - Knife
  - Other (e.g., vehicle, rope). Please specify: \_\_\_\_\_
  - I have never used a weapon against another person
90. Have you ever unlawfully *threatened* to use a weapon (not a firearm) against another person, even if you never acted on this threat?    No    Yes
91. About how many times (enter '0' if never)? \_\_\_\_\_
92. Have you ever unlawfully *threatened* another person *while holding a weapon* (not a firearm) in your hand?  
 No    Yes



101. From whom did you get the weapon (mark all that apply)?

Myself (already owned)

Family member

Former or current romantic/sexual partner

Friend or associate

Gang member

Retailer

Internet

Unknown/stranger

Other \_\_\_\_\_

*Type of Weapon*

102. What type of weapon was it?

Blunt object (e.g., baseball bat, beer bottle)

Knife

Other (e.g., vehicle, rope). Please specify: \_\_\_\_\_

103. Had the weapon been modified in any way?  No  Yes

If YES,

104. How? \_\_\_\_\_

*Motive*

**Please discuss your reasons for the act as you remember them. Circle or check your response.**

105. I think the other person deserved what happened to them during the incident.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

106. I am glad the incident occurred.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

107. I wanted the incident to occur.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

108. The act led to power over others or improved social status for me.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

109. The act was an attempt at revenge.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

110. I feel my actions were necessary to get what I wanted.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

111. I felt my outburst was justified.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

112. I planned when and where my anger was expressed.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

113. I was under the influence of alcohol or other drugs during the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

114. I purposely delayed the act until a later time.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

115. Anything could have set me off prior to the incident.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

116. I felt pressure from others to commit the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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117. I consider the act to have been impulsive.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

118. I feel I lost control of my temper during the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

119. I feel I acted out aggressively more than the average person in the 6 months before the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

120. I was in control during the act.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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121. I reacted without thinking.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

122. My behavior was too extreme for the situation.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

123. I understood the consequences of the act before I acted.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

124. I usually can't recall the details of the incident well.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

125. Prior to the incident, I knew an altercation was going to occur.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
----------------	-------	---------	----------	-------------------

*State of Mind at the Time*

126. At the time of the incident, which substances had you been using (mark all that apply)?

Alcohol

Marijuana

Cocaine

Methamphetamine

Heroin

Others: \_\_\_\_\_

127. Would you consider yourself "drunk" or "high" at the time of the incident?

No  Yes

128. Within two weeks of the incident, had you been hospitalized for mental health reasons?

No  Yes

129. At the time of the incident, were you feeling depressed and hopeless?  No  Yes

130. At the time of the incident, had you been prescribed medications for mental health reasons?

No  Yes

131. If yes, how were you taking these medications?

Not at all

Less than prescribed

As prescribed

More than prescribed

**Does Not Apply** (I was not prescribed medications)

132. Were you receiving mental health services at the time of the incident?  No  Yes

133. Before to the incident, did a mental health professional (e.g., psychiatrist, therapist) have any knowledge that you owned or had access to a firearm?  No  Yes

134. Before to the incident, did a mental health professional (e.g., psychiatrist, therapist) have knowledge that might have prevented the incident?  No  Yes

135. If YES, what was the result?

- The mental health professional chose to do nothing.  
 Doctor-patient confidentiality prevented the mental health professional from saying anything.  
 The mental health professional informed the person in danger  
 The mental health professional informed the police  
 The mental health professional informed the person in danger AND the police  
 I do not know what the mental health professional chose to do

136. Before to the incident, I was feeling extremely stressed. No Yes

137. Before to the incident, I had been feeling on edge about a lot of things in my life.

- No Yes

138. Before to the incident, I was feeling unusually depressed, hopeless, or suicidal.

- No Yes

139. Before to the incident, I was feeling unusually hyper, restless, or distractible (not because of drug use). No Yes

140. Before to the incident, I was having daydreams or thoughts about physically hurting or injuring others. No Yes

141. Before to the incident, I was feeling easily frustrated and annoyed. No Yes

**At the time of the incident, I believed:**

142. People were spying on me.

- a) No Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

143. People were following me.

- a) No Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

144. I was being secretly tested or experimented on.

- a) No Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

145. Someone was plotting against me or trying to hurt/poison me.

- a) No Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

146. I was under the control of some person power or forces so that my actions and thoughts were not my own.

a)  No  Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

147. Strange thoughts that were not my own were being put directly into my mind.

a)  No  Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

148. Someone or something could take or steal my thoughts out of my mind.

a)  No  Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

149. Strange forces were working on me, as if I was being hypnotized or magic was being performed on me, or I was being hit by x-rays or laser beams.

a)  No  Yes

b) How much did this influence your actions?

No influence	Little influence	Some influence	Major influence
--------------	------------------	----------------	-----------------

150. Did you actually act on any of these beliefs?  No  Yes

#### *Weapon Use*

151. How was the weapon actually used against the persons harmed?

- To threaten the person(s) (never seen or was hidden)
- To scare the person(s) (merely shown to victim)
- To strike the person(s)
- To harm the person(s) without killing (e.g., stab, slice)
- To kill the person(s)

152. Where did this incident take place?

- My residence
- Other's home
- Street/outdoors
- Bar
- Workplace
- Other: \_\_\_\_\_

#### *Characteristics of Persons Harmed*

153. How old was the person you intended to harm? \_\_\_\_\_

154. What was your relationship to the person you intended to harm?
- Parent/step-parent
  - Sibling/half-sibling
  - Child/step-child
  - Other family
  - Former or current spouse/romantic/sexual partner
  - Friend/Acquaintance
  - Stranger
  - Intruder
155. How many people were harmed during the incident? \_\_\_\_\_
156. What was the worst degree of harm that resulted from the incident?
- No physical damage
  - Minor physical damage (no hospitalization required)
  - Major physical damage (hospitalization required)
  - Life-threatening (possibility of death)
  - Death
  - Unknown

## APPENDIX K: PSYCHOPATHIC PERSONALITY INVENTORY-REVISED

This test measures different personality characteristics – that is, the ways in which people’s personality styles make them different from each other. Read each statement carefully and decide how false or true it is as a description of you. Then, mark the best choice that corresponds to your answer. Use the answer choices provide below:

**F = False      MF = Mostly False      MT = Mostly True      T = True**

Even if you feel that a statement is neither false nor true about you, or if you are not sure which answer to choose, select the answer that is the closest to describing you. Try to be as honest as you can.

	False	Mostly False	Mostly True	True
Item 1. If I really want to, I can persuade most people of almost anything.	1	2	3	4
Item 2. When I meet people, I can often make them interested in me with just one smile.	1	2	3	4
Item 3. Dangerous activities like skydiving scare me more than they do most people.	1	2	3	4
Item 4. I've always seen myself to be something of a rebel.	1	2	3	4
Item 5. I hate having to tell people bad news.	1	2	3	4
Item 6. Sometimes I wake up feeling nervous without knowing why.	1	2	3	4
Item 7. I like to act first and think later.	1	2	3	4
Item 8. I sometimes forget my name.	1	2	3	4
Item 9. At times, I worry that I have hurt the feelings of others.	1	2	3	4
Item 10. I am easily flustered in pressured situation.	1	2	3	4
Item 11. I tell many “white lies.”	1	2	3	4
Item 12. I would find the job of movie stunt person exciting.	1	2	3	4
Item 13. When my life gets boring, I like to take chances.	1	2	3	4
Item 14. I've never really cared much about society’s “values of right and wrong.”	1	2	3	4
Item 15. I might like to hang out with people who “drift” from city to city, with no permanent home.	1	2	3	4
Item 16. If I'd had fewer bad breaks in life, I'd be more successful.	1	2	3	4
Item 17. It would bother me to cheat on a test even if no one was hurt by it.	1	2	3	4
Item 18. A lot of people have tried to “stab me in the back.”	1	2	3	4

Item 19. People's reactions to the things I do often are not what I would expect.	1	2	3	4
Item 20. On big holidays, I never eat more than I should.	1	2	3	4
Item 21. I find it hard to make small talk with people I don't know well.	1	2	3	4
Item 22. I'm not good at getting people to do favors for me.	1	2	3	4
Item 23. I get mad if I don't receive special favors I deserve.	1	2	3	4
Item 24. I am hardly ever the center of attention.	1	2	3	4
Item 25. It might be exciting to be on a plane that was about to crash but somehow landed safely.	1	2	3	4
Item 26. I pride myself on being offbeat and different from others.	1	2	3	4
Item 27. A lot of times, I worry when a friend is having personal problems.	1	2	3	4
Item 28. I tend to get crabby and irritable when I have too many things to do.	1	2	3	4
Item 29. A lot of times, I repeat the same bad decision.	1	2	3	4
Item 30. I think that it should be against the law to badly injure someone on purpose.	1	2	3	4
Item 31. I get mad when I hear about the injustices in the world.	1	2	3	4
Item 32. I don't let everyday hassles get on my nerves.	1	2	3	4
Item 33. I could be a good "con artist."	1	2	3	4
Item 34. I have a talent for getting people to talk to me.	1	2	3	4
Item 35. I like (or would like) to play sports with a lot of physical contact.	1	2	3	4
Item 36. I might like to travel around the country with some motorcyclists and cause trouble.	1	2	3	4
Item 37. I have never wished harm on someone else.	1	2	3	4
Item 38. People usually give me the credit that I have coming to me.	1	2	3	4
Item 39. If I want to, I can get people to do what I want without them ever knowing.	1	2	3	4
Item 40. When I'm with people who do something wrong, I usually get the blame.	1	2	3	4
Item 41. I try to be the best at everything I do.	1	2	3	4
Item 42. I have no bad habits.	1	2	3	4

Item 43. In conversations, I'm the one who does most of the talking.	1	2	3	4
Item 44. I try to be the best at everything I do.	1	2	3	4
Item 45. To be honest, I believe that I am more important than most people.	1	2	3	4
Item 46. I feel sure of myself when I'm around other people.	1	2	3	4
Item 47. Parachute jumping would really scare me.	1	2	3	4
Item 48. I'd like to spend my life writing poetry in a commune.	1	2	3	4
Item 49. I look out for myself before I look out for anyone else.	1	2	3	4
Item 50. I am high-strung.	1	2	3	4
Item 51. When people lend me something, I try to get it back to them quickly.	1	2	3	4
Item 52. Whenever I hear an airplane flying above me, I look at the ground.	1	2	3	4
Item 53. I often feel guilty about small things.	1	2	3	4
Item 54. When I'm in a frightening situation, I can "turn off" my fear almost at will.	1	2	3	4
Item 55. I'll break a promise if it's hard to keep.	1	2	3	4
Item 56. I like to stand out in a crowd.	1	2	3	4
Item 57. It would be fun to fly a small airplane by myself.	1	2	3	4
Item 58. I like to dress differently from other people.	1	2	3	4
Item 59. Every once in a while, I nod my head when people speak to me even though I am not paying attention to them.	1	2	3	4
Item 60. People "rake me over the coals" for no good reason.	1	2	3	4
Item 61. In school or at work, I try to "stretch" the rules just to see what I can get away with.	1	2	3	4
Item 62. I've often been betrayed by people I trusted.	1	2	3	4
Item 63. The opposite sex finds me sexy and appealing.	1	2	3	4
Item 64. I have never pretended to know something I didn't know.	1	2	3	4
Item 65. I have a hard time standing up for my rights.	1	2	3	4
Item 66. When a task gets too hard, I'll drop it and move on to something else.	1	2	3	4
Item 67. I enjoy seeing someone I don't like get into trouble.	1	2	3	4

Item 68. I get embarrassed more easily than most people.	1	2	3	4
Item 69. High places make me nervous.	1	2	3	4
Item 70. I get restless when my life gets too predictable.	1	2	3	4
Item 71. It would break my heart to see a poor or homeless person walking the streets at night.	1	2	3	4
Item 72. Some people say that I am a “worry wart.”	1	2	3	4
Item 73. I like having my vacations planned out.	1	2	3	4
Item 74. I smile at a funny joke at least once in a while.	1	2	3	4
Item 75. It bothers me a lot when I see someone crying.	1	2	3	4
Item 76. I get stressed out when I’m “juggling” too many tasks.	1	2	3	4
Item 77. I like to (or would like to) wear expensive and showy clothing.	1	2	3	4
Item 78. It's easy for me to go up to a stranger and introduce myself.	1	2	3	4
Item 79. I would not like to be a race-car driver.	1	2	3	4
Item 80. I don't care about following the “rules”; I make my own rules as I go along.	1	2	3	4
Item 81. I never give an opinion unless I’ve thought it over carefully.	1	2	3	4
Item 82. Few people in my life have taken advantage of me.	1	2	3	4
Item 83. I don't take advantage of people even when it would be good for me.	1	2	3	4
Item 84. I've been the victim of a lot of bad luck.	1	2	3	4
Item 85. When people are mad at me, I usually win them over with my charm.	1	2	3	4
Item 86. I sometimes put off unpleasant tasks.	1	2	3	4
Item 87. I'm hardly ever the “life of the party.”	1	2	3	4
Item 88. I am careful when I do work that involves detail.	1	2	3	4
Item 89. I've thought a lot about my long-term career goals.	1	2	3	4
Item 90. Some people have gone out of their way to make my life difficult.	1	2	3	4
Item 91. I would make a good actor.	1	2	3	4
Item 92. I sometimes lie just to see if I can get someone to believe.	1	2	3	4
Item 93. I agree with the motto, “If you are bored with life, risk it.”	1	2	3	4

Item 94. If I had grown up during the 1960s, I would have been a “hippie.”	1	2	3	4
Item 95. I can honestly say that I’ve never met anyone I disliked.	1	2	3	4
Item 96. I function well under stress.	1	2	3	4
Item 97. I feel bad about myself after I tell a lie.	1	2	3	4
Item 98. I get deeply attached to people I like.	1	2	3	4
Item 99. People who know me well know they can depend and rely on me.	1	2	3	4
Item 100. I feel that life has treated me fairly.	1	2	3	4
Item 101. If I do something that gets me in trouble, I don’t do it again.	1	2	3	4
Item 102. I frequently have disturbing thoughts that become so powerful that I think I can hear claps of thunder or crashed of cymbals inside my head.	1	2	3	4
Item 103. I have to admit that I am a bit of a materialist.	1	2	3	4
Item 104. I like my life to be unpredictable and surprising.	1	2	3	4
Item 105. I like to poke fun at establish traditions.	1	2	3	4
Item 106. I occasionally feel like giving up on difficult tasks.	1	2	3	4
Item 107. When I'm stressed, I often see big, red, rectangular shapes moving front of my eyes.	1	2	3	4
Item 108. I push myself as hard as I can when I’m working.	1	2	3	4
Item 109. I get very upset when I see photographs of starving people.	1	2	3	4
Item 110. Ending a friendship is (or would be) very painful for me.	1	2	3	4
Item 111. I haven't thought much about what I want to do with my life.	1	2	3	4
Item 112. I'm sure some people would be pleased to see me fail in life.	1	2	3	4
Item 113. I hardly ever end up being the leader of a group.	1	2	3	4
Item 114. I often lose patience with people when I have to keep explaining things.	1	2	3	4
Item 115. I might like flying across the ocean in a hot-air balloon.	1	2	3	4
Item 116. Many people see my political beliefs as “radical.”	1	2	3	4
Item 117. I occasionally feel annoyed at people.	1	2	3	4
Item 118. I don't get nervous under pressure.	1	2	3	4

Item 119. I worry about things even when there's no reason to.	1	2	3	4
Item 120. I do favors for people even when I know I won't see them again.	1	2	3	4
Item 121. When I am doing something important, like taking a test or doing my taxes, I check it over first.	1	2	3	4
Item 122. People I thought were my "friends" have gotten me into trouble.	1	2	3	4
Item 123. I often put off doing fun things so I can finish my work.	1	2	3	4
Item 124. When an important person is talking to me, I usually try to pay attention.	1	2	3	4
Item 125. How much I like someone really depends on how much that person does for me.	1	2	3	4
Item 126. Sometime I do dangerous things on a dare.	1	2	3	4
Item 127. Keeping the same job for most of my life would be dull.	1	2	3	4
Item 128. I occasionally have bad thoughts about people who hurt my feelings.	1	2	3	4
Item 129. When a friend says hello to me, I generally either wave or say something back.	1	2	3	4
Item 130. I think long and hard before I make big decisions.	1	2	3	4
Item 131. When someone is hurt by something I say or do, that's their problem.	1	2	3	4
Item 132. I tell people only the part of truth they want to hear.	1	2	3	4
Item 133. I've learned from my big mistakes in life.	1	2	3	4
Item 134. I get blamed for many things that aren't my fault.	1	2	3	4
Item 135. It bothers me to talk in front of a big group of strangers.	1	2	3	4
Item 136. I quickly get annoyed with people who do not give me what I want.	1	2	3	4
Item 137. If I were a firefighter, I would like the thrill of saving someone from the top of a burning building.	1	2	3	4
Item 138. I would like to have a "wild" hairstyle.	1	2	3	4
Item 139. Even when I'm busy, I never have second thought about helping people who ask for favors.	1	2	3	4
Item 140. I can remain calm in situations that	1	2	3	4

would make many other people panic.				
Item 141. I'm the kind of person who gets "stressed out" pretty easily.	1	2	3	4
Item 142. I cringe when an athlete gets badly injured during a game on TV.	1	2	3	4
Item 143. I usually think about what I'm going to say before I say it.	1	2	3	4
Item 144. Some people have made up stories about me to get me in trouble.	1	2	3	4
Item 145. I watch my finances closely.	1	2	3	4
Item 146. During the day, I see the world in color rather than in black-and-white.	1	2	3	4
Item 147. To be honest, I try not to help people unless there's something in it for me.	1	2	3	4
Item 148. I am a daredevil.	1	2	3	4
Item 149. I would like to hitchhike across the country with no plans.	1	2	3	4
Item 150. I have never exaggerated a story to make it sound more interesting.	1	2	3	4
Item 151. Sometimes I go for several days at a time not knowing if I'm awake or asleep.	1	2	3	4
Item 152. I try to use my best manners when I'm around other people.	1	2	3	4
Item 153. I often place my friends' needs above my own.	1	2	3	4
Item 154. If I can't change the rules, I try to get others to bend them for me.	1	2	3	4

## APPENDIX L – RECORD REVIEW FORM

Date: \_\_\_\_\_  
 Coder Initials: \_\_\_\_\_  
 Participant Unique Identifier: \_\_\_\_\_

**Section 1: Psychiatric History**

1. Participant's year of admission (yyyy) \_\_\_\_\_
2. Participant's commitment status:
  - Sexually Dangerous Offender (SDO) (1)
  - Mentally Ill and Dangerous (2)
  - Not Reasonable by Reason of Insanity (NRRI) (3)
3. Please list all of the participant's most recent psychiatric diagnoses

Diagnosis Name

4. Has the patient been hospitalized for psychiatric reasons in the past?  No  Yes
5. How many times has the patient been hospitalized for psychiatric reasons (enter '0' if the patient has never been previously admitted)? \_\_\_\_\_

**Section 2: Criminal History**

6. Number of charges and convictions for miscellaneous crimes (if none, indicate 0).

Offense	Number of Charges	Number of Convictions
<input type="checkbox"/> Arson		
<input type="checkbox"/> Burglary		
<input type="checkbox"/> Drug/alcohol related/DWI		
<input type="checkbox"/> Escape		
<input type="checkbox"/> Exhibition		
<input type="checkbox"/> Fraud		
<input type="checkbox"/> Obscene Phone Calls		
<input type="checkbox"/> Obstruction of Justice		
<input type="checkbox"/> Property		
<input type="checkbox"/> Traffic		
<input type="checkbox"/> Trespassing		
<input type="checkbox"/> Voyeurism		
<input type="checkbox"/> Other: _____		

7. Number of charges and convictions for violent crimes (if none, indicate 0).

Offense	Number of Charges	Number of Convictions
<input type="checkbox"/> Assault		
<input type="checkbox"/> Domestic Violence		
<input type="checkbox"/> False Imprisonment		
<input type="checkbox"/> Kidnapping		
<input type="checkbox"/> Manslaughter		
<input type="checkbox"/> Murder		
<input type="checkbox"/> Robbery		
<input type="checkbox"/> Sexual Assault / Sexual Abuse		
<input type="checkbox"/> Sexual Assault of a Child		
<input type="checkbox"/> Stalking		
<input type="checkbox"/> Strangulation		
<input type="checkbox"/> Terroristic Threats		
TOTAL # of Violent Offenses		

8. Number of weapon-associated charges and convictions (if none, indicate 0).

Offense	Number of Charges	Number of Convictions
Unlawful possession of a firearm		
Defacing a firearm / Possession of a defaced firearm		
Unlawful discharge of a firearm / Discharge in certain cities		
Stolen firearm		
Use of a deadly weapon in a felony		
Prohibited possession of a deadly weapon		
TOTAL # of Weapon Offenses		

### Section 3: Index Offense Details

- Is there any indication in the record that the participant was under the influence of alcohol?
  - No
  - Yes
- Is there any indication in the record that the participant was under the influence of drugs?
  - No
  - Yes
- Is there any indication in the participant's file that he used a firearm or other type of weapon during his index offense?
  - No (END of coding form)
  - Yes

4. What type of weapon was used (mark all that apply)?
  - Firearm
  - Blunt object (e.g., baseball bat, beer bottle)
  - Knife
  - Other (e.g., vehicle, rope). Please specify: \_\_\_\_\_
  
5. Is there any indication in the record that the participant was experiencing mental health symptoms?
  - No
  - Yes
  
6. What was the participant's relationship to the primary victim?
  - Parent/step-parent
  - Sibling/half-sibling
  - Child/step-child
  - Other family
  - Former or current spouse/romantic/sexual partner
  - Friend/Acquaintance
  - Stranger
  - Intruder
  - Unspecified / Unknown
  
7. What was the worst degree of harm that resulted from the incident?
  - No physical damage
  - Minor physical damage (no hospitalization required)
  - Major physical damage (hospitalization required)
  - Life-threatening (possibility of death)
  - Death
  - Unspecified / Unknown
  
8. If a firearm was used, what type of firearm was it?
  - NOT APPLICABLE (a firearm was not used)
  - Single shot or bolt-action rifle
  - Revolver
  - Semi-automatic
  - Automatic
  - Shotgun
  - Unspecified / Unknown
  
9. If a firearm was used, how was the gun acquired?
  - NOT APPLICABLE (a firearm was not used)
  - Previously owned by offender
  - Family member
  - Former or current romantic/sexual partner
  - Friend or associate
  - Gang member

- Licensed retailer (i.e., a firearm shop)
- Firearm show vender
- Internet
- Stranger
- Someone else purchased the firearm for the offender (i.e., straw person)
- Unspecified / Unknown

10. If a firearm was used, how was it actually used against the persons harmed?

- NOT APPLICABLE (a firearm was not used)
- To threaten the person(s) (firearm never seen or was hidden)
- To scare the person(s) (firearm merely shown to victim)
- To strike the person(s)
- To shoot the person(s) without killing
- To kill the person(s)
- Unspecified / Unknown

### **Section 3: Psychological Testing**

#### **Checklist**

Which psychological instruments have you coded for the participant (mark all that apply)?

\* Take note of the *edition* of the instrument.

\*\* For multiple administrations, code only the most recent.

- STABLE-2007
- Static-99R
- Historical, Clinical, Risk Management-20 (HCR-20)
  - Version 2
  - Version 3
- Millon Clinical Multiaxial Inventory-III (MCMI-III)
- Minnesota Multiphasic Personality Inventory-II (MMPI-II)
- Psychopathy Checklist-Revised, 2<sup>nd</sup> Edition (PCL-R, 2<sup>nd</sup> Ed.)
- Wechsler Adult Intelligence Scale-Fourth Edition (WAIS-IV)
- Wechsler Abbreviated Scale of Intelligence Scale-2<sup>nd</sup> Edition (WASI-II)

[Psychological Tests Listed on Next Page]

1. **STABLE-2007**  N/A; Not Scored

Total score: \_\_\_\_\_

Risk Category

- Low: 0-3 (0)
- Moderate: 4-11 (1)
- High: 12+ (2)

2. **Static-99R**  N/A; Not Scored

Total score: \_\_\_\_\_

Risk Category

- Low: -3-1 (0)
- Mod-Low: 2-3 (1)
- Mod-High: 4-5 (2)
- High: 6+ (3)

3. **Historical, Clinical, Risk Management-20 (HCR-20)**

**Version 2**

N/A; Not Scored

Scale	Item	Score (0, 1, 2)
Historical	H1	
	H2	
	H3	
	H4	
	H5	
	H6	
	H7	
	H8	
	H9	
	H10	
Clinical	C1	
	C2	
	C3	
	C4	
	C5	
Risk Management	R1	
	R2	
	R3	
	R4	
	R5	
<b>Subscale &amp; Final Judgment Scores</b>		
<i>Historical Scale score</i>		
<i>Clinical Scale score</i>		
<i>Risk Management score</i>		
<b>Final Risk Judgment</b>		Low (0)
		Moderate (1)
		High (2)
		Not Completed (-99)

Version 3

 N/A; Not Scored

Scale	Item	Presence (-1, 0, 1, 2)	Relevance (-1, 1, 2, 3)
Historical	H1. Previous Violence		
	H2. Young Age at First Violent Incident		
	H3. Relationship Instability		
	H4. Employment Problems		
	H5. Substance Use Problems		
	H6. Major Mental Illness		
	H7. Psychopathy		
	H8. Early Maladjustment		
	H9. Personality Disorder		
	H10. Prior Supervision Failure		
Clinical	C1. Lack of Insight		
	C2. Negative Attitudes		
	C3. Active Symptoms of Major Mental Illness		
	C4. Impulsivity		
	C5. Unresponsive to Treatment		
Risk Management	R1. Plans Lack Feasibility		
	R2. Exposure to Destabilizers		
	R3. Lack of Personal Support		
	R4. Noncompliance with Remediation Attempts		
	R5. Stress		
<b>Subscale &amp; Final Judgment Scores</b>		<b>Score</b>	
<i>Historical Scale score</i>			
<i>Clinical Scale score</i>			
<i>Risk Management score</i>			
<b>Future Violence/Case Priority</b>		Low	(0)
		Moderate	(1)
		High	(2)
		Not Completed	(-99)
<b>Serious Physical Harm</b>		Low	(0)
		Moderate	(1)
		High	(2)
		Not Completed	(-99)
<b>Imminent Violence</b>		Low	(0)
		Moderate	(1)
		High	(2)
		Not Completed	(-99)

4. **Millon Clinical Multiaxial Inventory-III (MCMI-III)**  N/A; Not Scored

Category	Scale	BR Score
Modifying Indices	X. Disclosure	
	Y. Desirability	
	Z. Debasement	
Clinical Personality Patterns	1. Schizoid	
	2A. Avoidant	
	2B. Depressive	
	3. Dependent	
	4. Histrionic	
	5. Narcissistic	
	6A. Antisocial	
	6B. Sadistic	
	7. Compulsive	
	8A. Negativistic	
8B. Masochistic		
Severe Personality Pathology	S. Schizotypal	
	C. Borderline	
	P. Paranoid	
Clinical Syndromes	A. Anxiety Disorder	
	H. Somatoform Disorder	
	N. Bipolar: Manic Disorder	
	D. Dysthymic Disorder	
	B. Alcohol Dependence	
	T. Drug Dependence	
Severe Clinical Syndromes	R. Post-traumatic Stress	
	SS. Thought Disorder	
	CC. Major Depression	
	PP. Delusional Disorder	

5. **Minnesota Multiphasic Personality Inventory-II (MMPI-II)**  N/A; Not Scored

Category	Scale	T-Score
Validity Scales	VRIN. Variable Response Inconsistency	
	TRIN. True Response Inconsistency	
	F. Infrequency	
	F(B). Back F	
	Fp. Infrequency Psychopathology	
	L. Lie	
	K. Correction	
	S. Superlative	
Clinical Scales	Hs. Hypochondriasis	
	D. Depression	
	Hy. Hysteria	
	Pd. Psychopathic Deviance	
	Mf. Masculinity-Femininity	
	Pa. Paranoia	
	Pt. Psychasthenia	
	Sc. Schizophrenia	
Ma. Hypomania		

	Si. Social Introversion	
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6. **Psychopathy Checklist-Revised, 2nd Edition (PCL-R, 2nd Ed.)**  N/A; Not Scored

Item	Score (0, 1, 2)
1. Glibness/Superficial charm	
2. Grandiose sense of self worth	
3. Need for stimulation/Proneness to boredom	
4. Pathological lying	
5. Conning/Manipulative	
6. Lack of remorse or guilt	
7. Shallow affect	
8. Callous/Lack of empathy	
9. Parasitic lifestyle	
10. Poor behavioral controls	
11. Promiscuous sexual behavior	
12. Early behavioral problems	
13. Lack of realistic, long term goals	
14. Impulsivity	
15. Irresponsibility	
16. Failure to accept responsibility for own actions	
17. Many short term marital relationships	
18. Juvenile delinquency	
19. Revocation of conditional release	
20. Criminal versatility	
<b>Total, Factor, and Facet Scores</b>	
<b>Factor I score</b>	
<i>Facet 1 score</i>	
<i>Facet 2 score</i>	
<b>Factor II score</b>	
<i>Facet 3 score</i>	
<i>Facet 4 score</i>	
<b>Total Score</b>	

7. **Wechsler Adult Intelligence Scale-Fourth Edition (WAIS-IV)**  N/A; Not Scored

Index	Composite Score
Verbal Comprehension (VCI)	
Perceptual Reasoning (PRI)	
Working Memory (WMI)	
Processing Speed (PSI)	
Full Scale IQ (FSIQ)	

8. **Wechsler Abbreviated Scale of Intelligence Scale-2<sup>nd</sup> Edition (WASI-II)**  N/A

Index	Composite Score
Verbal Comprehension (VCI)	
Perceptual Reasoning (PRI)	
Full Scale-4 (FSIQ)	