FACTORS INFORMING CLINICIANS' DECISIONS REGARDING RISK FOR

VIOLENCE AND DISCHARGE RECOMMENDATIONS FOR INSANITY

ACQUITTEES IN TEXAS

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by

Tatjana Damnjanovic

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ABSTRACT

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The insanity defense has been in place for centuries to address cases in which mental illness is thought to underlie criminal behavior. Those who are found not guilty by reason of insanity (NGRI) are usually involuntarily committed to an inpatient facility until they are deemed to be rehabilitated in terms of their psychiatric symptoms and are no longer considered dangerous. Data from violence risk assessments plays an important role in release decisions for NGRI acquittees. Yet, there are no standard procedures in place for assessing risk for future violence. The identified demographic, criminal, and clinical variables influencing release recommendations vary across regions and hospitals, and possibly practitioners. Additionally, the use of risk assessment instruments has also been shown to vary greatly across studies. The present study uses archival data from a Texas state hospital—specifically, information from risk assessments completed with NGRI patients between 2010 and 2018—with the goal of improving understanding of practical realities of risk assessments and release recommendations. The current study found that several clinical variables (delusions, insight problems, homicidal ideation, psychosocial treatment noncompliance, and violence in the hospital) were associated with clinicians' risk level determinations; however, the HCR-20 score was the single most impactful predictor of violence risk level. While HCR-20 and some clinical variables (delusions, hallucinations, insight problems, psychosocial treatment noncompliance, and violence in the hospital) were related to release recommendations provided by clinicians; this time, gender was the most significant predictor. Risk level determinations were

significantly associated to release recommendations. When looking at changes in

dynamic risk factors across repeated risk assessments, the change (or lack thereof) in

violent behaviors in the hospital was the most prominent predictor of whether an

acquittee was or was nor recommended for release during the studied period.

KEY WORDS: Risk assessment, Discharge decisions, Insanity acquittees, NGRI

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CHAPTER I

Insanity Defense

It has been accepted throughout history that one's mental state and a presence of a mental illness can have a major impact on their criminal responsibility. A mentally ill offender can be both perceived as a perpetrator of a crime and as the victim of their disorder, and when their mental illness contributed to their transgressions it begs the question of whether punitive or therapeutic measures are more likely to serve the community and prevent reoffending. Different forms of insanity defense have been in place for centuries to address such cases (Janofsky et al., 2014).

Development of Legal Standards for Insanity Defense

While some of the earliest legal insanity standard formulations can be dated back to the early eighteenth century (Golding, 1992), the legal standard currently used by the majority of the U.S. most resembles the test of insanity established by the English House of Lords in the 1943 case of *Rex v M'Naghten*. This legal standard, referred to as the M'Naghten rule, states, "To establish a defense on the ground of insanity, it must be clearly proved that, at the time of the committing of the act, the party accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know he was doing what was wrong" (M'Naghten's Case, 1843, p. 722). Despite widespread application, this standard has been criticized for being too narrow, and very hard to meet. Further, it places high emphasis on cognitive abilities and does not include defendants who know the illegal nature of their acts but cannot control their impulses. In subsequent

years, several other legal standards for insanity defense were formed in attempt to address these critiques (Janofsky et al., 2014).

The Durham Rule (also referred to as the "product test,") was originally adopted in New Hampshire in 1871 and accepted by the Circuit Court of Appeals for the District of Columbia in the 1954. It was formed to address the narrow nature of the M'Naghten standard. It states that the defendant is not "criminally responsible if his unlawful act is the product of a mental disease or defect" (Durham v. United States, 1954). In order to include defendants who know the illegal nature of their acts but cannot control their impulses, the Irresistible Impulse Test was adopted by the Alabama Supreme Court in the 1887 (Parsons v. State, 1887). Several states accepted The Irresistible Impulse Test as an addition to the M'Naghten Rule.

In the 1972 case of *U.S. v. Brawner*, the court applied the American Law Institute (ALI) Model Penal Code test of insanity, which united the concepts that underlie the M'Naghten Rule and the Irresistible Impulse Test. It states, "a person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality of his conduct or to conform his conduct to the requirements of the law" (Model Penal Code, 1985). The ALI test incorporates elements of all three previously developed standards: the knowledge of right and wrong, the prerequisite of lack of control, and the diagnosis of mental disease or defect. The ALI test was originally widely accepted by federal courts and a majority of state courts.

In 1981, John W. Hinckley attempted to assassinate President Ronald Reagan and was subsequently found not guilty by reason of insanity. The public outrage that

followed Hinckley's acquittal led to the Insanity Defense Reform Act of 1984. This reform called for federal courts to shift from the ALI standard to a new legal standard which combines elements of the M'Naughten rule and the cognitive prong of the ALI test. Further, Montana, Utah, Idaho, and Kansas abolished the insanity defense, and many other states adopted the M'Naghten rule instead of the Model Penal code standard (Janofsky, et al., 2014).

NGRI Defense in Practice

Defendants who are found to be not guilty by reason of insanity (NGRI) are usually involuntarily committed to an inpatient institution. They are to receive treatment in an inpatient setting until they are deemed to be rehabilitated in terms of their psychiatric symptoms and are no longer considered dangerous (Testa & West, 2010). The public commonly believes the insanity defense to be "a loophole" for criminals to avoid harsh sentences. In reality, the insanity defense is used successfully far less commonly than thought, and the length of the NGRI commitment is much longer than what the public perceives (Silver, Cirincione, & Steadman, 1994). Moreover, the insanity defense is raised in less than one percent of felony cases (Steadman et al., 1993; Lymburner & Roesch, 1999; Perlin, 2016) and is on average successful in one quarter of cases nationwide (Silver et al., 1994; Lymburner & Roesch, 1999). It is also worth noting that up to 70% of NGRI defendants do not proceed with their insanity plea after being found legally sane by evaluators (Lymburner & Roesch, 1999). While some proponents of the insanity defense reform movements argued that the insanity defense is frequently misused by antisocial individuals, the available research does not support this notion (Golding & Roesch, 1987; Rogers & Zimbarg, 1987).

Although many state laws, including Texas, do not allow for the NGRI commitment length to exceed the maximum possible penalty for the crime committed, it is not uncommon for insanity acquittees' length of hospitalization to exceed the prison sentence they would have served if convicted (Testa & West, 2010). In a study comparing outcomes in seven states for those found not guilty by reason of insanity versus those found guilty, Silver (1995) found that the length of hospitalization for NGRI patients significantly varied across different states. For instance, in New York insanity acquittees' length of hospital stay was nine times that of NGRI patients in Wisconsin. In contrast, there was significantly less variability in the time they spent in jail for those who were found guilty by the court. According to Golding (1992), insanity acquittees are usually institutionalized for periods equal or longer than both those who were unsuccessful in their insanity defense, and other (non-NGRI) convicttees. Perlin (2016) asserts that due to variability in discharge decision-making policies and the lack of standards of care in forensic mental health, NGRI defendants are institutionalized for nearly double the time other defendants spend in jail for similar charges. Additionally, it is not uncommon for NGRI acquittees to have lifetime supervision in the community once released (Perlin, 2016).

The Supreme Court of the United States (*Jones v. United States*, 1983) ruled that commitment and release of NGRI patients should not focus on punishment for the crime they committed, but rather it must focus on one's mental illness and future dangerousness. Still, research shows that the length of hospitalization for insanity acquittees has been primarily influenced by the nature of the individual's criminal offense (Braff, Arvanities, & Stedman, 1983; Golding, Eaves, & Kowaz,1989; Steadman &

Morrissey, 1986). For instance, a study by Golding et al. (1989) showed that while the average length of hospitalization for NGRI acquittees was 49.9 months, those insanity acquittees who were charged with murder or attempted murder were hospitalized for an average of 71.9 months during their initial hospitalization. Further, those who were hospitalized for longer periods did not differ from other NGRI acquittees in terms of their clinical profiles, their diagnostic, demographic, or criminological variables. These findings suggest that the *Jones* ruling is not followed in practice.

Insanity Defense and NGRI commitment in Texas

The *Texas Penal Code* defines the insanity defense as "(a)…an affirmative defense to prosecution that, at the time of the conduct charged, the actor, as a result of severe mental disease or defect, did not know that his conduct was wrong. (b)The term 'mental disease or defect' does not include an abnormality manifested by repeated criminal or otherwise antisocial conduct."   This standard is a variation of the M'Naghten rule also known as the "right-wrong test" as it focuses on whether the defendant knew the difference between right and wrong at the time of the offense. The M'Naghten rule was the initial legal standard for insanity defense in Texas, until 1973 when the ALI test was adopted to address the limitations of the narrow M'Naghten rule, and to add a volitional prong to the insanity defense standard. This rule was short lived in Texas, as it soon came the reform of the insanity defense. In 1983 Texas dropped the ALI test standard and reinstated the M'Naghten rule. In addition to this rule, Texas insanity statue clarifies that psychopathy and antisocial behavior is not included in the term "mental disease or defect" (Benson & Shannon, 2016).

In 2005, the Texas Legislature made several revisions to the insanity defense. While the test of insanity remained unchanged, this Senate Bill (S.B. 837) made changes related to treatment, release, and monitoring standards and procedures. Other provisions included the addition of two different sets of procedures depending if the offense for which the defendant was acquitted involved causing serious bodily injury to another person or posed imminent danger or threat of serious bodily injury. The statute provides the court with the power to order inpatient hospitalization in a state facility, community-based treatment, or outpatient treatment for the acquitted individual, as well as the authority to order a step-down to an outpatient treatment after a period of inpatient hospitalization. Further, the courts can require a treatment plan and revoke the outpatient commitment in response to treatment noncompliance (Shannon, 2006).

According to the Texas statute, once a defendant files a Notice of Intent to Raise Insanity Defense, the court may appoint one or more experts to conduct an evaluation and submit a written report regarding the insanity defense and may ask these experts to testify as to the issue of insanity (Art. 46C.101). The determination of sanity can be made by jury trial (Art. 46C.151.) or can be made by the judge (Art. 46C.152.). In either case, the judgment is made as to whether the defendant is guilty, not guilty, or not guilty by reason of insanity (Art. 46C.156.). For a defendant to be found not guilty by reason of insanity, the prosecution must establish beyond a reasonable doubt that the defendant committed the alleged offense, and the defense has to establish by a preponderance of the evidence that the defendant was insane at the time of the offense (Art. 46C.153).

Following a finding of NGRI, the court must first determine if the offense(s) involved serious bodily injury to another person or posed imminent danger or threat of

serious bodily injury through use of deadly weapon (Art. 46C.157). If a finding of non-dangerous conduct is made, the court will determine if there is evidence that the acquittee is a person with a mental illness or with mental retardation. If supporting evidence exists, the court will transfer the person to a court for civil commitment proceedings (Art. 46C.201).

In contrast, if a finding of a dangerous conduct is made, the court retains jurisdiction over the acquittee until (1) the court discharges the person and terminates its jurisdiction under Article 46C.268; or (2) the cumulative total period of institutionalization and outpatient or community-based treatment and supervision under the court's jurisdiction equals the maximum term provided by law considering the offense for which the person was acquitted by reason of insanity, and the court's jurisdiction is automatically terminated under Article 46C.269. The NGRI acquittee is first committed to a maximum-security unit for up to 30 days for the purpose of evaluation and treatment (Art. 46C.251). The evaluation addresses presence and severity of mental illness or mental retardation, the likelihood that the person may cause harm to others as a result of their mental illness or mental retardation, treatment and supervision options, and whether treatment and supervision can be safely and effectively provided in outpatient or community-based setting (Art. 46C.252.). Based on this evaluation, the court may issue a 180-day recommitment order (Art. 46C.256.). Once this commitment expires, the court will decide annually whether to renew the commitment order (Art. 46C.261.). The burden is on the State to demonstrate by clear and convincing evidence that continued mandatory supervision and treatment are appropriate. NGRI acquittee's inpatient commitment can be transitioned into an outpatient commitment when they are no longer

considered dangerous and can receive treatment effectively in a community setting. To be considered for outpatient treatment, the patient's treatment team must recommend they are suitable for community release. In addition, a forensic evaluation of their risk for violence and their community treatment needs is provided to the court, which is responsible for making release decisions. Once NGRI acquittees are released, their outpatient commitment will need to be renewed annually; otherwise, they are no longer considered subject to the court. While on an outpatient commitment, if an NGRI acquittee is found to be a danger to others or if their mental state deteriorates, an inpatient commitment can be reinstated (Shannon, 2006).

In 2017, the National Association of State Mental Health Program Directors conducted a large survey of forensic patients in state psychiatric hospitals between 1999 and 2016 (Wik, Hollen, & Fisher, 2017). According One-Day Census Per State of NGRI Patients, in 2014 there were 222 insanity acquittees hospitalized in Texas. This number represents a substantial growth in comparison to the census from 1999 indicating 58 hospitalized patients on an NGRI commitment. Further, in 2016 alone in Texas there were 106 NGRI Admissions. In 2015, the average length of hospitalization for NGRI acquittees was 615 days.

Insanity Acquittees' characteristics

A number of studies have examined the characteristics of insanity acquittees. The majority of NGRI defendants are male, with low education level, history of mental illness and involvement with mental health systems, as well as a history of violent offenses (Cirincione et al., 1995; Lymburner & Roesch, 1999). In terms of their charges, majority

of NGRI defendants face violent offense charges; however, only a minority are charged with murder (Cirincione et al, 1995).

Psychotic disorder diagnoses are the most common among NGRI acquittees; however, insanity acquittees are also frequently diagnosed with personality, mood, and substance abuse disorders (Cirincione et al., 1995). Linhorst (1999) conducted a study in Missouri comparing 415 NGRI patients with 320 voluntary patients. The NGRI patients were higher functioning and were more likely to have diagnoses of schizophrenia, personality disorder, and poly-substance abuse as compared to the voluntary patients. Additionally, NGRI patients were less hostile and restrained fewer times than voluntary patients, yet they were discharged much later than voluntary patients. Muheizen (2009) examined the characteristics of 3,102 insanity acquittees in California and found that 86% were male and 58% were Caucasian. The majority were unmarried (64%), unemployed (94%), and did not graduate high school (75%). Sixty-three percent of the acquittees were admitted between 19 and 40 years of age. Around third of the sample had one hospitalization, and another third had more than three. Further, nearly half of the acquittees in their sample had DSM-IV Global Assessment of Functioning (GAF) scores indicating serious impairment. Eighty percent of the sample committed a violent felony offense, with the most common offense being assault with a deadly weapon.

According to Golding and colleagues (Golding, 1992; Golding et al., 1989), the NGRI acquittees tend to have a severe mental illness (typically psychotic disorders) and have long mental health histories, frequently including prior civil commitments or adjudications as incompetent to proceed. Specifically, Golding and colleagues (1989) found that 79% of their NGRI patient sample had been previously hospitalized. On

average, they have had four previous hospitalizations, with 43% of their previous

admissions for a forensic commitment. Of the subjects with prior hospital admissions,

45% committed the index offense within six months of their last discharge. A study by

Miraglia and Hall (2011) also looked at the characteristics of all NGRI patients,

specifically focusing on their post-release rearrests rates. Their sample included 386

insanity acquittees committed to a New York State facility between 1980 and 2007.

They found that 14% of male patients and only two percent of female patients were

rearrested in the two years following release. Further, they found the risk of rearrests was

the greatest in the first years following release, with around 50% of such that the rearrests

occurring within two years post-release, and close to two-thirds of rearrests occurring in

the first five years following release. For those who were not rearrested by the 10th year,

risk of rearrest approached zero.

CHAPTER II

Violence Risk Assessment

Violence and Mental illness

While the general public frequently holds the belief that there is a strong connection between violence and mental illness, decades of meticulous research have revealed this relationship is far more complex (Harris & Lurigio, 2007). The first half of the twentieth century was marked by findings showing that post-discharge psychiatric patients are less likely to be arrested than the general population (Pollock, 1938; Cohen & Freeman, 1945).

In the second half of the twentieth century, Brill and Maltzberg (1962) conducted a large-scale study examining arrest rates for 10,000 psychiatric patients. Their findings showed psychiatric inpatients were a heterogeneous group, especially in terms of criminal risk. Namely, those psychiatric patients with previous criminal history had higher arrest rates in the five years following discharge than the patients with no previous criminal history or the non-patient general population. In contrast, psychiatric patients with no previous arrests had the lowest rate of subsequent arrest out of the three groups. The continued deinstitutionalization of the mentally ill throughout the end of the 20th century brought upon some major changes in the psychiatric inpatient population characteristics. The patients who were discharged and offered services in the community were those with no previous criminal convictions, while those who remained in state hospitals had violent or criminal histories (Harris & Lurigio, 2007). It comes as no surprise that the subsequent studies looking into this new inpatient population showed they were more

likely to be violent than the general population (Durbin, Paswark, & Albers, 1977; Zitrin, Hardesty, Burdack, & Drossmen, 1976).

In the post-deinstitutionalization era, behavioral science research began to examine specific variables related to violence among mentally ill persons. For instance, Link and colleagues (Link, Andrews, & Cullen, 1992) found that patients' risk of violence increased when they were experiencing psychotic symptoms; however, when they were not experiencing symptoms, their risk was no greater than the general population. In a subsequent study, Link and Stueve (1994) concluded that the violent behavior of psychiatric patients was a result of their belief that they were facing imminent danger and needed to act in self-defense.

MacArthur Study of Violence Risk Assessment

MacArthur Risk Assessment Study marked the next advancement in our understanding of factors related to violence risk in mentally ill patients. The authors of this large scale study (Monahan et al., 2001) argued that prior research on violence risk was plagued with methodological problems such as use of few predictor variables, weak criterion variables frequently based solely on arrest records, and constricted samples mainly compromised of male patients from a single institution. They set out to overcome these major methodological limitations of prior violence risk assessment research and produce an actuarial instrument for violence risk assessment that can be successfully used in practice (Monahan et al., 2001). The MacArthur study used a large sample including both male and female psychiatric patients from several institutions, it included a wide array of potential risk factors, and used self-reports, collateral informants, police and hospital reports to assess violent outcomes.

Additionally, the MacArthur study elucidated a number of significant risk factors for violence among mentally ill persons. As expected, previous violence was strongly linked to future violence. According to the findings, men were more likely than women to be violent, however, this difference was not large. Women were more likely to engage in violence at home and against family members, while violence by men was more likely to result in medical treatment or arrest. While race was initially found to be linked to violence, when economic factors were controlled this effect was no longer significant. In other words, poverty was found to be driving the racial differences in violence risk. Another group of relevant risk factors identified was related to childhood experiences. Specifically, frequency and severity of physical abuse suffered was linked to future violent behavior. Also, having a father who was criminally involved and abused substances was linked to higher risk for violence (Monahan et al., 2001).

In terms or relevant clinical factors, a diagnosis of schizophrenia (or other major mental disorder) was associated with a lower likelihood of violence than a diagnosis of personality or adjustment disorder. Another major finding of the MacArthur study was the robust associations between a co-occurring diagnosis of a substance use disorder and violence. In addition, psychopathy was associated with violence, particularly the "antisocial behavior" component. In terms of specific symptoms, delusions and hallucinations were unrelated to violence with the notable exception of the association between hallucinations commanding a violent act and subsequent violence. A paranoid attitude toward others, as well as persistent violent thoughts and daydreams were found to be significantly tied to violent behavior. Finally, anger, as measured by the Novaco Anger Scale, was linked to post-release violence (Monahan et al., 2001).

Development of Risk Assessment Instruments

As we gained understanding of the complexity of the relation between mental illness and violence, it became clear just how important it is to develop effective ways of differentiating between those with mental illness who are prone to violence and those who are unlikely to engage in violent behavior. Dangerousness or violence risk assessments became an essential service provided by the mental health professionals. Hart (2004) described violence risk assessment as the process of evaluating the risk someone will commit violence in the future, as well as identification of risk minimizing strategies. With the emergence of deinstitutionalization practices, dangerousness and risk for violence became central to involuntary psychiatric commitment (Swartz, Swanson, Wagner, Burns, Hiday, & Borum, 1999) as well as for commitment of those found NGRI (Silver, 1995). Unfortunately, in the deinstitutionalization era, clinicians' skills in accurately distinguishing between dangerous and non-dangerous patients had not been established. According to Monahan's (1981) review, mental health professionals were accurate in only up to one out of every three predictions, suggesting a coin flip would lead to more accurate predictions of risk. Two studies published in the late 1980s and early 1990s showed some minimal improvement in prediction of risk for violence. For instance, Lidz, Mulvey, and Gardner (1993) examined psychiatrists' and nurses' assessment of potential patent violence and found modest accuracy for judgements related to male patients. Namely, 53% of those who were deemed likely to be violent engaged in violent behavior during a six-month follow-up, as compared to 36% of those who were deemed unlikely to be violent. Their predictions for female patients, however, did not exceed chance levels.

As researchers continued to identify risk factors associated with increased likelihood of violence, the stage was set for the development of actuarial risk assessment instruments. The development of such instruments represented a substantial step forward in violence risk assessment. For example, the Violence Risk Appraisal Guide (VRAG; Harris, Rice, & Quinsey, 1993) was developed using a sample of 600 male Canadian maximum-security patients charged with serious offenses. The authors of this instrument explored 50 predictor variables over a seven year follow up period, and identified 12 relevant risk factors, which were included in the VRAG. The predictive accuracy of VRAG was a significant improvement upon the predictions solely based on clinical judgment. Specifically, 55% of those who were classified as high risk on VRAG committed future violent offenses, as compared to 19% of those who were classified as low risk. While VRAG was shown to an effective and widely accepted risk assessment instrument, Rice, Harris, and Lang, (2013) recently updated the instrument (Violence Risk Appraisal Guide-Revised; VRAG-R), to overcome some existing limitations. This new version was designed to be easier to score, but also to be used with a sex offender population. To address most current data in risk assessment research, several items where modified. The initial research has shown the revised measure to be effective in predicting future violence (Glover, Churcher, Gray, Mills, & Nicholson, 2017).

While actuarial instruments significantly improved risk prediction accuracy as compared to unstructured clinical judgment, further advances in risk assessment research have shown the benefits of applying an approach that encompasses elements of both objective actuarial measurements and clinical decision-making (Harris & Lurigio, 2007). This approach—structured professional judgment (SPJ)—addresses some of the

limitations of a purely actuarial approach allowing for case-specific risk factors to be considered in assessing risk. Further, the SPJ instruments account for the dynamic nature of risk, which can be affected by treatment and other risk management strategies (Singh & Petrila, 2013). An example of such instrument is the Historical/Clinical/Risk Management-20 (HCR-20; Webster, Douglas, Eaves, & Hart, 1997). This clinical evaluation tool compromises 20 items, each scored on a three-point scale (i.e., 0, 1, or 2). The HCR-20 is divided into three sections: *Historical* (information from the past), *Clinical* (current information), and *Risk Management* (information regarding future). Douglas, Ogloff, Nicholls, and Grant (1999) found that civilly committed patients who scored above the median on HCR-20 were six to 13 times more likely to be violent during a two year post-release follow-up period, than those patients who scored below the median.

The HCR-20 has undergone two revisions since its original development and publication. Most recently, Douglas, Hart, Webster, and Belfrage, (2013) published Version 3 of the HCR-20 (i.e., the HCR-20 V3) with the goal of maintaining current with the latest empirical data on SPJ assessment. Some of the modifications to this latest version of the instrument include modifications to several items, the introduction of rating of relevance of items, and the introduction of case formulation and scenario planning steps. While the previous versions of the HCR-20 required Psychopathy Checklist Revised (PCL-R) scores for the individual, in the newest version the use of this score is optional. Doyle (2013) conducted a study with a forensic psychiatric sample in order to test the reliability and predictive validity of HCR-20 Version 3. According to the

findings, HCR-20 V3 had good inter-rater reliability, and successfully discriminated between violent and non-violent subjects (AUC = 0.73).

The findings of MacArthur study led to the development of the Iterative Classification Tree (ICT), an interactive model of violence, which allows for a number of different combinations of factors to be made in order to make classifications based on level of risk (Monahan, et al., 2001). The ICT approach was constructed to adhere to the clinical decision-making process by using of decision trees and dual thresholds for high- and low-risk cases. The ICT model, led to the development of the computer-assisted Classification of Violence Risk (COVR) assessment tool, which was found to be effective in differentiating between those with high and low risk for violence (Steadman, Silver, Monahan, Appelbaum, Robbins, Mulvey, et al., 2000). Unfortunately, likely due to its complexity the COVR has found little traction among practitioners (Harris & Lurigio, 2007).

Release Considerations for Insanity Acquittees

The NGRI acquittees have the right to be treated in the least restrictive setting; however, to be considered for discharge, they must present convincing evidence proving that they are not likely to commit another dangerous act. If one's mental health is restored and a finding of non-dangerousness is made, conditional release (CR) is an option (Fox, 2008). Programs for conditional release were first introduced in late 1970's in three states. Today, 31 states have conditional release programs. These programs usually encompass extended supervision of insanity acquittees in the community. The acquittees stay under the jurisdiction of authorities, which established conditions of release such as housing, treatment, and supervision conditions. If any of these conditions

are violated, the authorities have the right to terminate CR and reinstate the inpatient commitment (Fitch, 2014). Several studies found an average conditional release revocation rate around 30% (Callahan & Silver, 1998; Vitacco et al., 2008). Across studies, factors associated with CR failure included: substance use (Callahan & Silver, 1998; Monson, Gunnin, Fogel, & Kyle, 2001; Vitacco et al., 2008), prior CR failures, previous violent charges, treatment noncompliance (Vitacco et al., 2008), prior hospitalizations (Callahan and Silver, 1998), and a diagnosis of paranoid schizophrenia (Parker, 2004). Additionally, racial minorities had higher rates of CR revocation (Callahan and Silver, 1998; Monson, Gunnin, Fogel, & Kyle, 2001).

Although Texas does not have an official conditional release program, the court has the option to order an outpatient commitment at each recommitment hearing. This means the NGRI acquittees may be discharged to a facility supervised by the local mental health authority or be otherwise treated and supervised in the community. As aforementioned, such outpatient commitment for NGRI acquittees must be renewed annually. If the commitment is not renewed, the acquittee is no longer supervised by the court. In contrast, if their mental health deteriorates and they present a danger to others, their outpatient commitment can be converted back to an inpatient commitment (Shannon, 2006).

For individuals committed to inpatient care, release from a psychiatric hospital takes into consideration factors related to ongoing treatment needs, potential dangerousness, and community safety. A study by McDermott, Scott, Busse, Andrade, Zozaya, and Quanbeck (2008) examined the amount of documentation contained in the patient records to identify factors clinicians deemed the most relevant to release

decisions. Their findings indicated that the clinicians consider two major issues when estimating a patient's readiness for release: the extent of remediation of their mental illness (and the likelihood that remediation will be maintained on the outpatient basis) and their risk of dangerousness.

Several authors explored the role of individual risk factors in release decisions for NGRI patients. Callahan and Silver (1998) compared four states (Ohio, Maryland, New York, and Connecticut) in terms of relevant factors in predicting release. They found great variability between these states. In Ohio, the seriousness of the crime was the most significant predictor associated with release, meaning the more serious offenders were less likely to be released. The crime seriousness was also relevant predictor in Maryland; however, the most predictive variable was clinical prognosis. Specifically, in Maryland those with the diagnosis of schizophrenia were less likely to be released than those with other major mental illnesses. In contrast, in New York neither crime characteristics, nor psychiatric variables were most predictive of conditional release. The most predictive variables were demographic characteristics. That is, gender, race, and education played a major part in their likelihood of release, which is a concerning finding. Specifically, the authors found that females, Caucasian patients, and high school graduates were most likely to be conditionally released. In Connecticut, none of the variables used in the study predicted release and only a small number of patients were recommended for release.

Muheizen (2009) examined the relation among demographic, criminal, clinical characteristics and discharge in a sample of NGRI acquittees in California. The sample consisted of 2,176 insanity acquittees admitted and discharged from one of five state

hospitals in California between 1970 and 2008. The majority of acquittees in their

sample (75%) were discharged within five years, 17% were discharged within five to 10

years, and eight percent were discharged after 10 years. The average length of stay was

1,399 days. In terms of variables related to the length of stay, gender, education,

diagnosis, GAF scores, age upon admission, and history of prior hospitalizations and

prior violent crimes were all found to be significant. Female acquittees, those with higher

education level, older at the time of admission, with higher GAF scores, those without

psychotic diagnoses and those who had more previous hospitalizations, and fewer violent

crimes were all more likely to be discharged in less than five years. In a cohort study of

56 NGRI acquittees eligible for conditional release, Davoren and colleagues (2013) also

found that patients with higher GAF scores were more likely to be recommended for

discharge by the review board.

Overall, majority of factors affecting release can be classified as demographic,

criminal, diagnostic, and treatment compliance related. In terms of criminal factors, the

severity of the NGRI offense and the extent of prior criminal history are most often found

to be related to length of hospitalization and likelihood for recommendation for release.

In terms of criminal history, Hilton and Simmons (2001) found that less serious criminal

history and older age at first offense were related to higher likelihood of recommendation

for release. Additionally, there seems to be a relation between severity of the NGRI

offense and length of hospitalization (Baldwin, Menditto, Beck, & Smith, 1992). In

Missouri, Dirks-Linhorst and Kondrat (2012) found that those NGRI acquittees who

committed homicide were less likely to be conditionally released than other NGRI

acquittees. According to the U.S. Supreme Court in *Jones v. United States* (1983), the

length of commitment should focus on mental illness and dangerousness risk and not punishment for the crime committed, yet the nature and severity of the NGRI offense is found to be related to the length of hospitalization. Dirks-Linhorst and Kondrat (2012) argue that this relation might be due to other related factors, such as that those who committed more serious offenses may have more severe and durable symptoms. Additionally, they argue that for acquittees who committed more severe crimes, such as homicide, more caution is exercised in release decisions, and these acquittees are required to demonstrate longer periods of behavioral and psychiatric stability to be considered for release.

The diagnostic factors most commonly associated with likelihood of release are a major mental illness diagnosis, substance use history, and psychopathy. Specifically, those with the diagnosis of schizophrenia or substance abuse disorders are less likely to be recommended for release (Callahan & Silver, 1998). McDermott and colleagues (McDermott et al., 2008) emphasize the importance of substance use in making release decisions. They argue that while some studies have found a relationship between mental illness and violence (Swanson, Holzer, & Ganju, 1990), this relationship is minor, and substance use plays a much bigger role (Swartz, Swanson, & Hiday, 1998).

Treatment compliance factors have also been shown to influence release recommendations. Hilton and Simmons (2001) found that fewer institutional management problems and compliance with medication regimen were predictive of clinicians' recommendations for release. Other authors (McKee, Harris, & Rice, 2007) showed that medication compliance was also related to a higher likelihood of recommendation for transfer to a less restrictive facility.

Current State of Violence Risk Assessments for Insanity Acquittees

Although data from risk assessments plays a vital role in release decision, there are no specific standard procedures in place for assessing potential dangerousness and risk for future violence. Additionally, no standard risk assessment tool has been established, which has greatly delayed discharge for many NGRI acquittees (Linhorst 1999). It is therefore not surprising that there is significant variability across regions and hospitals and not much is known on how these assessments are conducted in practice (Watt, Storey, & Hart, 2018).

While research suggests that the use of actuarial and structural professional judgment instruments improves prediction, it is unclear how often are these instruments are used in practice, and when they are used, how much weight is placed on these measures when making discharge recommendations. For instance, Watt, Storey, and Hart (2018) conducted semi-structured interviews with personnel from 13 inpatient psychiatric units in Canada and found they rarely used formal tools for identifying, assessing and managing risk for violence. In Hawaii, Nguyen and colleagues (2011) evaluated the quality of risk assessment reports for NGRI acquittees' conditional release recommendations. They found that overall quality of reports was poor, and less than nine percent of the reports documented use of forensic assessment measures. Even when the actuarial and structured professional judgment measures are used, there are inconsistencies in how much they inform clinicians' recommendations and review board decisions. Hilton and Simmons (2001) examined release decisions regarding evaluees in a maximum-security facility in Canada. They found VRAG scores were unrelated to decisions regarding release but were correlated with clinician's testimony. Hilton,

Simpson, and Ham (2016) revisited this question is a study of board decisions for 63

NGRI maximum security patients between 2009 and 2012 in Canada. They once again

found that the release decisions were significantly related to with clinicians' testimony;

however, they also found that the clinicians' dispositions were associated with the VRAG

scores. Additionally, transferred patients were found to have lower risk of violent

recidivism according to VRAG as compared to detained patients.

Manguno-Mire, Thompson, Bertman-Pate, Burnett, and Thompson (2007)

conducted a retrospective study in which they reviewed records for 91 NGRI patients at a

maximum-security forensic hospital in Louisiana. They found that higher PCL-R score

and younger age at the time of first criminal offense where significantly related to lower

likelihood of being recommended for release. Another Louisiana study (McDermott &

Thompson, 2006) assessed the impact of the use of structured assessment instruments in

the conditional release decision-making process of NGRI acquittees between 1997 and

1999. They found measures of violence risk (such as PCL-R) were related to release

decisions, but only after other factors were considered. Specifically, low PCL-R scores

were associated with recommendations for release only for males with moderate

symptoms.

The lack of uniformity in violence risk assessments does not only apply to

variability between states and hospitals, but also to individual evaluators within the same

system. A study by Gowensmith, Murrie, Boccaccini, and McNichols (2017), looks at

agreement rates between evaluators assessing conditional release readiness in Hawaii.

These evaluations in Hawaii require reports from a panel of three independent evaluators.

Their results show that the evaluators conducting risk assessments rarely reach

agreement. Specifically, all three independent evaluators agreed on CR readiness in only 53% of evaluations. Nguyen and colleagues (2011) found even lower agreement rates for Hawaii evaluators. Namely, in only 40% of the reports, all three evaluators came to same conclusions regarding acquittee's readiness for conditional release. Discrepancies in release recommendations between evaluators might be stemming from the lack of consensus regarding relevant risk factors and the purpose of these evaluation. Gowensmith, Bryant, & Vitacco (2014) surveyed 89 psychologists and psychiatrists from nine states who commonly conduct risk assessments for conditional release recommendations. The aim of this study was to gain understanding of evaluators' decision-making process. The results revealed that the evaluators disagree substantially on nearly all major elements of these evaluations. For one, they placed significantly different weights on the importance of various risk factors. Specifically, out of 21 potential factors, only two—past violence and adherence with medications—were endorsed by more than half the evaluators. Furthermore, there was significant disagreement in evaluators' reported methodology (i.e. use of measures), as well as in their understanding of the psycholegal question in these evaluations.

The current state of the field reveals there is much to be learned about the practice of risk assessment evaluations. In order to improve quality and uniformity of violence risk assessments for NGRI acquittees, we must first develop a more complete understanding of current practices.

CHAPTER III

The Present Study

The current study aims to contribute to the understanding of practical realities of dangerousness risk assessment (DRA) by exploring specific risk factors informing clinicians' decisions regarding risk summary and specific recommendations for discharge from an inpatient facility. Specifically, I looked at dangerousness risk assessments conducted with NGRI acquittees at a state hospital in Texas. A mandatory element of these dangerousness risk assessments is the administration of the HCR-20, which provided an opportunity to assess the impact of this structured professional judgment instrument on clinicians' judgment of future risk, as well as on their release recommendations. In addition to exploring factors related to risk ratings and release recommendations, I examined the relation between those summary risk levels and recommendations given. While we would expect there to be a strong relationship between predicted risk and recommendation for release, sometimes factors other than dangerousness risk, such as availability of adequate housing can play a major role in recommendation provided by the clinicians. Another important contribution of the current study comes from the availability of annually repeated dangerousness risk assessments for all hospitalized NGRI patients in Texas. Most studies exploring factors influencing release recommendations rely on comparing characteristics of acquittees recommended to be discharged, with those who were deemed to require continued hospitalization. Other studies looked at relationship between these factors and the length of inpatient commitment. In the present study, I compared data from initial and final dangerousness risk assessment for same patients and explored which dynamic risk factors

changed and ultimately led to their recommendation for release from the inpatient facility.

In general, this study can aid our understanding of the complex nature of decisions-making regarding risk for violence in practice. Additionally, the results of the present study can provide Rusk State Hospital staff, treatment providers, and administrators with an overview of their dangerousness risk assessment practices thus far, and how these practices relate to the available empirical data, which could help identify strengths as well as areas for improvement.

Hypotheses and Research Questions

Hypothesis 1.

Factor such as age, severity of crime committed, length of stay in the hospital, diagnosis, medication compliance, psychosocial treatment compliance, violent behavior in the hospital, history of childhood abuse, substance abuse history, previous conditional release failure history, current symptoms, insight, and HCR-20 scores were expected to be related to risk summary decisions. Specifically, younger age, more severe crime, shorter length of stay, personality disorder and substance abuse diagnosis, medication and psychosocial treatment noncompliance, presence of violent incidents in the hospital, history of abuse, history of substance abuse, history of previous conditional release failure, current symptoms of psychosis, problems with insight, and higher HCR-20 scores were all expected to be related to higher risk estimates. High HCR-20 scores were expected to have the strongest association with estimates of high risk.

Hypothesis 2.

Similar factors as above listed were expected to be related to release recommendations, with older age, less severe crime, longer length of stay, no substance use or personality disorder diagnosis, medication and psychosocial treatment compliance, lack of violent incidents in the hospital, no previous history of childhood abuse or substance abuse, no previous conditional release failure, lack of active symptoms of psychosis, lack of insight problems, and lower HCR-20 scores were all expected to be related to recommendation for release from hospital. Crime severity, length of stay, treatment compliance, violent incidents in hospital, history of conditional release failure, substance use history, insight, and current active symptoms were factors expected to have the strongest relationship to release recommendations.

Hypothesis 3.

Lower estimates of risk were expected to be related to recommendation for release from hospital.

Hypothesis 4.

The last hypothesis compared patients who were recommended for release during the studied time period, and those who were never recommended for release during this time frame. Specifically, I explored the change in dynamic factors from their first available risk assessment, to the assessment in which release was first recommended, or alternatively (for those who were never recommended for release) to their last available risk assessment. For those recommended for release, I expected to find an improvement in treatment (medication and psychosocial) compliance, reduction in violent incidents within the hospital, reduction in active symptoms of psychosis, improved insight, and

decrease in HCR-20 scores. For those who were never recommended for release, I

expected no significant change or deterioration in these areas.

CHAPTER IV

Method

Participants

The current study relied on archival data drawn from the records of insanity acquittees hospitalized at Rusk State Hospital (RSH). The sample was restricted to 117 patients who had at least two dangerousness risk assessments completed between October 2010 and September 2018. In terms of sample demographics, 82% of the participants were male; 41% of the acquittees in the sample were Black, 37% were White, 13% were Hispanic, seven percent Asian/Pacific Islander, and two percent were classified as "other." The majority of the acquittees in the sample were single/unmarried (65%), six percent were married, 19% divorced, seven percent separated and around two percent widowed. Information regarding marital status was not available for two participants.

At time of the index offense, the age of the acquittees in the sample ranged from 16 to 63 years old ($M = 33.99$; $SD = 11.72$). Regarding criminal history, 35% of the sample had no prior offenses listed. The highest number of previous offenses in the sample was 20 ($M = 3.22$; $SD = 4.14$). The severity of the instant offense was evaluated using the Severity of Offense Scale by Texas Commission on Jail Standards, which classifies offenses into four categories: low, moderate, high, and highest (see Appendix A). Eighty-five percent of participants in the sample were adjudicated NGRI for an offense of "highest" severity. Seven percent of the acquittees committed an index offense classified as "high," six percent as "moderate" severity, and three percent as "low" severity. Twenty-two percent of the acquittees in the sample were charged with murder.

The analysis for the first three hypotheses relied on the data from participants'
second available DRA report. Age of acquittees in the sample at the time of the second
evaluation ranged from 20 to 71 years old ($M = 41.05$; $SD = 12.93$). For this portion of
the sample, the shortest time period since the index offense was 10 months, and the
longest was 34 years and six months ($M = 77.49$ months; $SD = 73.47$). As for time spent
at RSH, it ranged between zero months (just readmitted) to 13 years and four months ($M
= 30.04$, $SD = 32.66$).

Schizophrenia spectrum disorders were most common diagnoses, with
approximately 79% of the sample being diagnosed with a disorder from this diagnostic
category. Second most common diagnoses fell in the substance use disorders category.
Specifically, 51% of the sample had this diagnosis at the time of their second available
DRA evaluation. In terms of comorbidity, 67% of the participants had more than one
diagnosis. Specifically, 40% had two diagnoses, 20% had three, four percent had four,
and three percent of the sample had five comorbid diagnoses. For a list of frequencies of
all diagnostic categories please refer to Table 1. Forty-four percent of the sample had a
history of childhood abuse, 77% had a substance abuse history, and 21% had a history of
revocation of conditional release. Approximately 74% of the sample has had a history of
medication noncompliance, and 24% had a history of noncompliance with psychosocial
treatment.

Table 1

Frequency of Diagnoses in the Sample

Diagnosis	Frequency	Percent
Schizophrenia Spectrum	93	79
Schizophrenia	38	32
Schizoaffective Disorder	53	45
Mood Disorders	27	23
Bipolar Disorder	20	17
Depressive Disorder	4	3
Personality Disorder	24	21
Antisocial Personality Disorder	16	14
Other Personality Disorder	11	9
Substance Use Disorder	60	51
Intellectual Disability	7	6
Anxiety Disorder	5	4
Posttraumatic-Stress Disorder	3	3
Impulse Control Disorder	3	3

$N = 117$

In terms of a history of psychiatric symptoms, around 91% of the sample had experienced delusions at some point prior to their second available evaluation, 79% experienced hallucinations, and 43% have had problems with insight into their mental illness. As for mood symptoms, 79% of the sample has had a history of mood-related symptoms, with depressive symptoms being most common at 44%. Thirty-nine percent of the acquittees in this sample had in the past presented with suicidal ideation and 33% with homicidal ideation.

At the time of the second available DRA, twenty percent of the participants were experiencing delusions, 14% had active hallucinations, and around 21% had problems with insight. Only 16% had present mood symptoms, with flat or blunted affect being most common at 10%. At the time of this evaluation, around three percent of the sample reported present suicidal ideation, and three percent reported present homicidal ideation.

For a complete list of frequencies of past and present psychiatric symptoms, please refer

to Table 2. Seventy-five percent of the participants in the sample had no incidents of

verbal or physical violence in the year leading up to their second available risk

assessment. Finally, only four percent of the acquittees in the sample were not compliant

with their psychiatric medication at the time of the second available DRA, and six

percent were noncompliant with psychosocial treatment.

Table 2

Symptom Frequencies

Symptom	History		Current	
	Frequency	Percent	Frequency	Percent
Delusions	107	91%	23	20%
Paranoid	97	83%	11	9%
Grandiose	35	30%	5	4%
Religious	33	28%	1	1%
Hallucinations	93	79%	16	14%
Auditory	91	78%	15	13%
Visual	30	26%	3	3%
Command	30	26%	3	3%
Insight Problems	50	43%	24	21%
Disorganized	23	20%	6	5%
Intellectual Disability			11	9%
Mood Symptoms	92	79%	19	16%
Flat Affect	29	25%	12	10%
Depressive	51	44%	4	3%
Manic	32	27%	2	2%

Predictor Variables

In relation to the first three hypotheses, for each patient in the sample, the

variables were coded from their second available dangerousness risk assessment. The

predictor variables included demographics, criminological variables, and clinical

variables. Demographic predictor variables used were age, gender, race/ethnicity, and

marital status. Criminological predictor variables in this study included: number of prior offenses, severity of instant offense, time since index offense, and time since adjudicated NGRI. Finally, clinical variables used as predictors included: diagnosis (schizophrenia spectrum, bipolar disorder, depressive disorder, personality disorder, substance use disorder), current symptoms (delusions, hallucinations, current, disorganized symptoms, flat affect, depressive symptoms, manic symptoms), insight problems, intellectual disability, suicidal ideation, homicidal ideation, medication compliance, psychosocial treatment compliance, violent behavior in the hospital since last evaluation, history of childhood abuse, substance abuse history, previous conditional release failure history, and HCR-20 v2 scores (see Appendix B).

Regarding the fourth hypothesis, for those patients who were at any point recommended for release, I gathered information from their first available dangerousness risk assessment, as well as from the risk assessment in which the release was first recommended. For those patients who were not recommended for release during the studied period, I gathered information from their first and last available dangerousness risk assessments. The patients who were recommended for release during their first available risk assessment were excluded from the analysis. The final sample included 86 participants. The predictor variables were coded into four categories based on changes between the two assessments in regard to several dynamic factors. The four categories were: stable (not present at either evaluation), improved (only present during the first evaluation), no improvement (present at both evaluations), and worsened (present only at final evaluation). The dynamic factors included current symptoms (delusions, hallucinations, current, disorganized symptoms, flat affect, depressive symptoms, manic

symptoms), insight problems, suicidal ideation, homicidal ideation, current medication compliance, psychosocial treatment compliance, violent behavior in the hospital since last evaluation, and HCR-20 v2 scores.

Historical, Clinical, Risk Management-20 – Version 2 (HCR-20 v2; Webster, et al., 1997).

The HCR-20 v2 is a structured professional judgment instrument developed to assess risk for violence. The instrument yields a Total Score as well as scores for Historical, Clinical, and Risk Management factors. Gray, Taylor, and Snowden (2011) explored effectiveness of HCR-20 across a wide range of mental health diagnoses, using a forensic clinical sample. The inter-rater reliability for this study was high (HCR-20 total: ICC = 0.80; historical: ICC = 0.92; clinical: ICC = 0.90; risk management: ICC = 0.85). In terms of accuracy of prediction, this study showed the HCR-20 total score was a very good predictor of future violent convictions (AUC = 0.73). As for the subscales, H and R scales produced significant predictions (historical AUC = 0.72; risk management AUC = 0.70), but that the C scale did not (AUC = 0.55). At RSH, the HCR-20 v2 was completed by hospital clinicians on an annual basis as a mandatory part of the dangerousness risk assessment, and the scores in this study were extracted from patient records.

Criterion Variables

The criterion variables for the first three hypotheses were also extracted from the dangerousness risk assessment forms for all subjects. These included summary level of risk for aggression (low, medium, high), as well as the recommendations regarding the level of care needed to ensure safety. These recommendations were first coded into six

categories: higher level of supervision needed (such as transfer to a maximum security unit or facility), retain current level of supervision, transfer to lower security level unit or facility (another state hospital), release to a supervised community center, conditionally release into community, or unconditional release into community (see Appendix B), and then re-coded into two categories (recommended for release or recommended for continued hospitalization).

For the fourth hypothesis, the criterion variable was release recommendation coded into two categories (recommended for release or not recommended for release).

Procedure

The data in this study was coded from patients' electronic records, specifically from dangerousness risk assessment (DRA) forms, which are completed annually. Data was coded for all patients who have undergone at least two formal dangerousness risk assessments between October 2010 and September 2018. The patients were assigned random ID numbers, and information was coded in a de-identified form using the attached coding sheet (see Appendix B). All coding was completed at Rusk State Hospital by the principal investigator and a research assistant from University of Texas at Tyler, an undergraduate practicum student at RSH. Both coders underwent RSH information security and HIPAA compliance training before beginning data collection. To ensure appropriate inter-rater reliability, the coders attended training by the study author. Further, five randomly selected cases were coded by both coders to examine inter-rater reliability; the percentage of agreement for these cases ranged between 90 and 97 percent, with the overall agreement rate at 94%.

To ensure confidentiality, data from patients' records was coded and stored in a de-identified manner. That is, no identifying information (e.g., name, patient number) was recorded. These de-identified data sheets were stored in the faculty supervisor's (Dr. Jorge G. Varela) secure lab. Subsequent analyses relied on aggregated data, rather than individual cases. All analyses were conducted on the secure Sam Houston State University servers.

CHAPTER V

Results

Hypothesis 1: Variables predicting risk level

Out of 117 acquittees, 64% were deemed "low risk," 27% were deemed "moderate risk," and nine percent were assessed to be "high risk." In order to determine which variables influenced clinicians' decisions regarding acquittees' risk level, a multivariate multinominal regression analysis was conducted. The goal was to identify variables that differentiate between those patients who were deemed low risk and those who were deemed moderate or high risk. First, a series of preliminary univariate analysis were conducted to identify variables to be included in the multivariate analysis prediction model.

None of the demographic or criminological variables were significantly related to assigned risk level (see Table 3 and Table 4). As for the clinical variables, current delusions, current hallucinations, current insight problems, homicidal ideation, psychosocial treatment noncompliance, and violence in the hospital all significantly differentiated between levels of risk (see Table 5). Finally, HCR-20 total score significantly differentiated between the three risk levels ($F = 79.05$; $p = .000$; $\eta^2 = .569$). Specifically, the average HCR-20 score for those deemed "low risk" was 13.58 ($SD = 4.61$), average HCR-20 score for "moderate risk" acquittees was 24.63 ($SD = 6.24$), and those deemed "high risk" had an average HCR-20 total score of 30.70 ($SD = 5.96$).

Table 3

Chi-Squared Analyses for Demographic and Criminological Variables and Risk Level

Variable		Low (n = 75)	Moderate (n = 32)	High (n = 10)	χ^2	p	Cramer's V
Gender[a]	Male	54%	23%	5%	3.61	.164	.176
	Female	10%	4%	3%			
Marital Status[b]	Single	37%	23%	5%	13.98	.082	.247
	Married	3%	1%	2%			
	Divorced	17%	2%	1%			
	Separated	6%	1%	0%			
	Widowed	1%	1%	0%			
Race/Ethnicity[a]	White	24%	10%	3%	3.05	.931	.114
	Black	26%	13%	3%			
	Hispanic	9%%	2%	2%			
	Asian	4%	2%	1%			
	Other	1%	1%	0%			
Offense severity[a]	Low	3%	0%	0%	4.96	.549	.146
	Moderate	4%	2%	0%			
	High	6%	1%	0%			
	Highest	51%	25%	8%			
Murder[a]	Yes	50%	21%	7%	.04	.981	.018
	No	14%	6%	2%			

[a]$n = 117$. [b]$n = 115$.

Table 4

One-Way ANOVA Analyses Related to Hypothesis 1

Variable	Low Risk (n = 75)		Moderate Risk (n = 32)		High Risk (n = 10)		F	p	η^2
	M	*SD*	M	*SD*	M	*SD*			
Age at the time of the evaluation[a]	41.65	13.35	39.75	11.61	40.70	14.66	.244	.784	.004
Time since offense (months)[b]	70.04	71.34	83.34	68.13	112.40	98.60	.79	.457	.028
Time since NGRI (months)[c]	76.90	86.08	53.13	44.45	84.25	99.71	1.62	.203	.025
Number of previous offenses[a]	2.87	4.45	3.78	3.61	4.10	3.25	.85	.432	.014

[a]$n = 117$. [b]$n = 114$. [c]$n = 70$.

Table 5

Clinical Variables and Risk Level

Variable	Low Risk (n = 75)		Moderate Risk (n = 32)		High Risk (n = 10)		χ^2	p	Cramer's V
	Yes	No	Yes	No	Yes	No			
Schizophrenia spectrum Dx	79%	21%	84%	16%%	70%	30%	1.05	.591	.095
Bipolar disorder Dx	19%	81%	9%	91%	70%	30%	2.65	.266	.151
Depressive disorder Dx	5%	95%	0%	100%	0%	100%	2.32	.314	.141
Personality Disorder Dx	15%	85%	28%	72%	40%	60%	5.04	.081	.208
Substance Use Dx	51%	49%	50%	50%	60%	40%	.34	.845	.054
Current Delusions	**13%**	**87%**	**25%**	**75%**	**50%**	**50%**	**8.31**	**.016**	**.266**
Current Hallucinations	9%	91%	19%	81%	30%	70%	4.15	.125	.188
Current Insight Problems	**9%**	**91%**	**34%**	**66%**	**60%**	**40%**	**19.08**	**.000**	**.404**
Current Disorganized Sx	5%	95%	3%	97%	10%	90%	.76	.684	.081
Intellectual Disability	8%	92%	9%	91%	20%	80%	1.49	.474	.113
Current Flat Affect	8%	92%	19%	81%	0%	100%	4.07	.131	.186
Current Depressive Sx	3%	97%	3%	97%	10%	90%	1.50	.485	.111
Current Manic Sx	0%	100%	3%	97%	10%	90%	5.78	.056	.222
Current Suicidal Ideation	3%	97%	3%	97%	10%	90%	1.50	.485	.111
Current Homicidal Ideation	**1%**	**99%**	**0%**	**100%**	**20%**	**80%**	**13.46**	**.001**	**.339**
Medication Noncompliance	1%	99%	9%	91%	10%	90%	4.42	.110	.194
Psychosocial Tx Noncompliance	**0%**	**100%**	**9%**	**81%**	**10%**	**90%**	**14.33**	**.001**	**.350**
History of Conditional Release failure	15%	85%	31%	69%	30%	70%	4.39	.112	.194
History of Childhood Abuse	41%	59%	47%	53%	50%	50%	.46	.793	.063
History of Substance Abuse	71%	29%	90%	9%	80%	20%	5.09	.078	.209
Violence in Hospital	**13%**	**87%**	**34%**	**66%**	**80%**	**20%**	**23.21**	**.000**	**.445**

Note. $n = 117$.

These variables that were significantly associated with risk level were examined in combination using multinomial regression. That is, risk level was regressed on to HCR-20 score, current delusions, current hallucinations, current insight problems, and violence in the hospital. Homicidal ideation and psychosocial treatment noncompliance were excluded from the multivariate analysis due to sparseness. Specifically, zero participant from the moderate risk category had present homicidal ideation, and zero from the low risk category had current psychosocial treatment noncompliance. Additionally, the "time since offense" variable was added to the model in order to control for possible effects of the length of time NGRI acquittees spent incarcerated and hospitalized following their index offense. The "low risk" group was set as the reference category. The final model significantly differentiated between participants deemed "low risk" and those assessed to be "moderate" and "high risk," $\chi^2(14, N = 107) = 92.04$; $p = .000$; Negelkerke pseudo-$R^2 = .707$. The examination of individual contributions for each predictor revealed that majority of the predictive strength of this model was driven by the HCR-20 score, while other predictors did not demonstrate significant individual contributions (see Table 6).

Table 6

Mutinominal Regression: Risk Level

Group[a]	Variable	B	S.E.	Wald[b]	*p*	Odds Ratio	95% CI
Moderate Risk	Intercept	-8.178	2.341	12.202	.000		
	Time since offense (mo)	-.006	.006	1.131	.288	.994	[.982,1.005]
	HCR-20	**.458**	**.106**	**18.555**	**.000**	**1.581**	**[1.284,1.948]**
	Delusions	-.025	.837	.001	.976	.976	[.189,5.029]
	Insight	-1.393	.937	2.210	.137	.248	[.040,1.559]
	Hospital Violence	.264	.881	.090	.764	1.302	[.232,7.315]
High Risk	Intercept	-11.203	3.417	10.747	.001		
	Time since offense (mo)	-.005	.007	.491	.484	.995	[.980,1.009]
	HCR-20	**.559**	**.133**	**17.739**	**.000**	**1.749**	**[1.348,2.269]**
	Delusions	-.195	1.217	.026	.873	.823	[.076,8.942]
	Insight	-1.857	1.225	2.299	.129	.156	[.014,1.721]
	Hospital Violence	-.981	1.269	.597	.440	.375	[.031,4.515]

Note. n = 107. Negelkerke pseudo-R^2 = .707. [a]The reference group is low risk. [b]*df* = 1.

Hypothesis 2: Variables predicting release recommendations

Forty-one percent of acquittees in the present sample were recommended for release at the time of their second available dangerousness risk assessment. In terms of specific recommendations, two percent were recommended for unconditional release, 12% were recommended to be living in the community with specific conditions, and 27% were recommended to reside in a supervised community living facility, such as a group home. As for those who were not recommended for release, the majority (56%) were recommended to maintain the current level of supervision, three percent were recommended to be transferred to a maximum security unit or facility, and one percent was recommended to be transferred to a facility or unit with a lower level of supervision.

Logistic regression analysis was conducted with the goal of identifying variables predicting clinicians' release recommendations. In order to identify which variables should be included in the prediction model, a series of preliminary univariate analysis were conducted.

In terms of the demographic variables, only gender was significantly related to release recommendations (see Table 7 and Table 8). Specifically, female acquittees were less likely to be recommended for release as compared to male participants. None of the criminological variables were significantly related to release recommendations (see Table 7 and Table 8). In contrast, several clinical variables were significantly related to clinicians' release recommendations (see Table 9). These included current delusions, current hallucinations, current insight problems, intellectual disability, psychosocial treatment noncompliance, and violence in the hospital. In addition, HCR-20 total score significantly differentiated between those who were and those who were not

recommended for release ($t = 7.73$; $p = .006$; Cohen's $d = 1.148$). Specifically, the average HCR-20 score for those who were recommended to be discharged to the community was 13.22 ($SD = 5.36$), while those who were recommended to remain hospitalized had an average HCR-20 score of 21.05 ($SD = 8.02$).

Table 7

Demographic and Criminological Variables and Release Recommendations

Variable		Release (n = 48)	Non-Release (n = 69)	χ^2	p	Cramer's V
Gender[a]	**Male**	**38%**	**44%**	**5.11**	**.024**	**.209**
	Female	**3%**	**15%**			
Marital Status[b]	Single	23%	44%	6.23	.183	.233
	Married	3%	3%			
	Divorced	12%	7%			
	Separated	3%	4%			
	Widowed	1%	1%			
Race/Ethnicity[a]	White	14%	24%	2.95	.566	.159
	Black	20%	21%			
	Hispanic	3%	9%			
	Asian	3%	3%			
	Other	1%	1%			
Offense severity[a]	Low	2%	1%	5.10	.159	.211
	Moderate	3%	3%			
	High	5%	2%			
	Highest	32%	53%			
Murder[a]	Yes	9%	13%	.02	.880	.014
	No	32%	46%			

[a]$n = 117$; [b]$n = 115$.

Table 8

t-Test Analyses Related to Hypothesis 2

Variable	Release (n = 48)		Non-Release (n = 69)				Cohen's d
	M	*SD*	M	*SD*	*t*	*p*	
Time since offense (months)[a]	71.35	77.65	81.65	70.79	-.733	.465	.138
Time since NGRI (months)[b]	75.22	95.14	66.60	63.26	.456	.650	.107
Number of previous offenses[c]	2.94	4.80	3.42	3.64	-.618	.538	.113
Age at the time of the evaluation[c]	41.94	13.79	40.43	12.36	.617	.539	.115

[a]*n* = 114; [b]*n* = 70; [c]*n* = 117

Table 9

Clinical Variables and Release Recommendations

Variable	Release (n = 48)		Non-Release (n = 69)		χ^2	*p*	Cramer's V
	Yes	No	Yes	No			
Schizophrenia spectrum Dx	73%	27%	84%	16%	2.16	.142	.136
Bipolar disorder Dx	21%	79%	14%	86%	.80	.370	.083
Depressive disorder Dx	4%	96%	3%	97%	.14	.710	.034
Personality Disorder Dx	13%	87%	26%	74%	3.21	.073	.166
Substance Use Dx	54%	46%	57%	51%	.27	.603	.048
Current Delusions	**6%**	**94%**	**29%**	**71%**	**9.27**	**.002**	**.281**
Current Hallucinations	**0%**	**100%**	**23%**	**77%**	**12.89**	**.000**	**.332**
Current Insight Problems	**6%**	**94%**	**30%**	**70%**	**10.16**	**.001**	**.295**
Current Disorganized Sx	2%	98%	7%	93%	1.55	.213	.115
Intellectual Disability	**2%**	**98%**	**15%**	**85%**	**5.12**	**.024**	**.209**
Current Flat Affect	4%	96%	15%	85%	3.28	.070	.167
Current Depressive Sx	2%	98%	4%	96%	.44	.507	.061
Current Manic Sx	0%	100%	3%	97%	1.42	.234	.110
Current Suicidal Ideation	2%	98%	4%	96%	.44	.507	.061
Current Homicidal Ideation	0%	100%	4%	96%	2.14	.143	.135
Medication Noncompliance	2%	98%	6%	94%	.95	.329	.090
Psychosocial Trx Noncompliance	**0%**	**100%**	**10%**	**90%**	**5.18**	**.023**	**.210**
History of CR failure	27%	73%	16%	84%	2.16	.142	.136
History of Childhood Abuse	33%	67%	51%	49%	3.48	.062	.173
History of Substance Abuse	77%	23%	77%	23%	.00	.973	.003
Violence in Hospital	**6%**	**94%**	**38%**	**62%**	**15.00**	**.000**	**.358**

Note. N = 117.

For the purpose of the logistic regression analysis, the predictor variables were entered in three blocks. The "time since offense" variable was added first in order to control for possible effects of the length of time NGRI acquittees spent incarcerated and hospitalized following their index offense. The second block contained five out of eight variables which were found to be significantly related to release recommendations in the univariate analysis stage. These variables included current delusions, current insight problems, intellectual disability, and violence in the hospital. Current hallucinations and psychosocial treatment noncompliance were excluded from the multivariate analysis due to low cell count. Specifically, no participants with current hallucinations, or current psychosocial treatment noncompliance were recommended for release. The last variable, HCR-20 score was added in the last step. The rationale for it being added in the last block was that HCR-20 score is influenced by presence and absence of various clinical variables, including some of the variables added in the block 2 (delusions, hallucinations, insight problems, and treatment compliance). Adding the total HCR-20 score in the last block allowed for examination of individual contributions of these clinical variables without the portion of their variance being accounted by the HCR-20. The first model, which only included the "time since offense" predictor variable, was nonsignificant, χ^2 (1, $N = 107) = .31$; $p = .575$; Negelkerke pseudo-$R^2 = .004$. The second model was significant, $\chi^2(8, N = 107) = 40.69$; $p = .000$; Negelkerke pseudo-$R^2 = .427$. Gender, current delusions, current insight problems, and violence in the hospital were significant individual contributors to the predictive strength of this model (see Table 10). The final model also significantly differentiated between participants who were and who were not recommended for release, $\chi^2(9, N = 107) = 51.29$; $p = .000$; Negelkerke pseudo-$R^2 =$

.515. In this final model, only gender and HCR-20 scores were significant individual

contributors (see Table 10).

Table 10

Release Recommendations Multiple Logistic Regression

Model	Variable	B	S.E.	Wald[a]	*p*	Odds Ratio
Block 1	Time since Offense (months)	.002	.003	.304	.581	1.002
	Constant	.281	.287	.964	.326	1.325
Block 2	Time since Offense (months)	-.006	.004	2.461	.117	.994
	Gender	**2.190**	**.742**	**8.706**	**.003**	**8.934**
	Current Delusions	**1.845**	**.836**	**4.867**	**.027**	**6.327**
	Current Insight	**2.087**	**.804**	**6.736**	**.009**	**8.058**
	Intellectual Disability	1.921	1.185	2.628	.105	6.828
	Violence in hospital	**1.974**	**.711**	**7.701**	**.006**	**7.201**
	Constant	-2.781	.916	9.223	.002	.062
Block 3	Time since Offense (months)	-.006	.005	1.606	.205	.994
	Gender	**2.326**	**.768**	**9.179**	**.002**	**10.233**
	Current Delusions	1.629	.871	3.495	.062	5.100
	Current Insight	1.646	.892	3.408	.065	5.187
	Intellectual Disability	1.486	1.191	1.558	.212	4.422
	Violence in hospital	1.439	.772	3.472	.062	4.216
	HCR-20	**.136**	**.046**	**8.623**	**.003**	**1.146**
	Constant	-4.960	1.257	15.579	.000	.007

Note. $N = 107$. Block 1: Negelkerke pseudo-R^2 = .004; Block 2: Negelkerke pseudo-R^2 = .427; Block 3: Negelkerke pseudo-R^2 = .515. [a]$df = 1$.

Hypothesis 3: Risk level and release recommendations

The third hypothesis is directed at examining the relationship between risk levels assigned, and the recommendations for release. A chi-square analysis revealed a significant relationship, χ^2 (2, N = 117) = 17.58; p = .000; Cramer's V = .388. Specifically, acquittees who were deemed "low risk" were most likely to be recommended for release, as compared to those who were assessed as "moderate" and "high risk." Further, acquittees deemed to be "moderate risk" were more likely to be recommended for release than those in the "high risk" category. None of the acquittees from the "high risk" category were recommended to be released to the community (see Table 11).

Table 11

Risk Level and Release Recommendations

Variable	Release	Non-Release	χ^2	p	Cramer's V
Low Risk	35%	29%	**17.58**	**.000**	**.388**
Moderate Risk	6%	21%			
High Risk	0%	9%			

Note. N = 117

Hypothesis 4: Change in dynamic risk factors and recommendations for release

The last hypothesis focused on the change in dynamic factors between evaluations and explored which variable changes predicted if an acquittee would be recommended for release at some point during the studied period of approximately eight years. I compared presence and/or absence of several dynamic factors (delusions, hallucinations, disorganized symptoms, flat affect, depressive symptoms, manic symptoms, insight problems, suicidal ideation, homicidal ideation, current medication compliance,

psychosocial treatment compliance, and violent behavior in the hospital since last evaluation) between two evaluations. Specifically, between first available DRA and either the evaluation in which they were first recommended for release, or, if they were never recommended for release, the final available evaluation. Each of the listed factors was coded as stable (not present at either evaluation), improved (present at only at the time of the first evaluation), not improved (present during both evaluations), or worsened (not present during first, but present during the later evaluation).

Once again, I conducted a series of univariate analyses with the goal of determining which variables to include in the multivariate analysis model. For these analyses, I only included participants who at any point experienced that symptoms, including prior to their current hospitalization period. In other words, if a specific symptom was never present for a participant, that participant was excluded from the univariate analysis. Consequently, the sample size was small for uncommon symptoms. Nonetheless, three variables significantly differentiated between acquittees who were and were not recommended for release during the studied period. Those variables were change in delusions, change in hallucinations, and change in violence in the hospital (see Table 12). Also significant was the length of time between the two evaluations. Namely, those who were not recommended for release had a longer time period between the two compared evaluations (M = 988.18 days; SD = 73.52), than those who were recommended for release (M = 509.65 days; SD = 370.67). Both groups showed significant improvement in HCR-20 scores between evaluations. However, the effect size for this change was larger for those who were recommended to be released.

Additionally, their average HCR-20 score during the first available evaluation was lower

as compared to those who were not recommended for release (see Table 13).

Table 12

Change in Symptoms and Release Recommendation Group Chi-square

Variable	n	Stable		Improved		No Improvement		Worsened		χ^2	p	Cramer's V
		Release	Non-Release	Release	Non-Release	Release	Non-Release	Release	Non-Release			
Delusions	**78**	**53% (25)**	**47% (22)**	**29% (4)**	**71% (10)**	**20% (2)**	**80% (8)**	**0% (0)**	**100% (7)**	**10.52**	**.015**	**.367**
Hallucinations	**71**	**43% (23)**	**57% (30)**	**33% (2)**	**67% (4)**	**0% (0)**	**100% (5)**	**0% (0)**	**100% (7)**	**8.09**	**.044**	**.338**
Insight	45	33% (4)	67% (8)	42% (8)	58% (11)	38% (3)	62% (5)	0% (0)	100% (6)	3.72	.293	.288
Disorganized	17	21% (3)	79% (11)	50% (1)	50% (1)	0% (0)	0% (0)	0% (0)	100% (1)	1.12	.571	.571
Flat Affect	28	33% (3)	67% (6)	25% (2)	75% (6)	40% (2)	60% (3)	17% (1)	83% (5)	.89	.829	.829
Depressive	39	41% (14)	59% (20)	25% (1)	75% (3)	0% (0)	0% (0)	0% (0)	100% (1)	1.04	.595	.163
Manic	21	53% (10)	47% (9)	0% (0)	100% (2)	0% (0)	0% (0)	0% (0)	0% (0)	2.10	.156	.309
Suicidal Ideation	37	42% (14)	58% (19)	0% (0)	100% (2)	100% (1)	0% (0)	0% (0)	100% (1)	3.56	.313	.310
Homicidal Ideation	26	48% (11)	52% (12)	0% (0)	100% (1)	0% (0)	100% (1)	0% (0)	100% (1)	2.49	.478	.309
Medication Noncompliance	64	50% (28)	50% (28)	50% (2)	50% (2)	0% (0)	100% (2)	0% (0)	100% (2)	3.76	.288	.243
Psychosocial Treatment Noncompliance	24	50% (7)	50% (7)	50% (2)	50% (2)	0% (0)	100% (3)	0% (0)	100% (3)	4.80	.187	.447
Violence in Hospital	**86**	**53% (24)**	**47% (21)**	**50% (9)**	**50% (9)**	**13% (2)**	**87% (14)**	**14% (1)**	**86% (6)**	**10.78**	**.013**	**.354**

Table 13

Change in HCR-20 Score for Acquittees Recommended and Not Recommended for

Release

	First Evaluation		Final Evaluation				Cohen's
Release Status	M	*SD*	M	*SD*	*t*	*p*	d
Released[a]	21.55	6.89	17.14	5.18	3.79	.001	.724
Non-Released[b]	23.52	8.07	20.17	7.41	2.83	.007	.432

Note. [a]$n = 29$. [b]$n = 42$

After assessing for univariate effects, a multivariate logistic regression analysis conducted. The "time between the evaluations" was entered in first block to control for its effects. In the block 2, I entered dummy coded change in violence in the hospital variable. The reference category was "stable." Dummy coded change in delusions and change in hallucinations variables were excluded due to low cell count. Specifically, none of the participants in the "no improvement" or "worsened" hallucinations category, and none of the participants in the "worsened" delusions category were recommended for release.

The block 1 model, which only included the "time between the evaluations," predictor variable significantly differentiated between those participants who were, and those were not recommended for release, χ^2 (1, N = 86) = 14.311; $p = .000$; Negelkerke pseudo-R^2 = .206. The block two model was also significant, χ^2(10, N = 86) = 22.85; $p = .000$; Negelkerke pseudo-R^2 = .314. The model's predictive strength relied primarily on the "no improvement in violence in the hospital" dummy variable (see Table 14).

Table 14

Logistic Regression: Change in Symptoms and Release Recommendation Group

Model	Variable	B	S.E.	Wald[a]	*p*	Odds Ratio
Block 1	**Time Between Evaluations (days)**	**.002**	**.001**	**9.825**	**.002**	**1.002**
	Constant	-.836	.400	4.362	.037	.433
Block 2	**Time Between Evaluations (days)**	**.002**	**.001**	**8.062**	**.005**	**1.002**
	Hospital Violence (Improved)	-.198	.617	.103	.748	.820
	Hospital Violence (No Improvement)	**1.865**	**. 855**	**4.765**	**.029**	**6.459**
	Hospital Violence (Worsened)	1.620	1.184	1.873	.171	5.051
	Constant	-1.162	.470	6.127	.013	.313

Note. $N = 86$. Block 1: Negelkerke pseudo-R^2 = .206; Block 2: Negelkerke pseudo-R^2 = .314. [a]$df = 1$.

CHAPTER VI

Discussion

The results of this study illuminate both strengths and areas for improvement as they relate to clinicians' determinations of risk and release recommendations. A promising finding is that demographic and criminological variables did not significantly influence risk level determinations. That is, clinicians relied on relevant clinical variables (active delusions, problems with insight, homicidal ideation, noncompliance with psychosocial treatment, and recent violent behaviors in the hospital) and structured professional judgement measures (specifically, the HCR-20) when assigning a descriptive risk level category to NGRI acquittees. Furthermore, the HCR-20 score was the single most relevant predictor of risk level. While it is promising to find clinicians relying on an empirically supported structured professional judgment measure in their assessment of acquittees' risk, majority of the clinicians in the present sample failed to include in their report specific HCR-20 factors present. By large, the DRA reports coded in this study listed only numerical total HCR-20 score, and occasionally included scores for the three groups of factors (historical, clinical, and risk management). This practice indicated potential deficits in clinicians' training, as it relates to the use of this measure. Finally, it is important to mention that several factors that have been empirically supported as significant predictors of future risk, did not seem to influence clinicians' risk ratings in this study. Most prominent of these factors are substance use history, age, personality disorder diagnosis (especially antisocial personality disorder), and history of childhood abuse (primarily physical) (Monahan et al., 2001). Surprisingly, none of these factors contributed to risk level determinations.

Next, we must pose the question of the purpose of this assigned risk level category. What does a certain risk level mean for an NGRI acquittee in practice? One would expect the primary role of this classification is to aid in decisions regarding appropriate level of supervision required for safety. The results of the present study show that risk level determinations are relevant for release recommendations. Acquittees in the low risk category were most likely to be recommended for release, while those deemed high risk did not receive recommendation for release from the inpatient institution. However, this relationship was not as strong as expected. Being deemed low risk does not mean you will be recommended for release; specifically, 64% of the present sample was classified as low risk, but only 41% of the participants in this study were recommended to be released to community. Additionally, several participants from the moderate risk category received recommendations for release. These findings suggest that the clinicians may weigh factors differently when assessing for risk category versus when deciding whether to recommend continued hospitalization or release.

This leads us to the next research question - what factors did clinicians in this study rely on most heavily when coming to release recommendation determinations? Active delusions, insight problems, psychosocial treatment noncompliance, and violent behavior in the hospital were all significant predictors of both risk level and release recommendations. These are promising findings as all of these factors have previously been shown to be predictive of future violence (Singh, Serper, Reinharth, & Fazel, 2011).

I also identified some notable differences in variables predicting risk level and those predicting risk recommendations. For one, gender was found to have a significant impact on recommendations for release. Interestingly, female acquittees were less likely

to be recommended for release than the male participants, even though empirical data suggests that male psychiatric patients are more likely to be violent (Monahan et al., 2011). A possible explanation might be found in differences in the clinical presentation of men and women who suffer from psychotic disorders. Data suggests that while women have a later onset of psychosis and experience less cognitive decline, they are more likely to have severe affective and positive symptoms of psychosis as compared to men (Thorup, et al., 2007; Leung, Chue, & Psych, 2000). Although not included in the current study, it is possible that severity of positive symptoms (and not only presence) would be a significant predictor of risk level and release recommendations, thus explaining the effect of gender. Alternatively, gender role expectations for women might be having a biasing effect on the clinicians. Specifically, female acquittees might be judged more harshly as their involvement with the criminal justice system is less normative, and not in line with typical female gender roles.

Further, homicidal ideation was not a significant predictor of release recommendations. We would expect homicidal ideation to be relevant when deciding on whether to release an acquittee into community, and we know that violent ideation is a significant risk factor for future violence (Monahan, 2001). However, only three participants in the sample were noted to have current homicidal ideation. Relatively small sample size and low frequency of current homicidal ideation likely contributed to this variable not having a robust predictive effect. Similarly, only five participants had current medication noncompliance, so unsurprisingly, this variable did not significantly predict risk levels or release recommendations.

Next, individuals with intellectual disability were less likely to be recommended for release even though they were not deemed higher risk. One explanation is that these acquittees might need services and accommodations in the community that are not be readily available, therefore limiting their post-release housing options. Clinicians in this study might have been reluctant to recommend release for acquittees who would not have appropriate services and housing in the community. Additionally, as intellectual disability is a stable factor, clinicians might not perceive intellectually disabled patients as being able to sufficiently mitigate their risk factors for violence.

While the presence of hallucinations was not significantly related to risk level determinations, it was a significant predictor for release recommendations. Possible interpretation of this discrepancy is that clinicians might not consider hallucinations to be indicative of increased risk of violence but do consider those with active hallucinations to be in need of further intensive treatment. The clinicians might be reluctant to recommend release to someone who is yet to achieve maximum benefit from hospitalization.

While HCR-20 score was a significant predictor, it appeared to have less impact on final recommendations as compared to risk level determinations. It is likely that in this step, the clinicians' reliance on unstructured clinical judgment is increased, and thus the accuracy of their predictions might be reduced. Less reliance on the structured professional judgment measures in this decision-making process may allow for potential bias, and reliance on empirically unsupported factors (i.e. female gender). The present results indicate that even when all significant predictors were entered in the multivariate regression model, gender remained the most influential predictor of release recommendations.

Finally, similarly to the first hypothesis, several empirically supported risk factors (age, substance use, personality disorder diagnosis, and history of physical abuse in childhood) did not play a significant role in clinicians' release recommendations. This could be somewhat concerning as it might be reducing the accuracy of clinicians' predictions. The clinicians in the present study might not have placed a significant weight on these factors most of them are static and therefore not central in the treatment of NGRI acquittees - as such they might be less salient. However, it is important to note that null effects should be interpreted with caution.

As for the final research question, a change (or lack thereof) in only a few dynamic variables differentiated between those who were and those who were not recommended for release during the studied period. Specifically, those acquittees who did not demonstrate active symptoms of psychosis (delusions and hallucinations) at either evaluation time (the "stable" category) were most likely to be recommended for release during the studied period as compared to other acquittees. As previously explained, these acquittees were noted to have experienced positive symptoms of psychosis in the past but did not demonstrate them during the two evaluations. This finding emphasizes that, when recommending release, clinicians value both absence of symptoms and length of time in remission. Similarly, presence, absence, or change in violent behavior in the hospital also significantly differentiated between the two groups. Namely, those with no recent violent incidents leading up to both evaluations were most likely to be recommended for release, while those who showed no improvement, or worsened violent behavior were less likely to be recommended for release during the studied period. However, in the multivariate regression model, when controlling for time between

evaluations, the only significant predictor was no improvement in violence (as compared to those with who were behaviorally stable).

Overall, the results of the present study illustrate that the most salient factors in risk assessment with NGRI acquittees are clinical dynamic risk factors, which are primary targets of treatment in inpatient facilities. Specifically, these include positive symptoms of psychosis, lack of insight into their illness, behavioral instability, and treatment noncompliance. While research in the field often emphasizes the impact of static and historical factors in violence prediction, the present study suggests that the clinicians conducting these evaluations rarely rely on those factors. Dynamic risk factors might be especially relevant to evaluators who also work as clinicians and are therefore used to focusing on these clinical factors in treatment planning.

CHAPTER VII

Limitations and Future Directions

Finally, it is important to address limitations of the current study, suggest potential remedies, and introduce ideas for future projects.

The data in the present study originated from a single state hospital in Texas, and therefore these findings cannot be readily generalized to other state hospitals, and practices in other states. Further, legislative differences between states could further be limiting generalizability of present findings. As such, this study should serve merely as one step in exploring practical realities of risk assessment evaluations for NGRI acquittees. Future research projects could help provide us with a broader picture. Specifically, replicating this study in other states, as well as other state hospitals in Texas, could be paramount in understanding how these evaluations are conducted nation-wide.

Small sample size was another limitation of this study, which was exacerbated by the large number of variables examined. A larger sample might reveal significant associations which were missed in the present study due to low frequency. Moreover, low frequencies in certain cells (e.g., psychosocial noncompliance x low risk, homicidal ideation x moderate risk, hallucinations x release) led to aberrant results that were uninterpretable.

Another set of limitations stemmed from the widely varying quality of the DRA reports. Although most clinicians completing these assessments had a masters-level degree, their background and training likely differed significantly. The issues related to the quality of the reports created coding challenges, making it difficult to code certain potentially relevant information. The DRA reports frequently omitted vital information

such as the date of the NGRI acquittal, total time spent hospitalized under the NGRI commitment, and time spent in the community while conditionally released. As NGRI acquittees in Texas often transfer between different state hospitals over the course of their commitment, it was frequently impossible to calculate the length of their hospitalization solely based on the date of their RSH admission and information listed in the DRA report. I, therefore, used time since index offense as an estimate of time spent both incarcerated and psychiatrically committed for their index offense. Further, it is important to clarify that some reports may not have listed all present symptoms and relevant factors. While unlikely, it is possible that a factor omitted from the DRA report still played a significant role in risk level determinations and recommendations for release.

Finally, the present study did not explore the effect of risk management variables, primarily as these were seldom addressed in the available DRA reports.

For future projects, I would like to explore factors which predict future violence in the hospital. I also want to examine the relationship between HCR-20 scores and other available variables, in order to approximate how the clinicians used this assessment measure in practice. Next, I would like to look at acquittees' outcomes – in other words, explore factors that were related to courts' determination to release an NGRI acquittee to community. I also want to explore how the clinicians' risk level determinations and release recommendations relate to release outcomes.

Finally, it is important to mention that in 2018 (around the end of the studied period), there were significant changes implemented at RSH regarding risk assessment procedures. For one, the clinicians received additional risk assessment education and

supervision, as well as training in the use of structured professional judgement measures. The clinicians started using HCR-20 v3 and began describing risk factors, rather than assigning scores. Finally, the previously used "fill-in-blanks" style DRA form was discontinued, and the format of the new DRA reports became more narrative-based. Replicating this study using risk assessments completed after 2018 could help assess for the effect of the improved risk assessment supervision and training at RSH. Further, it would be beneficial to conduct a study comparing the quality of the risk assessment reports, prior to, and following the training provided to RSH staff.

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APPENDIX A

Sample Page
Severity of Offense Scale
Texas Commission on Jail Standards

The Severity of Offense Scale is a listing of offenses addressed in the Penal Code. The offenses are ranked according to their severity. **Assaultive Charges are listed in BOLD text. Decision Tree System will need to verify whether the charge is Felony or Misdemeanor**
Last updated on 6/12/2015 by staff from Sam Houston State University.
Reviewed and approved by TCJS staff on 5/23/2016.

Offense scale	Section	Classification	Severity
Abandon endanger child criminal negligence	**22.041+C8:C2037(c)**	**FS**	**Moderate**
Abandon endanger child imminent danger bodily inj	**22.041(e)**	**F2**	**Highest**
Abandon endanger child w/intent to return	**22.041(b)**	**FS**	**Moderate**
Abandon endanger child w/o intent to return	**22.041(b)**	**F3**	**High**
Abandon of assumed business/professional name	36.14	MA	Low
Abuse of corpse without legal authority	42.08	MA	Moderate
Abuse of official capacity	39.02(a)(1)	MA	Moderate
Abuse of official capacity =>$500<$1,500	39.02(c)(3)	MA	Moderate
Abuse of official capacity >=$1,500<$20k	39.02(c)(4)	FS	High
Abuse of official capacity >=$100k<$200k	39.02(c)(6)	F2	High
Abuse of official capacity >=$20<$500	39.02(c)(2)	MB	Moderate
Abuse of official capacity >=$200k	39.02(c)(7)	F1	Highest
Abuse of official capacity >=$20k<$100k	39.02(c)(5)	F3	High
Accept contribution of cash >$100	253.033	MA	Low
Accept honorarium	36.07	MA	Low
Accept premium rebates not specified in policy	5.41-1	M*	Low
Accept rebate on textbooks	31.152	MB	Low
Accept unlawful benefit from abc viol	104.03	M*	Low
Accident boating	31.104	MA	Moderate
Accident boating death/sbi	**31.104**	**F***	**High**
Accident involving damage to vehicle>=$200	550.022(c)(2)	MB	Low
Accident involving death	**550.021(c)(1)(A)**	**F2**	**High**
Accident involving injury	**550.021(c)(2)**	**F***	**High**
Accident involving serious bodily injury	**550.021(c)(1)(B)**	**F3**	**High**
Accident report false information	601.004(i)	M*	Low
Acquisition of all/part of business viol	204.087	MA	Low
Acquisition of bev resale from other licensee	69.09	MA	Low
Act as ins agent w/revoked/susp license	4005.151(b)	F3	low
Act as resid mortgag originator w/o lic w/prev	157.031(a)	MA	Low
Act as residential mortgage originator w/o lic	157.031(a)	MB	Low
Act prohibit during cancel/suspend license	61.84	M*	Low
Act prohibit during permit suspension	11.68	M*	Low
Acupuncture act w/o license	205.401	F3	Low
Adjutant general illegal release of cch	431.04 €	M*	Low
Administer medication to child w/o permission	42.065(h)	MA	Low
Administration of medication to resident	242.158(a)	MB	Low

APPENDIX B

Coding Sheet

ID#: _____   **Gender:**   Male   Female

Race/Ethnicity: Caucasian/White   African American/Black   Hispanic/Latino   Asian

        Other: _____

Marital Status: Single   Married   Divorced   Separated   Widowed

Type of Assessment: Dangerousness Risk Assessment   Assessment of Manifest Dangerousness

Assessment Date: _____

Purpose of Assessment: New Admission   Discharge   Dangerousness/ Facility Review Board   Transfer Other

Age at the time of the Assessment: _____

Time since offense _____

Time since NGRI acquittal _____

Length of prior hospitalization for same NGRI (if available) _____

Length of current hospitalization at RSH: _____

Current offense(s): _____

Number of previous violent offenses: _____

Number of previous non-violent offenses: _____

Previous offenses: _____

AXIS I and AXIS II Diagnoses: _____ _____

GAF: _____

History of Delusions:			Current Delusions:	
Grandiose			Grandiose	
Paranoid/Persecutory			Paranoid/Persecutory	
Body/Mind Control			Body/Mind Control	
Thought Broadcasting			Thought Broadcasting	
Religious			Religious	
Jealousy			Jealousy	
Guilt			Guilt	
Somatic			Somatic	
Influence on others			Influence on others	
Threat/Control Override			Threat/Control Override	
Other/Unspecified			Other/Unspecified	

History of Hallucinations			Current Hallucinations	
Command			Command	
Auditory			Auditory	
Visual			Visual	
Other			Other	

History of Cognitive symptoms		Current Cognitive symptoms	
Lack of Insight into illness		Lack of Insight into illness	
Thought Blocking		Thought Blocking	
Disorganized		Disorganized	
Intellectual Disability/ Borderline functioning		Intellectual Disability/ Borderline functioning	
Other		Other	

History of Mood Symptoms			Current Mood Symptoms	
Flat/Blunted affect			Flat/Blunted Affect	
Inappropriate affect			Inappropriate affect	
Depressive symptoms			Depressive symptoms	
Manic/ Hypomanic symptoms			Manic/ Hypomanic symptoms	
Suicidal ideation/attempts			Suicidal ideation/attempts	
Other			Other	

History			Current	
Homicidal Ideation			Homicidal Ideation	
Medication non-compliance			Medication non-compliance	
Psychosocial treatment non-compliance			Psychosocial treatment non-compliance	

History of conditional release failure:
___ Medication Noncompliance
___ Residential
___ Violent Misconduct
___ Non-violent Misconduct
___ other

Childhood abuse:	
Sexual abuse	
Physical abuse	
Neglect	
Domestic abuse	
Other	

History of Substance Abuse	
Cocaine	
Alcohol	
Marijuana	
Stimulants	

Sedatives	
Opiates	
Other	

PCL-R		HCR-20	
Total Score		Total Score	
Facet 1		Historical	
Facet 2		Clinical	
Facet 3		Risk Management	
Facet 4		Other Considerations	

RSH Checklists:

Major Mental Illness			
Aggressive Delusions, Hallucinations		Infection of the Brain	
Aggressive Thoughts, Fantasies		Medical Illness	
Akathesia		No Organic Impairment	
Has a Major Mental Illness		Other Brain Disease/Trauma	
History of Substance Abuse		Unresponsive to Treatment	

History of violence by this person			
Access to Identified Victim Pool		Peculiarities of Overstimulation	
Access to Weapons		Predatory Violence	
Affective Violence		Recent Assaultive Behavior	
Assaultive in Multiple Settings		Relationship Instability	
Criminal Behavior with Violence		Unconcern for the Rights of Others	
High Psychopathy Index Scores		Violence is ego dystonic	
History of Use of Weapons		Violence is ego syntonic	
Lacks Empathy		Violence Promoting Outside Influences	
Need for External Structure/Control		Violence Toward Family	
Need to Escape From/Access Stimulation		Violent Attachments	
Paranoia or Hypersensitivity to Others		Other	

Violence In the Hospital

Violent incidents since last evaluation #		Consequences of violent behavior:	
Non-sexual violent incidents #		No injury to victim # _____	
Sexual violent incidents #		Injury/ no medical assistance required #	
Incidents involving use of weapons #		Injury/ medical assistance required #	
		Death #	

Victim(s): Staff # _____ Patient # _____ Visitor # _____ Other # _____

Self-Defense #: _____   **Provocation #**: _____

Verbal Aggression: Total # _____ Staff #_____ Patient #_____ Visitor#_____

Summary Level of Risk: _____ Low _____ Medium _____ High

Recommendations:
____Release without conditions (Specify: Family, Nursing home, etc._____)
____Release with conditions (Specify: Family, Nursing home, etc._____)
      ·   conditions:(_____)
____Release to outpatient supervision and treatment facility (Specify: Group home, Nursing home, etc._____)
      ·   conditions:(_____)
____Transfer to lower security level unit or facility
____Stay in current supervised environment
____Need higher level of supervision

APPENDIX C

HIPAA/Confidentiality Agreement

HIPAA Audits. The hospital is required to protect the privacy of patient medical record information. In addition to providing pre-service and annual training about HIPAA/confidentiality, the hospital monitors access to medical records. Charts are selected at random and/or because the patient is known locally or through the news.

Disclosure of PHI Information Form. When charts are audited, we use a Crystal report that lists every person who accessed the record and what they viewed. Before questioning access, we try to consider how the employees would have used the information in performing their duties. Only those whose reason for access is not relatively clear to us are questioned. We have made the CWS form Disclosure of PHI Information available to all staff with CWS so that you may document your access to a medical record in case it is audited at a future time. This is not a requirement, and for most kinds of access to the record, it would not be necessary. These are the guidelines for when to complete the form:

You may need to document your access in the Disclosure of PHI Information form:
1. When you are not clearly associated with the patient's care or with an administrative duty related to the patient.
2. When you are accessing the chart long after discharge.
3. When you are accessing a record with a sequestered or monitoring notice.

Your access is generally accepted as part of your duties if:
1. You are assigned to the patient's treatment team.
2. You are on the shift roster for the patient's ward at the date/time of access.
3. You document in the medical record.
4. You are unit or other administrative staff whose job duties require accessing records on the patient's unit/ward.
5. You have retrievable documentation of your access such as a chart audit, investigation, incident report, other.

Your access is not accepted in the following situations:
1. You access the patient's medical record out of curiosity (you recently saw something about them on the news, you know them in the community, they are a friend or relative of yours).
2. Any other situation in which you do not have a business reason to access the record.

When in doubt:
- Document your access in the Disclosure of PHI Information form; and/or
- Call (7221) or email Michelle Foster, HIPAA Coordinator, with questions; and/or
- Consult with your supervisor.

Social Media:
- There is a Facebook page associated with Rusk State Hospital. This page is not published by the facility nor is it controlled by the facility. Employees are not allowed to confirm or deny any information submitted to this site by patient family members or patients. A simple statement that you knew the person while they were receiving treatment is acknowledging their admission to the facility. This is considered a HIPAA violation and is subject to disciplinary action. Employees should not comment on posts submitted by patients or their families.

How to Send Secure Emails: When protected/confidential information is sent outside the HHS system via e-mail, you must encrypt the email.
Confidential information includes:
- Protected health information, such as someone's medical record number, medical reports or test results, or images.
- Personal identifiable information, such as a Social Security number, driver's license number, account or credit card number, date of birth, address and pictures.
- Private employee information.
- Emails sent to anyone at HHSC, DSHS or DFPS are always secure.

All employees are required to encrypt email messages using one of two methods.
- You can use a designated trigger word or symbol in the subject line or body of the email. This will automatically change the sensitivity of the message from "Normal" to "Confidential". Use "$$", "[encrypt]" or "***secure***" and this will cause Outlook to automatically encrypt the email.
- The easiest and preferred method utilized is inserting "[encrypt]" into your automatic signature line. This will automatically encrypt messages that go to an outside agency but will not affect inner agency e-mails. Using this method you will not have to worry about where your e-mail is going and if you need to encrypt it or not, it will automatically do it for you when necessary.
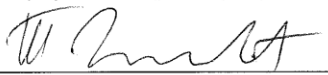
HIPAA/Confidentiality Agreement

Disciplinary Action. Disciplinary action for inappropriate access of a medical record or similar HIPAA violation will be addressed using the Performance Conduct Management model. The action may be greater if the employee has other Performance Conduct Management action, and probationary employees are at risk of termination. Additionally, HIPAA violations can be prosecuted and have criminal penalties up to $250,000 and/or ten years' imprisonment.

Michelle Foster
Superintendent
Rusk State Hospital
(903) 683-7221

By signing this paper I am stating that I understand the above mentioned guidelines set forth by Rusk State Hospital and the Federal HIPAA Laws regarding accessing medical records.

TATJANA DAMNJANOVIC

Employee Name (please print)

268755

Employee ID #

Employee Signature

6/18/2019

Date

APPENDIX D

TEXAS
Health and Human Services

Institutional Review Board #2
FWA #00008616

June 17, 2019

RE: Protocol 679-14-1901: Risk Assessment Decision Making in Practice and Predicting
        NGRI Patient Violence within the Hospital

Dear Ms. Damnjanovic:

Thank you for your consultation with the Health and Human Services Commission (HHSC)
Institutional Review Board (IRB#2). After reviewing your IRB application, IRB2 has
determined that the proposed study activities meet the criteria for study **exemption** based
on **45 CFR 46.101(b)(4).**

Responsibilities of the Principal Investigator:

Research that is determined to be exempt from IRB review is *not exempt* from ensuring
protection of human subjects. The following criteria to protect human subjects must be met:

1. Assures study participants will be selected equitably, so that the research risks and
   benefits are justly distributed.

2. Assures that the IRB will be immediately informed of any information and/or
   unanticipated problems that may increase risk to study participants and/or cause the
   category of IRB review to be reclassified to expedited or full board review.

3. Assures that the confidentiality and privacy of the subjects and the research data will
   be maintained appropriately to ensure minimal risks to study participants.

4. Will report, by amendment, any changes in the research study that alter the level of
   risk to study participants. Investigators are encouraged to contact IRB2 to discuss
   proposed changes before submitting an amendment.

5. Will report study closure to IRB2 upon completion of all study-related activities.

You are free to proceed with your research. If you have any questions, please contact Abigail
Cameron, Interim IRB2 Coordinator at: 512-206-5097 or abigail.cameron@HHSC.state.tx.us.

Thank you.

Abigail E. Cameron for Brad Fitzwater (Chair)   6/17/19
_____   _____
IRB#2 Chair or Chair Designee   Date

VITA

Tatjana Damnjanovic, M.A.
CURRICULUM VITAE
Clinical Psychology Doctoral Student
Department of Psychology
Sam Houston State University

EDUCATION

Doctoral student in Clinical Psychology at *Sam Houston State University*, May 2016 – present. Dissertation: Factors Informing Clinicians' Decisions Regarding Risk for Violence and Discharge Recommendations for Insanity Acquittees in Texas (proposed September 2018). Chair: Jorge Varela, Ph.D.

Master of Arts (May 2016) in Clinical Psychology at *Sam Houston State University*, August 2013 – May 2016. Thesis: "Does an Eye for an Eye Leave the Jury Blind? Vengefulness and Jurors' Perceptions of Intent and Mitigating and Aggravating Factors." Chair: Rowland Miller, Ph.D.

Bachelor with Honors (June 2013) in Psychology, Department of Psychology, Faculty of Philosophy, *University of Belgrade*, Serbia.

CLINICAL EXPERIENCE

Pre-Doctoral Psychology Intern, **Western State Hospital Pre-Doctoral Internship Program**

Lakewood, Washington, August 2019 – present

Inpatient Forensic Evaluation Service and Center for Forensic Services Treatment and Evaluation Rotations

Responsibilities include: conducting pre-trial forensic evaluations including competency to stand trial, mental state at the time of the offense, and diminished capacity; conducting violence risk assessments (using the HCR-20-V3, VRAG, and PCL-R) of patients committed as Not Guilty by Reason of Insanity for the purpose of treatment planning and community release; conducting group and individual therapy for NGRI patients; conducting, scoring, and interpreting comprehensive psychodiagnostic evaluations; participating in the civil commitment evaluations; observing expert testimonies.

Student Evaluator and Therapist, **Psychological Services Center**, Sam Houston State University September 2014 – June 2019.

Responsibilities included: conducting individual therapy, conducting psychological and psychoeducational assessments with children and adults.

Student Forensic Evaluator, **Psychological Services Center,** Sam Houston State University**,** Huntsville, Texas

Responsibilities included: conducting court-ordered, pre-trial evaluations under the direct supervision of a board-certified forensic examiner; conducting court-ordered or probation-referred psychodiagnostic evaluations of justice-involved youth and adults referred from mental health court; conducting comprehensive clinical interviews; administering/scoring/interpreting measures of intellectual and achievement abilities, behavior, and personality.

Practicum student clinician, **Harris County Juvenile Probation Department**, May 2017 – June 2018.

Responsibilities included: Conducting Psychological assessments and Forensic Assessments with justice system involved youth, conducting individual psychological therapy with detained youth, participating in didactic training.

Practicum student clinician, **Montgomery County Adult Probation Department**, January 2017 – May 2017.

Responsibilities included: Conducting individual and group therapy sessions with individuals on probation, conducting clinical intake interviews, conducting Psychological assessments for the Mental Health Treatment Court, Conducting Substance Use Evaluations.

Practicum student clinician, **Harris County Juvenile Probation Department**, August 2016 – January 2017.

Responsibilities included: Conducting Psychological assessments and Forensic Assessments with justice system involved youth, participating in didactic training.

Practicum student clinician, **Rusk State Hospital**, August 2015 – Present.

Responsibilities included: Conducting individual and group therapy sessions with severely mentally ill patient population, conducting Psychological assessments, conducting clinical intake interviews, participating in competency to stand trial evaluations

Undergraduate intern, **Forensic Hospital**, Belgrade, May 2012 – July 2012.

Responsibilities included: conducting clinical assessment, clinical interviews, violence risk assessment interviews, semi-structured psychiatric interviews, and writing case studies.

Project manager and author; *Psychoeducational workshop group leader*, **Psychoeducational Project, Psychiatric Hospital "Dr Laza Lazarevic" Belgrade** - U.S. Embassy Belgrade: Democracy Outreach/ Alumni Program, October 2011 – April 2012.

Responsibilities included: organizing and conducting group psychoeducational workshops with inpatient and outpatient psychotic patients with the goal of helping them understand and accept their illness; writing the workshop syllabus and the manual for workshop participants; financial management; project evaluation

TEACHING EXPERIENCE

Instructor of Record, **Introduction to Psychology (PSYC 1301), Sam Houston State University,** Huntsville, Texas, August 2015 –May 2016

Responsibilities included*:* lecturing on various topics spanning an introduction to the field of psychology, including, but not limited to, social psychology, developmental psychology, psychopathology, sensation and perception, memory, biological mechanisms of the brain and nervous system, and therapeutic modalities; creating multimedia presentations and in-class demonstrations; preparing and grading students' exams and tracking student grades.

SUPERVISORY EXPERIENCE

Therapy Peer Supervisor, **Psychological Services Center,** Huntsville, Texas

Responsibilities included*:* Co-leading supervision sessions with a licensed supervisor; reviewing therapy videos; editing documentation as needed; providing feedback and assisting with progress evaluations.

Assessment Peer Supervisor, **Psychological Services Center,** Huntsville, Texas

Responsibilities included*:* Co-leading supervision sessions with a licensed supervisor, editing documentation as needed; providing written and verbal constructive feedback; verifying testing protocols.

RESEARCH EXPEREINCE

Principal Investigator (Dissertation Project), **Factors Informing Clinicians' Decisions Regarding Risk for Violence and Discharge Recommendations for Insanity Acquittees in Texas,** Chair: Jorge G. Varela, Ph.D., January 2017-Present

Responsibilities include: designing a study using archival data from patient records from Rusk State Hospital exploring factors informing clinicians' decisions regarding risk for violence and discharge recommendations for patients found Not Guilty by Reason of Insanity; coding data from patients' records, analyzing research data.

Research assistant for Dr. Jorge Varela, **Clinical Psychology Doctoral Program**, Sam Houston State University, May 2017- June 2019.

Responsibilities included: running participants in psychological studies, analyzing peer-reviewed articles and relevant literature.

Research assistant for Dr. Jaime Anderson, **Clinical Psychology Doctoral Program**, Sam Houston State University, August 2016- December 2016.

Responsibilities included: analyzing research data, preparing manuscripts for publishing, analyzing peer-reviewed articles and relevant literature.

Personal Service Contractor, **Lone Star Project: Study of Offender Trajectories Associations and Re-entry,** PI: David C. Pyrooz, Ph.D., July 2016 - December 2016

Responsibilities included: assisting with funded study that examines the implications of street gang membership and group affiliation for adult offenders housed in state prisons; how prison gang life differs from street gang life; implications of prison gang membership following release from prison; prison gang membership and recidivism; and programming of approaches for greater success with gang members in prison and upon release; conducting semi-structured interviews with incarcerated offenders; entering data from interviews in the Blaise 4.8 software.

Principal Investigator (Master's Thesis Project), **Does an Eye for an Eye Leave the Jury Blind? Vengefulness and Jurors' Perceptions of Intent and Mitigating and Aggravating Factors.** Chair: Rowland Miller, Ph.D., January 2014-March 2016

Responsibilities included: designing study to examine the biasing effect of vengefulness on sentencing decisions and perception of mitigating and aggravating factors in a mock capital trial with a mock jury community sample via MTurk.; Collecting data from additional participants and running additional analyses; examining the effect sentencing goals and death qualification and mock jury decision making; preparing a manuscript to be submitted for publication.

Research assistant for Dr. Rowland Miller, **Clinical Psychology Doctoral Program**, Sam Houston State University, August 2014- August 2015.

Responsibilities included: running participants in psychological studies, analyzing peer-reviewed articles and relevant literature

Research assistant for Dr. Jorge Varela, **Clinical Psychology Doctoral Program**, Sam Houston State University, August 2013- August 2014.

Responsibilities included: running participants in psychological studies, analyzing peer-reviewed articles and relevant literature.

Co-Investigator, PI: Ernie Gonzalez Jr., M.A., and Jorge, G. Varela, Ph.D, Sam Houston State University, April 2014 - November 2014.

Responsibilities included: assisting in administration of Personality Assessment Inventory's (PAI) to adult offenders on probation at a local probation department; collecting, scoring, and entering data, assisting in preparation of poster presented at American Psychology – Law Society annual conference.

Co-Investigator, PI: Ernie Gonzalez Jr., M.A., and Jorge, G. Varela, Ph.D. Sam Houston State University, November 2013-February 2014.

Responsibilities included*:* assisting with a study space analysis on risk assessment and cultural diversity by coding peer-reviewed articles, assisting with paper presentation.

Undergraduate Research Assistant, **Schizophrenia research lab – University of Missouri,** Columbia, MO, January 2010 – May 2010.

Responsibilities included: running subjects in various studies, transcribing audio data.

PUBLICATIONS

Boland, J. K., **Damnjanovic, T**., & Anderson, J. L. (2018). Evaluating the role of functional impairment in personality psychopathology. *Psychiatry Research.* https://doi-org.ezproxy.shsu.edu/10.1016/j.psychres.2018.03.049

MANUSCRIPTS IN PREPARATION

Damnjanovic, T., Miller, R., Ryan, L. Does an Eye for an Eye Leave the Jury Blind? Vengefulness and Jurors' Decision-Making.

PAPER PRESENTATIONS AT PROFESSIONAL MEETINGS

Damnjanovic, T., Varela, J., Kelley, E. (2020). Factors Informing Decisions Regarding Violence Risk and Discharge Recommendations for NGRI Acquitees. Paper presented at the meeting of the American Psychology-Law Society, New Orleans, LA.

Damnjanovic, T., Miller, R., Ryan, L., Lawrence, J., & Waymire, K. (2018). Can death qualification reduce bias in sentencing decisions? Exploring factors impacting capital sentencing. Paper presented at the meeting of the American Psychology-Law Society, Memphis, TN

Boland, J., **Damnjanovic, T**., Anderson, J. L. (2017). Evaluating the role of functional impairment in personality psychopathology. Paper presented at the meeting of the Texas Psychological Association, Houston, TX

Gonzalez, Jr., E., Varela, J. G., Boccaccini, M. T., **Damnjanovic, T**., Lawrence, J. (2014). Risk assessment and cultural diversity: A study space analysis. Paper presented at the meeting of the American Psychology-Law Society, New Orleans, LA.

POSTER PRESENTATIONS AT PROFESIONAL MEETINGS

Boland, J., **Damnjanovic, T.,** & Anderson, J. (2018). Evaluating the role of functional impairment in personality psychopathology. Poster presented at the Society for Personality Assessment Annual Convention, Washington, D.C.

Damnjanovic, T., Miller, R., Lawrence, J., Waymire, K. (2017). Sentencing Goals, the Death Penalty, and Jury Decision Making. Poster presented at the meeting of the American Psychology-Law Society, Seattle, WA.

Damnjanovic, T., Miller, R., Lawrence, J., Waymire, K., & Bailey, C. (2016). Does an Eye for an Eye Leave the Jury Blind? Vengefulness and Jurors' Decision-Making. Poster presented at the annual convention of the American Psychological Association, Denver, CO.

Gonzales Jr., E., Varela, J. G., **Damnjanovic, T**., McCallum, K., & Bate, B. P. (2015). Suicidality in a community corrections sample: Expanding the interpersonal theory of suicide with violent criminal perpetration and victimization. Poster presented at the meeting of the American Psychology-Law Society, San Diego, CA.

AWARDS AND SCHOLARSHIPS

January 2017 – May 2020	Psychology Doctoral Scholarship – Sam Houston State University
March 2020	Student Travel Award American Psychology-Law Society
March 2018	Travel Award for Outstanding Graduate Student Research Proposal American Psychology-Law Society
September 2016 – December 2017	College of Humanities and Social Sciences Scholarship – Sam Houston State University
August 2013	Global Supplementary Grant Open Society Foundation
August 2009 – May 2010	FORECAST Exchange Program Scholarship World Learning, USAID