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Risk Assessment in Corrections: An Analysis of Variables Related to Suicide Attempts and Self-Mutilation

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RISK ASSESSMENT IN CORRECTIONS:
AN ANALYSIS OF VARIABLES RELATED TO SUICIDE ATTEMPTS AND SELF-MUTILATION

by

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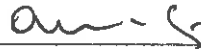
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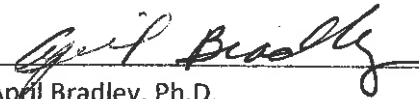
This dissertation, submitted by Melissa Ann Fine, in partial fulfillment of the requirements for the Degree of Doctorate of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done, and is hereby approved.

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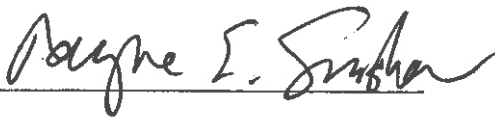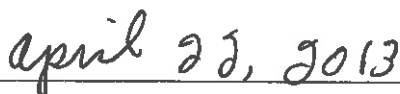   Attempts and Self-Mutilation

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                                                    Melissa Ann Fine
                                                    February 14, 2013

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ACKNOWLEDGEMENTS

To my wonderful family,

I could not have done this without you

ABSTRACT

Suicide and self-mutilation risk assessment is a complicated process, especially within a correctional setting. According to the Bureau of Justice Statistics, over 50% of incarcerated individuals have a mental health illness, further reinforcing the need for concise, evidence-based risk assessment practices. The Virginia Department of Corrections collected data on suicide attempts, completed suicides, and incidents of self-injurious behavior for 17 months with a measure created to assess risk factor found in the community. Results indicated that numerous factors were related to suicide attempts, however only having made prior suicide attempts, the presence of a major depression diagnosis, and placement in Special Housing were effective predictors. Conclusions were then used to refine and improve on the current risk assessment used as well as improve the data collection measure to continue the research.

CHAPTER I

INTRODUCTION

The primary goal of corrections in the United States is to enhance public safety by supervising and rehabilitating criminal offenders. The Federal Bureau of Prisons (2012) publishes their mission is:

> "…to protect society by confining offenders in the controlled environments of prisons and community-based facilities that are safe, humane, cost-efficient, and appropriately secure, and that provide work and other self-improvement opportunities to assist offenders in becoming law-abiding citizens."

Cost-efficiency is so important in the Federal Bureau of Prisons that it is listed within the mission statement. The Federal Bureau of Prisons covers offenders who have committed crimes on a federal level across the entire United States. Any crime that does not fall within the federal range would then fall under the jurisdiction of the individual state in which it occurred. The Virginia Department of Corrections (2012) mission statement mirrors that of the Federal Bureau of Prisons, stating "…enhancing public safety by providing effective programs, re-entry services, and supervision of sentenced offenders in a humane, cost-efficient manner, consistent with sound correctional principles…" It is important to note that public safety is the central goal of both mission statements. Security is always first and foremost. However, both mission statements list cost as an important factor in the development and maintenance of the correctional system.

Henrichson and Delaney (2012) estimated the cost per offender across 40 states in the United States. Budgets of state correctional facilities have quadrupled over the past 2 decades

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and are estimated to continue climbing as the population ages. It was estimated that the state of Virginia spent $25,129 per offender in the 2010 fiscal year. As stated by the article, healthcare costs represent a significant portion of the cost. Across the United States correctional facilities, healthcare costs were estimated at $335 million dollars of an overall $39 billion total. One main recommendation by the authors to reduce costs is to streamline the delivery of health services, including utilizing telemedicine and other new evidence-based practices.

According to the Bureau of Justice Statistics (2011), the Federal Bureau of Prisons accounted for only 209,771 of the 1,612,395 incarcerated individuals in the United States. State prisons accounted for the remaining 1,402,624 offenders, indicating that individuals are 7 times more likely to be incarcerated within a state prison than a federal prison. The state of Virginia is one of the oldest states in the United States; in addition to being a main population center during the early 1600s, Virginia houses the oldest mental health institution in the United States. Commissioned by Colonial legislators in 1770, Eastern State Hospital was the first public hospital focused solely on mental health care. Its first patients were admitted in 1773, years before the United States itself was even founded (Eastern State Hospital, 2012). Virginia also houses one of the largest correctional facilities and offers a wide range of programming (Bureau of Justice Statistics, 2008). For these reason, Virginia was utilized as a representation of state correctional institutions within the United States.

The United States has a higher population of incarcerated citizens than any other country, with 714 prisoners for every 100,000 individuals. In comparison, England and Wales have only 142 prisoners per 100,000 individuals (Daigle et. al., 2007). There are numerous reasons for this discrepancy but it illustrates the stark differences between incarceration rates in Western cultures. To truly understand the role of healthcare delivery within this system, it is

essential to understand the history of corrections as it relates to treating a mentally disabled individual.

History of Corrections and Healthcare

Prior to the 1600s in Europe, confinement was seen as an acceptable means of punishment for socially inappropriate actions. At that time, any individual who committed a crime or was seen as unfit for society was confined in a way that separated them from regular society (Roberts, 1997). In earlier times, these confinements were normally in the form of workhouses. However, those housed in these environments were not always criminals. Any family could petition the magistrate to confine a family member for socially inappropriate behaviors as a way to protect a family's reputation within the community (Spierenburg, 1995). Those who came from particularly wealthy families could be confined to the home, where they were locked away and treated in an almost primal, inhumane manner.

The United States tended to follow this model up until the late 1800s. Individuals who were confined to jails and prisons were not only criminals; they were the mentally ill, the delinquent, and even orphans who were cared for by the state (McShane & Williams, 1996). The conditions in which these individuals were housed often bordered on torture, consisting of overly crowded living conditions with a lack of basic sanitation. The actions of reformers, including Dorothea Dix, instituted a separation of these groups and the foundation of mental asylums to house the truly mentally ill. However, this also created a major problem; mentally ill criminals were now left without a place for treatment.   The unique need of this population still provides a major hurdle for correctional treatment even in the modern day. This unique need has resulted in prisons and jails having specially segregated mental health units for the severely mentally ill. Hospitals and asylums have secure units to house criminals. Assignment to various locations was based on classification of need and legal rulings that followed.

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In the state of Virginia, the system of corrections has undergone dramatic changes through very tumultuous times in history (Keve, 1986). The necessity for a secure treatment facility for the mentally ill was not recognized until the latter half of the twentieth century. The original prison focusing specifically on "disabled" offenders was the Western State Insane Asylum, which later became the Western State Hospital, in 1976. In 1980, Virginia DOC acquired a state hospital and transformed it into the only state correctional facility for the mentally ill (Keve, 1986). Marion Correctional Treatment Center still remains the only state hospital completely under the governance of the Virginia DOC.   Each of the state hospitals, Eastern Western, and Central, maintains a secure wing to house offenders for various reasons. However, the state hospitals no longer fall under the control of the Virginia DOC.

In terms of general healthcare, there have been two landmark court cases that shaped the way correctional healthcare, including mental health care, is implemented today. The first case was *Estelle v. Gamble* (1976) which found that not allowing an incarcerated individual access to medical care violates the Eighth Amendment and constitutes cruel and unusual punishment. This case required correctional facilities to even provide medical and mental health care to offenders, an idea that was lacking at best. The case of *Ruiz v. Estelle* (1980) addressed mental health as a specific necessity in a comprehensive health care treatment. This case implemented a screening and treatment process for those offenders suffering from mental illness. Treatment had to be provided by trained mental health providers and include specific precautions for suicidal offenders. It was the first time correctional facilities were specifically mandated to treat the mental conditions of offenders and implement a preventative system. Up until that decision in 1980, suicidal tendencies and mental illness in prison primarily went untreated, at least formally.

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It is important to distinguish between someone who is deemed "criminally insane" and an offender who has mental health issues. In the state of Virginia, Not Guilty By Reason of Insanity does not relate at all to the individuals actions at the time of the offense. Pursuant to Code of Virginia §19.2-169.1:

> Upon completion of the evaluation, the evaluators shall promptly submit a report in writing to the court and the attorneys of record concerning (i) the defendant's capacity to understand the proceedings against him; (ii) his ability to assist his attorney; and (iii) his need for treatment in the event he is found incompetent but restorable, or incompetent for the foreseeable future.

This means that any individual accused of a crime must understand why charges are being brought and be able to assist his attorney. The traditional idea of mental illness from a psychological perspective has no bearing on the legal definition of insanity. Of course, this law is put in place to make it extremely difficult for individuals to "beat a charge" by claiming they were unable to understand what they were doing. Even if an individual is found Not Guilty by Reason of Insanity (NGRI), he or she is then placed in a secure ward of a state psychiatric hospital in order to restore competency and serve out the length of incarceration. An offender does serve his or her entire sentence within a secure state hospital, so even being found NGRI does not reduce or negate the sentence warranted by the crime. This is the only situation where an individual who commits a crime would be placed in a hospital rather than a correctional setting in the state of Virginia. All other individuals must proceed through the long process of court, jail terms, and possibly even long-term prison incarceration for their crimes. This creates a challenge for mental health treatment within a criminal justice setting.

It is also important to distinguish what other options are available for handling mentally ill individuals who commit crimes. Drs. Lamb and Weinburger (1998) completed a review of

recent practices that would explain an increase in the number of mentally ill offenders. They specifically described a "revolving cell door" model, where offenders go back and forth between state hospitals and correctional settings due to changes in commitment laws. Lamb and Weinburger (1998) indicated that commitment laws were changed to protect the rights of mentally ill individuals, specifying that an individual could only be committed if he or she represented a clear danger to themselves or others or was completely incapable of caring for themselves. Laws have also placed specific limits on commitment stays, requiring re-evaluations and determinations by courts at specific time intervals in order to maintain commitment to mental institutions. In theory, this change in laws to respect the rights of mentally ill individuals is a champion for human rights. However, it lacks the community support necessary to carry out its lofty intention. According to Virginia State Law (Code of VA §37.2-817C), an individual who represents a "substantial likelihood" of harming himself or someone else can be civilly committed for a specific period of time to a state hospital. However, upon release from a state hospital, these individuals are expected to find transportation to and from community mental health appointments as well as fill and monitor their own psychiatric and medical medications. Most of these individuals have no social support and, often, lack the ability to read and write. Without substantial case management and access to appropriate services tailored to fit within their abilities, these individuals bounce back and forth between civil commitments in state hospitals and incarceration within the criminal justice system.

Need for Resource Management

In any system which involves the management of individuals, there has to be a means of assigning the allocation of resources. According to the Bureau of Justice Statistics (2006) over half of the prison population in the United States can be diagnosed with at least one mental

health disorder. This represents over 1 million offenders in the United States criminal justice system alone.

Healthcare in a prison setting has become a topic of focus around the world. Charles and Draper (2012) examined the ethics of comparing access to healthcare within a prison setting to healthcare outside of a prison setting. The authors note that a prison environment provides unique situations and challenges that are not faced in a community setting. This makes "equivalence of care" difficult to compare. Powell, Harris, Condon, and Kemple (2010) identify nurses at the primary healthcare delivery staff within a prison setting and emphasized the struggle to balance security policies with healthcare delivery needs. Specifically, they discuss how difficult it is to make and keep appointments as well as making referrals to services that cannot be provided within the correctional setting. In addition to the basic system in place for appointments and referrals, nursing staff within corrections is working on a 24 hour clock with a very limited staff and even more limited resources. These articles emphasize the need for streamlining healthcare within a correctional setting.

In the realm of the mentally ill offender, this is an especially difficult task. A lack of community resources and a general gap in understanding regarding mental health treatment has necessitated comparative research regarding differences between mentally ill offenders and mentally ill non-offenders in the community. By understanding these differences, mental health treatment within corrections can be better tailored to address the specific needs.

The state of Virginia has recently made a push to implement evidence-based practices to improve recidivism rates and aid in efficacy of treatment. According to Webster's Medical Dictionary (2010), an evidence-based practice is when a practitioner uses the most accurate and up-to-date information to make clinical decisions. Simply stated, it is the implementation of practices and procedures that have demonstrated clinical efficacy in some way. This can refer to

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a method of interaction, a specific program development, or even an approach to a mental health issue. Evidence-based practices ensure that the methods and resources applied and utilized by individuals in the correctional environment have demonstrated efficacy outside of the immediate situation. Certain programs have been developed to work within a correctional framework. An example of this is the Integrated Cognitive Behavior Change Program called Thinking for a Change developed by the National Institute of Corrections (National Institute of Corrections, 2011). This program directly addresses the thought process of an average offender and assists him or her in being able to change his or her thought pattern and make more appropriate decisions. In assessing and assisting in the reduction of recidivism, this program is essential. However, this program does little to address the problems of those offenders who suffer from debilitating mental illnesses. Impulsive behaviors, constant attention seeking, significant depression and isolation, and a strong desire to end one's own life still remain an unexplored area of correctional life. Yet mental health professionals deal with these issues on a near constant basis.

With regard to budgetary constraints, medical and mental health treatments have come under significant scrutiny. Of course, chronic illness and specialized medical treatment of diseases represents an area of significant cost. This cost is increasing steadily as the population ages (Henrichson & Delaney, 2012). Treating the suicidal or self-injuring individual is one area where medical and mental health treatment overlap significantly. These individuals not only require medical attention for the physical injuries inflicted but also require mental health treatment of the underlying motivations for the actions. In a system of corrections, this involves not only the medical and mental health professionals involved in treatment, but also the presence of security forces and restrictive environments. An offender who seriously self-injures

represents a significant investment of both time and resources, especially if the facility lacks the advanced medical facilities to treat the injury.

There has been extensive study of suicidal and self-injuring behavior in general, including the founding and continuation of several different peer-reviewed journals, committees, and even therapeutic handbooks. However, most of these resources include only minimal study of these behaviors within a long-term correctional environment such as prisons. Specifically, research at the state level that can be used to inform specific policies has only recently become available. Research within the Federal system has been used to inform policies in a general way; however it lacks some of the specific constraints prominent in a state-run correctional system. To address these issues, this research will focus on the Virginia DOC and the specific issues directly related to the populations within the state. A study of this type addresses state-run correctional system issues and can be used across the United States as a way to inform their specific policies.

Prevalence of Mental Health

Those individuals who eventually serve time in a prison can represent the entire spectrum of mental illness, from mental retardation to personality disorders to severe psychosis and everything in between. There have been numerous studies completed regarding the sheer prevalence of mental illness in a corrections setting. Fazel and Danesh (2002) examined 62 different studies for across 13 different Western countries. They found that among male offenders, 3.7% had a psychotic disorder, 10% had major depression, and 65% were diagnosed with a personality disorder. For female offenders, 4% displayed psychosis, 12% had major depression, and 42% were diagnosed with a personality disorder.   James and Glaze (2006) found that in 2004 more than half of all jail and prison inmates within the United States had a mental health problem. This is compared to a mere 11% of the population outside of

incarceration. The high number of offenders with mental disorders necessitates a model for management of mental health symptoms.

Diamond and her colleagues (2001) compiled a meta-analysis of mental health prevalence in prisons in the United States. Even in 2001, they found a significant lack of evidence to support current practices. Reviewing prevalence rates from the time of de-institutionalization in 1970, Diamond and her colleagues found that increasing restrictions on civil commitment and length-of-stay coverage in psychiatric facilities had greatly increased the number of offenders with mental health conditions. Specifically, they examined those offenders who had significant mental illness but had committed only misdemeanor crimes. The research highlighted the lack of resources in the community to handle these individuals, thus resulting in an increased rate of incarceration simply as a means of removing them from the streets.

There have been numerous studies that have speculated on why there is a high prevalence of mental illness within correctional settings. Slovenko (2003) described the process of transinstitutionalization. In this model, those individuals with mental illnesses are basically "bounced" between different institutions within the legal system because they lack the resources or coping skills to deal with either their day-to-day living needs or handle their addictions. He theorizes that those who are mentally ill on the street do not have access to adequate resources to cope with their symptoms and the only way they find treatment is through corrections or justice programs. So corrections simply represents the highest concentration of mentally ill offenders due to lack of resources, not necessarily due to an association between mental illness and criminality. Peternelji-Taylor (2008) spoke about how forensic nurses and mental health providers within a correctional system have taken over the role once played by state hospitals. It now falls to these treatment providers to not only screen and assess but also treat and rehabilitate mentally ill offenders, all within the confines of a

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correctional environment. Prior to 1976, treatment of mental illness in corrections was essentially non-existent. If an offender attempted suicide or engaged in self-mutilation, that individual was rarely treated beyond very basic medical care. At that time, advanced medical and mental health care was not considered due to the punitive nature of corrections. With the landmark case of *Estelle v. Gamble* in 1976, the courts found that denying medical or mental health treatment to any offender was a direct violation of the Eighth Amendment and akin to cruel and unusual punishment. This provided the turning point in mental health treatment in corrections, specifically as it relates to suicidal behavior and self-mutilation.

Suicide Risk Assessment

Mental health treatment within corrections is an increasingly complex task. Lack of resources, high turnover of employees, and a high stress environment contribute significantly to the difficulties of working with such a complicated group (Fagan & Ax, 2003). This further highlights the need for empirically based assessment protocols to create a concrete decision making process that is utilized universally across the entire system. By implementing a protocol that is not only well known but easily followed, mental health resources can be allocated appropriately and assessments can target specific risk factors. Suicidal risk assessment is among the most necessary and important functions of a mental health professional in any corrections setting and tends to be a central role of treatment (Magaletta et. al., 2007).

Intentional self-harm was the 10th leading cause of death in the United States in 2009 and represented an almost 1% increase from 2008 (Centers for Disease Control, 2011). This represents a pattern of increase in suicides at a national level. Considering that research previously indicated that offenders display more risk factors for both mental health illness and suicidal and self-harm behaviors, the pattern of increasing suicides in the general population may reflect an even greater increase within the corrections system.

In order to understand the need for suicidal risk assessment within corrections, it is important to understand rates of suicides within the system. Unfortunately, until recent years, recording of causes of death of offenders were arbitrary at best. A recorded suicide tended to draw significant media coverage and therefore was minimized by administrators. Spinellis and Themeli (1997) examined suicide rates in Greece from 1977 to 1996. Amazingly, records from the justice system indicated that there were an average of 4.5 deaths per year over that time but up to 11% of deaths were recorded without a specific cause. This makes establishment of the need for resources difficult to ascertain without indicative prevalence rates.

In a fifteen year review conducted by White, Schimmel, and Frickey (2002), they found that of the 148 offenders who committed suicide, almost half (45%) had made prior suicidal gestures. This highlights the necessity of assessing and treating those individuals in a correctional setting who are making suicidal gestures. Previous suicidal gestures were illustrated as a strong predictor of completed suicides and should indicate a need for further mental health treatment. Hayes (2001) provided a disturbing review of offenders who completed suicide while incarcerated. Most of these offenders displayed significant suicide risk factors, even by less supported practices, and still were not referred for mental health assessment and treatment.

Hayes (2003) determined that suicide in prison is actually the third leading cause of death, falling behind natural causes and AIDS. He further reported that the rate of suicides in prisons is actually higher than that in the community, indicating 15 deaths per 100,000 offenders as compared to 11 deaths per 100,000 individuals in the community. This provides a huge implication for treatment within a corrections environment. In a system where the average age of an offender is increasing due to harsher sentences practices, additional increases in population will likely affect an increasing rate of suicidality among offenders.

Bonner (2006) took these statistics a step further and reported on how the psychosocial stressors, such as isolation, that occur within a prison environment can further tax the adaptive systems of even stable individuals. The point of a corrections system is to restrict an individual's freedoms, which creates natural feelings of helplessness. Individuals lacking in appropriate social support and coping skills are especially at risk for increased deterioration while incarcerated. Unfortunately, offenders are not known for making appropriate, pro-social behavioral choices, thus why they are incarcerated in the first place. That further illustrates why this population is at such an increased risk of engaging in self-harmful behaviors.

Different research has attempted to illuminate the links between suicidal behavior and different aspects of criminal behavior to determine if certain variables put offenders at a higher risk for suicidal behavior than those who are in the community. Verona, Patrick and Joiner (2001) looked at associations between different aspects of Antisocial Personality Disorder and suicidal behavior. Through different personality assessments, they did demonstrate a link between the impulsive nature of antisocial deviance and suicidal behaviors in an inpatient setting.   Considering that a correctional environment is a restricted environment with increased supervision, it would be considered comparable to an inpatient setting. It is also of note that most individuals in corrections carry a diagnosis of Antisocial Personality Disorder simply due to the diagnostic criteria which indicates anti-social behavior. Research outside of the United States links suicidal behavior to personality disorders, poor health, and low education (Meltzer et. al., 2003). These studies describe a population that is very common within a correctional setting.

Magaletta and his colleagues (2008) took it a step further and examined the links between lethality of suicidal behavior and individual characteristics. Specifically, they were attempting to establish what characteristics of individuals could be used to predict the

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seriousness of their attempts. In their study involving Federal prisoners in the United States, they reported that the presence of Axis II disorders and previous use of LSD and PCP were associated with more lethal methods of suicidal behavior. However, not all studies have produced such explicit relationships. It does illustrate a link between personality disorders and previous substance abuse with the lethality of suicidal gestures.

Daniel and Fleming (2005) attempted to profile all offenders who made a serious suicide attempt within a 30 month period. Through numerous analyses and different categorization, they found almost no significant differences in race or gender. There were some correlations with psychiatric diagnosis, with 78% of lethal attempters being diagnosed with an Axis I disorder. When they compared the current results to a cohort of 37 offenders who had completed suicide previously, they found no differences between those who had attempted suicide and those who had completed suicide. With no differences between those who attempted using lethal methods and those who succeeded, assessment of suicidal risk and proper intervention becomes even more important. It is of note that this study was conducted at a large state correctional facility and is the only study available that shares some similar characteristics to the current research.

Baillargeon and his colleagues (2009) examined suicide rates across a one year period. They found that of the 41 offenders who committed suicide, 45% had either a mood or psychotic disorder. This study was limited to major depressive disorder, bipolar disorder, schizophrenia, and non-schizophrenic psychosis, which greatly reduces the generalizability of the results. It is important to note that the study contrasted with a previous study conducted by He and his colleagues (2001) that found 44% of suicide victims had a psychotic diagnosis and 64% had a mood disorder diagnosis. Offenders with previous mental health diagnoses are demonstrated to be at a greater risk for suicidal behaviors.

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Self-Injurious Behavior

It is important to define what constitutes suicidal behavior and self-injury. According to the Suicide Prevention Resource Center, suicidal behavior encompasses a wide range of activities, including thoughts and actions related to ending one's life or methods to end one's life. A suicide attempt is a self-injurious behavior where the goal was to terminate life but was not successful. This is in contrast to self-injury, which is defined as intention, low-lethality harm to the body in order to reduce psychological distress (Walsh, 2006). In a self-injury, the end result is not to end one's life but instead to reduce discomfort. These two behaviors create a significant problem for mental health and health care providers, especially in a correctional setting.

Even with all of the reform within the correctional system regarding mental health treatment and risk assessment regarding suicidal behavior, there still exists a major hurdle. These individuals were found guilty of committing a crime through the justice system and have received a punishment. This can skew the perception of these individuals and impact treatment. One of the most difficult treatment and classification issues facing mental health professionals in correctional settings involves manipulation. Bonner (2001) argued that any form of self-injury should be viewed as a need for mental health treatment regardless of the secondary gain perceived. This is counter-intuitive to the punitive nature of corrections, especially to correctional officers who do not understand the complexity of mental health treatment.

Correctional officers who believe that an offender is "faking it" may even deny mental health services and fail to report the behavior. This can lead to escalating behaviors and even accidental death on the part of the offender (DeClue, 2002).

Cummings and Thompson (2009) examined the literature involved in categorizing offenders as either "manipulative" or "genuine" in his or her self-injurious behavior. Their research indicated that it is the mental health professional that is ultimately responsible for treating the offender appropriately, regardless of the underlying cause of the behavior. This places a huge weight on the competency and decision making ability of the specific mental health professional.

Konrad and his colleagues (2007) published a review of research that compiled various ideas for appropriate care and treatment of suicidal and self-injurious behaviors in a correctional setting. They emphasized the need for both intake screening and continuous monitoring throughout incarceration. Specifically, they focused on certain difficult events, such as isolation terms, manipulative behaviors, and changes in sentencing. It is important to note that jail settings and correctional settings are different. Jail settings often serve a short-term incarcerated population as well as those currently in the trial process. Prisons on the other hand provide a stable, long-term incarcerated population with significantly less turn-over and longer opportunities for treatment.

Lynam and his colleagues (2011) examined the relationship between impulsivity and self-injury. Interestingly, they found that a lack of forethought and an impulsive urge for inappropriate behavior both highly correlated with nonsuicidal self-injury. Both of these characteristics are considerable in an offender population. Further, they also found that a diagnosis of Borderline Personality Disorder was not a valid predictor of nonsuicidal self-injury. This is contrary to popular misconceptions. Often offenders with a BPD diagnosis are considered "manipulative" and thus their behaviors are considered not to be the result of an underlying mental health condition.

Nonsuicidal self-injury has become so prominent in recent years that it is being considered for possible inclusion in the newest revision of the Diagnostic and Statistical Manual for Mental Disorders. Critics have argued that the overlap between Borderline Personality Disorder and the proposed Nonsuicidal Self-Injury Disorder would be too great and would essentially address the same symptomatology. Selby and his colleagues (2011) addressed this issue in their preliminary study. They found significant gender differences between the two diagnoses as well as differences in abuse history. Women are more likely to be diagnosed with Borderline Personality Disorder if they exhibit self-injurious behaviors, whether or not they meet the other criteria (Healey, Trepal, & Emelianchik-Key, 2010). In addition to this gender difference, Selby and his colleagues found that those who exhibited nonsuicidal self-injurious behaviors did not necessarily meet criteria for Borderline Personality Disorder or even Personality Disorder Not Otherwise Specified. A new diagnosis would provide more targeted identification of symptoms and decrease the stigma associated.

Franklin and his colleagues (2010) proposed a theory that the self-injury actually served a regulatory purpose from a biological level. Interestingly, they studied self-injury utilizing a cold-pressor technique. This allowed for experimental research with a "substitute" for the self-injuring behavior. Even those individuals without history of self-injury were found to have a decrease in negative affective valence after completion of the cold-pressor task. Perhaps the self-injury has a biological basis and provides emotional regulation for individuals who lack the ability to appropriately regulate their own emotions. Offenders are known for being emotionally naïve and lack insight, so a biological way to "feel good" would be a welcome release from the confines of a restrictive, punitive environment.

Current Community Approach

The state of Virginia has begun compiling data related to fatal and non-fatal suicide attempts through the National Violent Death Reporting System (NVDRS). This system originated to help track crime and violence that occurs within states across the country to better inform and aid in policy making and decisions. The NVDRS defines a violent death as one that "results from the intentional use of force or power against oneself, another person, group, or community" (Virginia Department of Health, 2012). This definition includes suicide. Prevalence rates, gender ratios, and methodology, along with other relevant and important statistics, are examined in a later section.

It is important to note that the NVDRS is a system designed to inform and guide policy making regarding all forms of violent death within a given state. Suicide, especially through violent means, remains a target of this intervention. Through this system, states hope to prevent and decrease the prevalence of violent deaths. This represents another prevention measure taken by the state to address suicide rates. However, the NVDRS does not address any violent deaths which occur within the Virginia DOC.

In addition to information collected for the NVDRS, the Virginia Department of Health also collects data regarding individuals who self-injure, present at a hospital, and are then subsequently admitted for psychiatric care. These individuals are hospitalized for a period of at least 24 hours. The data collected reflect information gathered upon discharge from psychiatric care. It is also important to note that the data only reflects those who are admitted and subsequently discharged from psychiatric inpatient treatment. It does not include those individuals who present at emergency rooms with self-inflicted injuries who were then discharged without inpatient admission.

Purpose

The current study focuses on a state correctional system in the eastern United States. With suicide rates increasing over the past year, there has been a push to examine factors related to suicidal behavior and self-injury on a more localized scale to further refine already used screening measures.   By examining relationships between variables and types of behaviors, current exhaustive assessment procedures can be refined into a more useful and directive process to aid in the assessment of behaviors. These assessments can then be used to determine the implementation of different precautionary measures, follow-up treatment, as well as treatment with psychiatric medications. This research will be used in conjunction with recommendations from Konrad and his colleagues (2007) to create an efficient guide for mental health assessment of suicidal and self-injury risk.

The origination of the current suicide risk assessment was based on a compilation of population data. It consists of various risk factors that may indicate a need for suicide precautions. However, this document does not reflect trends within a correctional system and specifically not rates within the Virginia DOC. This creates a need for empirically-backed assessments to increase efficiency regarding the use of suicide precautionary measures

Hypotheses

For the first part of this study, it is expected that rates of suicidal behavior in a prison setting will mirror that of the community samples as well as previous research. These predictions would include that there are more Caucasian, male, age 20-44 suicide attempters and self-injurers than any other group. This is consistent with current data from the research and from national-based studies.

In the second part of the study, it is predicted that the presence of either a personality disorder, mood disorder, or thought disorder will be related with suicidal and self-harm

behavior. In addition, segregation cell status will also be significantly related with increased suicidal and self-harm behavior.

The last part of the study will assess which factors are most predictive of suicide attempts. Based on past research, past mental health treatment, current mood and thought disorders, as well as previous suicide attempts are predicted to be the factors which combine to predict current suicide risk. These findings would be consistent with community-based data as well as the current foundation for suicide risk assessment models within the Virginia DOC.

METHODS

Participants/Data Set

Participants in this study were 152 incarcerated offenders housed within the Virginia DOC between January 1, 2011 and May 1, 2012. These offenders included males and females age 18 and older who have been convicted of a crime within the state of Virginia. Of these offenders, 44 engaged in a documented suicide attempt and 58 engaged in some form of self-harm behavior that was not considered an attempt to end his or her life. The remaining 50 offenders had no history of suicide attempts of self-injurious behaviors within the last 2 years and were maintained as a control group.

According to Virginia DOC policy, if any incident were to occur which involves an offender causing harm to self, someone else, or any form of state property, an incident report must be completed. These incident reports are then screened by the Eastern Regional Mental Health Clinical Supervisor and any incidents involving self-injury or a suicide attempt are flagged for further follow-up. Each institution has assigned mental health staff whom is responsible for assessing offenders. The mental health staff for the institution where the incident occurred were contacted via email and an additional tracking form, titled the Suicide and Self-Injury Analysis, was sent to gather more information regarding the offender involved and the incident itself. This measure was created by the Eastern Regional Mental Health Clinical Supervisor. It includes information regarding the individual's demographic information, charges, mental health history, prior suicidal incidents, current level of psychiatric distress, and protective factors. The questions were compiled based on relevant literature regarding the significant risk

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factors associated with suicidal and self-injurious behaviors in a large community of non-incarcerated persons. This data was then compiled into a comprehensive data base. A blank form of the Suicide and Self-Injury Analysis can be found as Appendix A.

For each incident of a completed suicide, a suicide attempt, or a self-injurious behavior, the Suicide and Self-Injury Analysis was completed by a qualified mental health professional directly involved with the offender. The measure was completed electronically and then emailed to the Eastern Regional Mental Health Clinical Supervisor for inclusion in the database at large. Data for the Suicide and Self-Injury Analysis was obtained through a review of the medical and mental health records as well as the opinion of the qualified mental health professional at the time.

The Suicide and Self-Injury Analysis measure was based on a set of variables collected for the NVDRS. It included the following basic information: mental health history, age, gender, ethnicity, length of sentence, date of release, methodology, date and time of incident, and security level. Regarding clinical and history information, data was collected on the presence or absence of the following: severe anxiety; major depressive disorder including severity, presence of anhedonia, anxiety or agitation, aggression or impulsivity, insomnia, delusional thinking, a sense of peace, and comorbid alcohol abuse or dependence; schizophrenia including different types, age, current psychotic state, and the presence of command hallucinations; early onset dysthymia; postpartum depression; anorexia nervosa; bipolar disorder including type of bipolar and current phase; substance abuse or dependence including comorbid Axis I diagnoses and mixed drug abuse; personality disorders including cluster of disorder as well as comorbid depression and substance abuse or dependence; epilepsy; chronic pain; multiple diagnoses; unstable therapeutic relationships; prior suicide attempts; family history of suicide; anniversary of an important loss; a history of family violence, sexual and/or physical abuse, and impulsivity;

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domestic partner violence; decrease in vocational status, physical health, and/or freedom; loss of a significant relationship; a history of firearms; lack of structured religion. In addition to risk factors, information was also collected on protective factors, including: pregnancy; responsible for children under age 18; sense of responsibility to family; Catholic or Jewish faith; employment; living with a relative in the community; positive social support; positive therapeutic relationship.

In addition to the database described above, a set of control data was collected. This data set was drawn from a random sampling of general population male offenders at a large medium security institution. For this control set, the Suicide and Self-Injury Analysis was completed for adult male offenders who have no history of suicide attempts or self-mutilation within the last 2 years. Due to the higher proportion of male to female offenders in the Virginia DOC, an all-male control group was selected as the most representative group. Due to the gender disparity, comparisons of control groups versus the collected database were not based on gender differences.

To provide a comparison to the incarcerated population, additional data was sought from the Virginia Department of Health. Due to a lag in data collection, information on fatal and non-fatal suicide attempts for the 2010 calendar year was obtained. Any information for the 2011 calendar year was still being compiled at the time of this research. Basic statistics regarding gender, ethnicity, and age rates were provided along with methodology. There were different rates and statistics obtained for both fatal self-injury (suicides) and non-fatal self-injury which resulted in hospitalization. Since the later type of data does not indicate if there was an intent to commit suicide or not but does only cover those who were hospitalized, it is assumed that these data represent individuals who were attempting to take their own lives and were

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deemed appropriate for psychiatric inpatient treatment. This information was used as a

comparison for the statistics obtained through the Virginia DOC database.

Statistical Methods

The first section examined descriptive statistics regarding the Virginia DOC database.

Offenders in the Virginia DOC database were compared to the community data provided by the

NVDRS. Then population percentages were compared between the Virginia DOC and the non-

fatal injury rates provided by the Virginia Department of Health regarding overall population

rates, gender differences, ethnic background, and age range. The two offenders with completed

suicides were examined individually with regard to age, gender, past mental health treatment,

current diagnoses, and prior suicide attempt history. Due to issues with data collection, those

offenders who engaged in self-injurious behaviors as opposed to suicide attempts were

excluded from the analysis.

Next, relationships between these factors and the presence or absence of suicide

attempts were examined. For each variable, a Chi Square Test was completed to determine if a

relationship existed between that variable and whether or not the offender attempted suicide.

To ensure utilization of the entire database, all factors were examined including those not

indicated by the hypotheses. To ensure accuracy in calculation, any analysis where the expected

value for a given cell was less than 5, a Fisher's Exact Test of Significance was used. A Chi Square

Test was used to ensure that the relationship of the particular variable to the presence or

absence of a suicide attempt was attributable to the variable itself instead of by chance.

Finally, the variables which were significantly correlated to the type of incident were

used in a binary logistic regression in order to develop a predictive equation. By utilizing a step-

wise method, different factors that are important for predicting suicidal and self-injurious

behaviors were determined. These items were then used to create a research-based

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assessment checklist. This checklist could be used by mental health professionals in the DOC

across the state as a method of determining appropriate interventions and precautions.

CHAPTER III

RESULTS

In the state of Virginia outside of the Virginia DOC there were 981 recorded suicides. Of these suicides, a majority were Caucasian males which accounted for 68% of the total number of suicides. Most fatal suicide victims were between the ages of 25 and 64, accounting for a combined 72.9%. Firearms accounted for 57.1% of the suicides while hanging accounted for 21.9%. The Medical Examiner's Office also collected information regarding selected characteristics, including age, gender, method, previous mental health treatment, and prior self-injurious behaviors. Having a mental health problem was noted for 57.5% of completed suicides. It was also noted that 38.3% were currently receiving some form of mental health treatment at the time of their suicide. Within the Virginia DOC, there were four suicides in 2010, none in 2011, and two between January 1 and May 1 2012.

In the Virginia DOC database, there were no completed suicides in 2011 and two completed suicides in the first half of 2012. Both offenders were Caucasian males who utilized the method of hanging and were around 50 years of age (age 49 and 51 years respectively). However, contrary to predictions, one offender was housed in Special Housing with a mental health treatment history while the other offender was housed in a general population setting with no documented mental health history. The first completed suicide happened within a Special Housing setting. He had a history of a cluster B personality disorder along with a long history of polysubstance abuse and dependence. He also had a history of poor therapeutic treatment relationships and a history of prior suicide attempts documented since his incarceration. The second offender had no mental health history and had no known risk factors

for suicide at the time of the incident. The difference in these individuals reinforces the concept that human behavior can be unpredictable and by assessing risk we are examining only the majority of cases.

The Virginia Department of Health also determined that there were 5,331 incidents of self-injury that resulted in a hospital admission but did not result in a fatality. It is important to distinguish that these individuals were admitted to a hospital so these numbers do not represent individuals who presented at an emergency room and were not subsequently admitted for at least 24 hours due to psychiatric reasons. The average length of stay for any self-injuring individual was 13 days. Of those who were admitted, 46.1% remained up to 72 hours while 37.4% were admitted for 3 to 7 days. These individuals were primarily female, 2,011 representing 62.3%. Males represented 37.7% of self-injurers. These individuals were primarily between the ages of 25 and 44 years old, representing 41.3%. Those 45 to 54 years of age represented 18.3% while younger age groups of 20 to 24 years and 15 to 19 years represented 12.7% and 13.4% respectively. The overwhelming majority of individuals were Caucasian, 77.1%, while African Americans represented 15.1%. Poisoning was the preferred method, representing 77.5% of self-injuries. The next prominent methodology was cutting at 16.2%.

An independent samples z test was completed to compare the rates of suicide attempts in the community with suicide attempts documented in the Virginia DOC. Suicide attempts were found to be significantly more likely to occur within an incarcerated population, regardless of gender, ethnicity or age (z=4.496). With regard to age, there was a significant difference between the percent of 20 to 44 year old individuals who attempted suicide in the community when compared to the Virginia DOC. A significantly higher proportion of attempters were age 20 to 44 years in the Virginia DOC as compared to a community population (z=-4.286).

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Caucasians in the Virginia DOC represented a significantly higher proportion of suicide attempters in the community when compared to the Virginia DOC (z=6.346) while African Americans represented a higher proportion of Virginia DOC suicide attempts when compared to the community (z=-8.038). Due to a lack of data collection within the Virginia DOC database, self-injury rates were not available for comparison. In addition, the Virginia Department of Health only collects data on those individuals who are committed to a hospital for a minimum of 24 hours after engaging in a self-harm behavior. In the absence of additional information, these were determined to be attempts at suicide and required further inpatient psychiatric treatment. Rates of individuals in the community who presented at emergency rooms but who were not committed for inpatient psychiatric treatment were not collected.

There were 44 documented incidents of suicide attempts within the Virginia DOC database. Of these, 32 utilized the method of hanging (72.7%), 7 by ingestion of foreign substances or medications (15.9%), 3 by multiple methods (6.8%) and 1 each by either cutting or asphyxiation (2.3% each). A majority of the offenders were housed in Special Housing (29 individuals representing 65.9%), while 13 were in general population (29.5 %) and 2 in residential mental health units (4.5%). Male offenders represented the majority (86.4%) of those offenders, 38 in total, while there were 6 female offenders (13.6%) who attempted suicide. African American offenders represented 59.1% of those who attempted while Caucasian offenders represented 38.6% and there was one Hispanic offender who accounted for the remaining 2.3%. Those convicted of a violent offense accounted for a majority, 52.3%, while Non-violent offense convictions described 36.4% and violent sexual offense convictions described 11.4% of attempts.   There were no non-violent sexual offenders in the suicide attempt category. Those offenders who were receiving current outpatient mental health treatment, indicated by a mental health code of 2, accounted for 63.6% of attempts while those

currently receiving inpatient mental health treatment, indicated by a mental health code of 3, accounted for 4.5%. One quarter of offenders had no documented mental health history and had a mental health code of 0. Those offenders who had a history of mental health treatment within the last 2 years but were not currently receiving services, as indicated by a mental health code of 1, accounted for 6.8%.

There were 58 documented incidents of self-harm in the Virginia DOC database. Two incidents lacked a specific methodology. The remaining 56 offenders self-injured utilizing the following methodology: cutting (32.8%), insertion of foreign objects into body (24.1%), ingestion of foreign objects or medications (19%), multiple methods simultaneously (8.6%), hanging (5.2%), asphyxiation (3.4%), and head banging (3.4%). Almost all self-injuring offenders were housed in either a residential mental health treatment program (46.6%) or Special Housing (44.8%) while only 8.6% were housed in general population at the time of injury. Only one offender who self-injured was female while the remaining 98.3% were male offenders. A majority of offenders who self-injured were Caucasian, 60.3%, while 34.5% were African American and 5.2% were Hispanic. Non-violent offense convictions accounted for 53.4% while violent offense convictions accounted for 27.6% and violent sexual offenses accounted for 19%. There were no non-violent sexual offenders who self-injured. A total of 27 offenders who self-injured, 46.4%, were receiving outpatient mental health treatment at the time of their injury. A total of 22 offenders, 38%, were housed in residential mental health treatment at the time of their injury. Only 10.3% of offenders had a history of mental health treatment in the last two years without current treatment and 5.2% had no documented history of mental health treatment.

A series of Chi Square Tests indicated several variables which were not related to either self-injury or suicide attempts. The variables of More than a High School Education, Recent

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Sense of Peace/Wellbeing, Early Onset Dysthymic Disorder, Postpartum Depression, Anorexia

Nervosa, Bipolar II Disorder, Male over 85 years old, Pregnancy, and Catholic or Jewish faith

were not endorsed in either the Virginia DOC database or the control group. These variables

were excluded from further analysis due to a lack of endorsement. These variables and their

respective information are presented in Table 1.

Table 1. Non-Significant Factors as Determined by a Series of Chi Square Tests and were
Excluded from Further Analysis

Topic	Chi Square	Probability	Fisher's Exact
Schizophrenia	0.135	0.713	0.758
Paranoid or Undifferentiated Type	1.205	0.272	0.376
Schizoaffective Disorder	0.587	0.444	1.000
Command hallucinations	0.152	0.696	1.000
Schizophrenia and age less than 40	0.023	0.880	1.000
Anxiety/Agitation/Panic	2.204	0.138	0.177
Aggression/Impulsivity	2.646	0.104	0.123
Delusional thinking	0.587	0.444	1.000
Global or partial insomnia	1.183	0.277	0.531
Schizophrenia and alcohol abuse/dependence	0.310	0.578	0.625
Bipolar disorder	1.813	0.178	0.227
Mixed state bipolar	0.310	0.578	0.625
Depressive phase bipolar	0.310	0.578	0.625
Substance abuse/dependence	0.468	0.494	0.554
Axis I with comorbid substance abuse/dependence	1.076	0.300	0.313
Polysubstance abuse	0.398	0.528	0.621
Personality Disorder and depression	1.813	0.178	0.227
Personality Disorder and substance abuse	0.050	0.823	1.000
Epilepsy	0.587	0.444	1.000
Multiple psychiatric diagnoses	0.135	0.713	0.758
Current psychotic state	2.417	0.120	0.192
Unstable or poor therapeutic relationship	1.181	0.277	0.378
Family history of suicide	0.016	0.900	1.000
Anniversary of significant loss	1.731	0.188	0.368
Domestic partner violence	1.183	0.277	---
Decrease in vocational status	1.179	0.278	---
Ethnicity	0.143	0.705	0.728
Male 65 or older	3.491	0.062	---
Low socioeconomic status	2.805	0.094	0.140
Currently divorced	1.205	0.272	---
Unemployed	1.076	0.300	0.313
History of firearm use	3.720	0.054	---
Responsible for children	0.117	0.732	---

Table 1. Cont.

Topic	Chi Square	Probability	Fisher's Exact
Sense of responsibility to family	1.046	0.306	0.380
Positive social support	1.473	0.225	0.240

The first area of analysis involved variables related to Axis I and Axis II diagnoses. A diagnosis of Schizophrenia was not dependent on the type of incident (χ^2=0.135, Fisher's Exact=0.758). Specific types of schizophrenia, either paranoid type or undifferentiated, were also not related to self-injury or suicide attempts (χ^2=1.205, Fisher's Exact=0.356). Similarly, diagnoses of Schizoaffective Disorder, Depressed Type were also not related (χ^2=0.587, Fisher's Exact=1.000). Neither was the presence of command hallucinations (χ^2=0.152, Fisher's Exact=1.000) or having an age less than 40 along with a schizophrenia diagnosis (χ^2=0.023, Fisher's Exact=1.000).

A diagnosis of Major Depressive Disorder was related to self-injurious behavior and suicide attempts (χ^2=12.870, p=0.002).   In addition, those with a diagnosis of Major Depressive Disorder displaying symptoms of anhedonia or hopelessness were significantly related to self-injury and suicide attempts (χ^2=6.694, Fisher's Exact=0.018). The presence of anxiety, agitation, or panic was not related to the type of incident (χ^2=2.204, Fisher's Exact=0.177) and neither was the presence of aggression and impulsivity (χ^2=2.646, Fisher's Exact=0.123). Delusional thinking was not related (χ^2=0.587, Fisher's Exact=1.000) and neither was global or partial insomnia (χ^2=1.183, Fisher's Exact=0.531). Comorbid alcohol abuse or dependence with a depressive disorder diagnosis was also not related to the type of incident (χ^2=0.310, Fisher's Exact=0.625). A diagnosis of bipolar disorder was not related to the type of incident (χ^2=1.813, Fisher's Exact=0.227). Mixed state bipolar disorder was also not related (χ^2=0.310, Fisher's Exact=0.625) and neither was being in a current depressive phase of a bipolar diagnosis (χ^2=0.310, Fisher's Exact=0.625).

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The presence of a substance abuse or dependence history was not related to the type of incident (χ^2=04.68, p=0.494). A comorbid Axis 1 diagnosis with a substance abuse diagnosis was not related (χ^2=1.076, p=0.300) as well as polysubstance abuse (χ^2=0.398, Fisher's Exact=0.621). The presence of an Axis II Personality Disorder was related to self-injurious behaviors and suicide attempts (χ^2=13.209, p=0.000) and specifically a Cluster B or Cluster C personality disorder (χ^2=14.340, p=0.000). However, a comorbid personality disorder and depression was not related (χ^2=1.813, Fisher's Exact=0.227) and neither was a comorbid substance abuse diagnosis (χ^2=0.050, Fisher's Exact=1.000).

The second area of analysis involved clinical factors not specifically tied to a diagnosis. Symptoms of severe anxiety were related to the type of incident (χ^2=3.945, p=0.047). Epilepsy was not related to the type of incident (χ^2=0.587, Fisher's Exact=1.000) however the presence of chronic pain was related (χ^2=5.279, Fisher's Exact=0.048). Having multiple psychiatric diagnoses was not related to the type of incident (χ^2=0.135, Fisher's Exact=0.758) and neither was a current psychotic state (χ^2=0.171, Fisher's Exact=0.192). An unstable or poor therapeutic relationship was also not related (χ^2=1.181, Fisher's Exact=0.277).

The third area of analysis involved factors related to the individual's history and demographic variables. Previous attempted suicides were related to the type of incident (χ^2=34.673, p=0.000). A family history of suicide was not related to the type of incident (χ^2=0.016, Fisher's Exact=1.000) and neither was the incident taking place on a specific anniversary of a loss (χ^2=1.731, Fisher's Exact=0.368). A familial history of violence, impulsivity, physical or sexual abuse was related to the type of incident (χ^2=8.638, p=0.003). Domestic violence history was not related (χ^2=1.183, Fisher's Exact=0.531). A decrease in vocational status was not related to attempting suicide (χ^2=1.179, Fisher's Exact=0.554) however the loss of a significant relationship was related to attempted suicide (χ^2=10.043, Fisher's Exact=0.004) as was a decline in physical

health (χ^2=5.279, Fisher's Exact=0.048). Gender was not assessed due to the control group being comprised of entirely male offenders. The cell type the offender was in at the time of the incident was related to attempting suicide (χ^2=25.672, p=0.000). Ethnicity was not related (χ^2=0.143, p=0.705) but mental health history, as denoted by mental health code, was related (χ^2=11.186, p=0.011). Coming from a low socioeconomic background was not related to attempted suicide (χ^2=2.805, Fisher's Exact=0.140) but living alone was related (χ^2=14.679, Fisher's Exact=0.000). It is important to note that living alone could have been confused for segregation status at the time of the incident. For this reason, it was excluded from the logistical regression analysis even though a relationship was found. Being currently divorced was not related (χ^2=1.205, Fisher's Exact=0.356) and neither was unemployment (χ^2=1.076, p=0.300). Having a history of firearm use or possession was also not related (χ^2=3.720, Fisher's Exact=0.074) however a lack of a structured religion was related to suicide attempts (χ^2=9.782, p=0.002).

The final area of analysis involved the relationship of protective factors with suicide attempts. Being responsible for children under the age of 18 was not related to attempting suicide (χ^2=0.117, Fisher's Exact=0.707) and neither was feeling a personal responsibility for family (χ^2=1.046, p=0.306). Being employed prior to or during the incident was not related (χ^2=3.491, Fisher's Exact=0.134), neither was living with another person before being incarcerated (χ^2=0.050, Fisher's Exact=1.000) or having positive social support (χ^2=1.473, p=0.225). However, having a positive therapeutic relationship was related to attempting suicide (χ^2=9.787, p=0.002).

A binary logistical regression was conducted to predict suicide attempts using related variables as predictors. The following variables were entered in the equation: mental health code; location of the incident; the presence and severity of Major Depressive Disorder; a lack of

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structured religion; the presence of anhedonia or hopelessness; a diagnosis of a Personality

Disorder; a diagnosis of a cluster B or C Personality Disorder; chronic pain; a history of previous

suicide attempts; a current decline in physical health; the loss of significant relationship; a

history of family violence, impulsivity, physical and/or sexual abuse; severe anxiety. These

variables were determined through the previous series of Chi Square analyses. Information

from those significant factors presented in Table 2. The initial constant model, without the

addition of any variables, was 63.2% effective at anticipating those who had not attempted

suicide. A test of the full model against the constant only model was statistically significant,

indicating that the predictors as a set reliably distinguished between those who attempted

suicide and those who did not (χ^2=85.845, p=0.000). Nagelkerke's R^2 of 0.679 indicated a

modestly strong relationship between prediction and grouping. Prediction success was overall

86.4%. The Wald criterion indicated that only prior suicide attempts (p=0.000), the presence of

Major Depressive Disorder (p=0.035), and placement in Special Housing (p=0.000) made a

significant contribution to prediction.

Table 2. Significant Factors as Determined by a Series of Chi Square Tests and Included in
Regression

Topic	Chi Square	Probability	Fisher's Exact
Severe anxiety	3.945	0.047	0.084
Major Depressive Disorder	14.253	0.003	---
Anhedonia/Hopelessness	6.694	0.010	0.018
Personality Disorder	13.209	0.000	0.000
Cluster B or C Personality Disorder	14.340	0.000	0.000
Chronic pain	5.279	0.022	0.048
Prior attempts	34.673	0.000	0.000
Family violence, impulsivity, physical and/or sexual abuse	8.638	0.003	0.005
Loss of significant relationship	10.043	0.002	---
Decline in physical health	5.279	0.022	---
Location of incident	25.672	0.000	---
Mental health code	11.186	0.011	---
Lack of structured religion	9.782	0.002	0.003
Positive therapeutic relationship	9.787	0.002	0.003

CHAPTER IV

DISCUSSION

The current study sought to examine relationships between variables related to suicide attempts and self-injurious behavior in corrections. A database was compiled over a period of 17 months within the Virginia DOC involving incidents of suicide attempts and self-injurious behaviors among offenders. The Suicide and Self-Injury Assessment was developed by the Eastern Regional Mental Health Clinical Supervisor utilizing variables being examined by the NVDRS. It represents the first step in a continuous data collection process in an effort to streamline the suicide risk assessment process within the Virginia DOC. Any predictive equation will have limited utility due to the diversity and unpredictability of human behavior. However, any assessment to help mental health professionals make sound clinical decisions would benefit the entire system as a whole.

Hypotheses Addressed

The first hypothesis addressed differences between the community and the Virginia DOC. Contrary to predictions, rates for ethnicity, age, and overall prevalence rates were all significantly different. Offenders in the Virginia DOC who attempted suicide were more likely to be African American in ethnicity and age 20 to 44 years. There was no significant difference for gender, as those who attempted suicide were most likely to be male in either the community or the Virginia DOC. Suicide attempts were also significantly more prevalent in a correctional setting when compared to the community. There are several points gained from this information. As predicted by previous research and as expected by researchers, those individuals who are incarcerated pose an increased risk for suicide attempts than individuals

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who live within the general community. However, there was no assessment of pre-morbid functioning of offenders so it is not possible to determine if those with increased risk factors were incarcerated thus concentrating the population or if incarceration itself can be assessed as a risk factor. This difference between the Virginia DOC and the community reinforces the need for increased mental health presence and assessment within the Virginia DOC. Regardless of the origin of the risk factors, mental health issues were more prevalent within the Virginia DOC and therefore justify the multiple levels of mental health screening and assessment already in place.

With regard to ethnicity, population density was not assessed. To clarify, although offenders who attempted suicide in the Virginia DOC were more likely to be African American while suicide attempters in the community were more likely to be Caucasian, actual differences in the populations themselves was not addressed. Within the Virginia DOC, there was no significant difference between males and females who attempt suicide. However, within the community, those individuals who attempted suicide were significantly more likely to be Caucasian. Unfortunately, it was not possible to determine the ethnic breakdown for the Virginia DOC so the overall proportions of each ethnicity could not be compared. It is possible that there was a higher concentration of one ethnicity versus another within the Virginia DOC which might explain the non-difference in ethnic prevalence rates. Differences in age ranges are also fairly concentrated within the Virginia DOC and therefore may be explained in a similar fashion.

The second hypothesis proposed that an Axis I diagnosis would be related to suicide attempts. Having a diagnosis of a personality disorder was related to the suicide attempts but a specific diagnosis within cluster B (Narcissistic, Histrionic, Antisocial, and Borderline Personality Disorder) or cluster C (Avoidant, Dependent, and Obsessive-Compulsive Personality Disorder)

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was also related to suicide attempts. Also a diagnosis of Major Depressive Disorder was also related. Interestingly, the presence of a thought disorder was not related, nor was Bipolar Disorder.   Severe anxiety and anhedonia were related, but delusional disorder and comorbid substance abuse was not related. These results indicate that a mood disturbance, such as depression or anxiety, was a stronger indicator of suicide attempts than a thought disorder. This was consistent with previous research and supported the initial hypothesis. It is notable that only the presence of Major Depressive Disorder was a significant predictor in the regression equation. Although Personality Disorders were significantly related to suicide attempts, it did not contribute significantly to the prediction. As predicted, being in a Special Housing, or segregation, was related to suicide attempts and contributed significantly to the predictive ability of the regression.

The final hypothesis predicted that past mental health treatment, current mood disorder and thought disorder diagnoses, as well as past suicide attempts would be the strongest predictors of suicidal behavior. These predictions were partially supported by the research. The presence of Major Depressive Disorder and prior suicide attempts were significant contributors to the regression equation, however, the presence of schizophrenia or bipolar disorder were not related to suicide attempts. Although past mental health treatment was related to suicide attempts, it did not significantly contribute to the prediction model. This is contrary to previous research findings that mental health history was one of the most significant indicators of suicide attempts. It is possible that the prevalence of mental health treatment was increased within the Virginia DOC and because there was an increase overall rate it did not provide a differentiating factor for this particular analysis.

Caveats with Current Data Set

The data utilized represents the first few years of collection. As in any system of data collection, future years will provide more fruitful and expounded data as individuals become accustomed to completing the requisite forms. The current self-report format that relies on an additional measure besides the completed incident report will provide more detailed information as it becomes more common-place in usage.

There was a significant caveat to the data represented in the current study. The incident reports that were compiled for each occurrence are typically completed by non-mental health security forces. Of course, these incident reports were supplemented by detailed reports completed by the assessing QMHP, however the initial inclusion of the incident in the data compilation relied on the type of incident. For example, an incident that is titled as "self mutilation" would be included but an incident entitled "unscheduled transportation" (where someone is sent to the hospital for treatment of self-inflicted injuries) would not be included. As data collection continues, the system will be refined in order to avoid such oversights in the future. For the current data, every incident report was reviewed, regardless of title, and any information indicating suicidal or self-harm intention was included.

During the first year of data collection, certain pieces of information were missing. Any incident that was deemed "self-injurious behavior" as compared to a "suicide attempt" did not have a measure completed. The result was 31 specific cases of self-injurious behaviors that did not have any additional information provided beyond the information provided in the incident report. In 2012, this data collection flaw was remedied; however the sample size was limited due to the restricted period of time. Basic demographic information was compared to a community based, non-fatal self-harm data however further analysis was restricted due to the number of missing variables.

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Issues with Data Collection

Placement in different settings has a significant effect on the labeling of different types of behaviors. For example, in a general population setting, any individual who receives treatment through mental health is seen on an outpatient and at most monthly basis. This is in direct contrast to an offender who resides on a residential mental health unit. Those offenders receive treatment on a more regular basis, often weekly, and are assigned to a specific therapist who is responsible for structured treatment plans and intervention. The rapport and therapeutic relationship that can develop in this setting is significantly different than what is available in an outpatient setting. Not only does this affect the presence or absence of specific behaviors, it also affects the way the behaviors are recorded. A therapist within a residential mental health setting who is familiar with the offender may be more likely to portray the behavior as self-injurious rather than a suicide attempt if there is a perceived or explained lack of intent. Contrast this with an offender who is receiving outpatient treatment with no structured treatment plan and a lack of understanding regarding mental health assessment. This offender may be more likely to be labeled as a suicide attempt since his or her behavior is seen as an attempt to self harm.

One of the difficulties with gathering data regarding these types of incidents within the Virginia DOC involves the coding system in place for incident reports. There is an option on the computer system for suicide attempt. However, when documenting self-harm behaviors, the only way to distinguish the incident was through the reporting of a 239-Self-Mutilation institutional charge. It has to be specified under "Other" for type of incident report. This could result in incidents being labeled as suicide attempts when there was no clear intention of ending one's life and the action was instead for attention-seeking purposes. As discussed in previous

literature, even self-injurious behaviors that are not readily identified as suicide attempts should be handled as serious issues, however these cases could affect the validity of data collection.

In addition to the difficulty with the incident reporting, there were also concerns regarding the data collection form itself. This form was sent via email to a qualified mental health professional at the site, completed, and then mailed back to the Eastern Regional Mental Health Clinical Supervisor. The original form was a series of blanks but it did not provide an easy interface for digital completion. It also organized the information in a grouped fashion, making certain factors related to one another rather than addressing them individually. This could result in confusion on the part of the qualified mental health professional completing the form. This form was completed in addition to other paperwork that had to be completed on the incident for both the Virginia DOC as well as the individual's medical file. Ease and speed of completion is critical to accurate reporting. By limiting the number of variables and providing a simplified point-and-click interface, those who complete data collection forms in the future will have fewer difficulties.   This will allow further refinements to the current Suicide Risk Assessment as collection moves forward. This will provide an evidence-based practice that can assist in the allocation of resources and improve basic efficiency of qualified mental health therapists who deal with these incidents on a regular basis.

CHAPTER V

RECOMMENDATIONS FOR FUTURE RESEARCH

Revisions to Data Collection Measure

Numerous issues were discovered with the current data collection measure. Initially, the collection measure was described as difficult to complete, especially in a digital format which was required. If the measure was difficult to complete, it was assumed that the forms might not be completed properly or provide all of the relevant information. In addition, some professionals might opt not to comply with requests for further information, which led to significant gaps in the data available for review. By providing a measure that is easier to complete in a digital format, which has fields for completion rather than lines, it is hoped that future data collection will not continue to suffer from lack of information. Forms were also not completed fully nor had some information that was mismarked or labeled inappropriately. This was observed in numerous measures and was determined to come from having narrative-type responses rather than simple check boxes or forced-choice drop-down menus. By converting all items to fill-in forms, drop-down boxes, or check boxes, it limits the options available to the professional completing the form. It also clarifies the information presented for the data collectors, resulting in more complete and categorical information for future data analysis.

Another area of significant dissention was in regard to the labeling of the type of incident. In the current Virginia DOC database, it was left up to the incident report and the wording therein to label the incident as either a suicide attempt or a self-injurious behavior. This determination was being made by security staff instead of by qualified mental health

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professionals. By allowing the professional completing the form a forced-choice, drop-down

menu, he or she is able to appropriately label the incident based on clinical expertise and

experience. This should provide further refinement of incident rates as well as providing clinical

information on those offenders who choose to engage in self-injurious behaviors. The current

data set was lacking significantly in this area, as 31 of the 58 offenders who were reportedly

involved in self-injurious behaviors did not have completed measures. This resulted in the

exclusion of these cases from analysis and yielded no information on this specific group within

the current research.

Revisions to Suicide Risk Assessment

The current Suicide Risk Assessment completed by qualified mental health professionals

within the Virginia DOC has 27 different check boxes for risk factors and 9 different check boxes

for protective factors. These totals exclude boxes for "other" which were considered useful for

unique cases. By examining related factors through the current database, these factors were

limited to 19 risk factors and 4 protective factors. That means there are 8 different items that a

clinician will not have to address when making the decision to place an offender on precautions.

It should be noted that several of the items refer to refusal by the offender to cooperate with

clinical interviews or interventions. These items would be difficult to assess as they provide no

specific information and serve as a clinical road-block to assessment. These items would remain

within the checklist because the lack of information they point to requires extra precautions be

enforced. The data collection measure used for the current study did not address 6 of the

remaining items on the current Suicide Risk Assessment. These items have been added to the

revised data collection measure (Appendix B) in order to assess their clinical utility. A copy of

the current Suicide Risk Assessment can be found in Appendix C while a proposed revised

edition can be found in Appendix D.

Implications for Future Research

There were numerous limitations to the current study, both with regard to data collection measures and methods as well as with identification of cases for study. By interpreting the current database and providing an analysis of both current data and flaws, future data collection can be improved dramatically. This will result in more useful, pertinent data that can be further used to provide a more efficient, evidence-based way to assess for the delegation of resources. The current data reinforces why qualified mental health professionals are needed within the Virginia DOC as well as the role they play in assessment and prevention of completed suicides. Virginia DOC remains one of the lowest suicide rates in the country thanks to our informed security staff and our qualified mental health professionals. By refining the paperwork those professionals need to complete on a given incident, more time would be available for suicide prevention efforts and overall mental health treatment. Future research will provide additional relevant information that is easier to interpret and inform changes to the current risk assessment system.

APPENDICES

Suicide and Suicide Attempt Analysis (circle one)
Offender Name: DOC #:
Site:
Method:
DOB:
Date of incarceration: Date of release:
Charges:
MH Code: Security Level:

Clinical Factors:
__Severe Anxiety and/or Agitation
__Schizophrenia
       __Paranoid or Undifferentiated type
       __Depressive State
       __Command hallucinations
       __More than a high school education
       __Less than 40 years old
__Major Depression
       __Mild   __Moderate   __Severe – with psychotic features
       __Anhedonia or hopelessness
       __Anxiety, agitation, or panic
       __Aggression or impulsivity
       __Delusional thinking
       __Global or partial insomnia
       __recent sense of peace/well being
       __comorbid ETOH abuse/dependence
__Early Onset Dysthymic D/O
__Postpartum Depression
__Anorexia Nervosa
__Bipolar Disorder
       __Bipolar II
       __Mixed State
       __depressive phase
__ETOH/SA/Dependence
       __Comorbid Axis I d/o
       __mixed drug abuse
__Personality D/O
       __Cluster B or Cluster C

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__Comorbid depression

        __comorbid ETOH abuse/dependence

__Epilepsy

__Chronic Pain

__Multiple psychiatric diagnoses

__Currently psychotic

__Unstable or poor therapeutic relationship

Historical Factors

        __Prior suicide attempts

        __Family hx of suicide

        __Anniversary of important loss

        __Hx of family violence, impulsivity, physical, or sexual abuse

        __Domestic partner violence

Loss Factors

        __Decrease in vocational status

        __Loss of significant relationship

        __Decline in physical health

        __Loss of freedom due to legal issues (may include transfer/change in housing)

Demographic Factors

        __Male

                __65 years old or older

                __85 years old or older

        __Low SES

        __Living alone

        __Currently divorced

        __Caucasian or Native American

        __Unemployed

        __Access to/hx of firearms

        __Lack of structured religion

Risk Reduction Factors

        __Pregnancy

        __Responsible for children under 18 years old

        __Sense of responsibility to family

        __Catholic or Jewish

        __Employment

        __Living with another person, especially relative (when in community)

        __positive social support

        __positive therapeutic relationship

RELEVANT NOTES:

Date of Review:

Type of Incident: Choose an item.

Person completing form - Name: Click here to enter text.   Title: Click here to enter text.

Date form completed: Click here to enter text.

Offender Name: Click here to enter text.   DOC #: Click here to enter text.

IR Number: Click here to enter text.   Date of Incident: Click here to enter text.

Time of Incident: Click here to enter text.

Facility: Click here to enter text.   Type of Housing: Choose an item.

Method: Choose an item.

Description of Incident: Click here to enter text.

Age: Click here to enter text.   Race: Choose an item.

CRD: Click here to enter text.

Length of sentence: Click here to enter text.   Date of release: Click here to enter text.

Instant Offense Type: Choose an item.

MH Code: Choose an item.   Security Level: Choose an item.

Diagnosis:

☐ Schizophrenia

If so, what type: Choose an item.

☐ Schizoaffective Disorder

If so, what type: Choose an item.

☐ Major Depression

If so, what type: Choose an item.

☐ Personality Disorder

If so, what type: Choose an item.

☐ Other diagnosis of relevance: Click
here to enter text.

☐ No diagnosis on Axis I or II

Clinical Factors:

☐ Severe anxiety

☐ Severe agitation

☐ Chronic pain

☐ Self-neglect or poor hygiene

☐ Significant changes in weight

☐ Expressing fear, guilt, or shame

☐ Giving away possessions

☐ Thought constriction

☐ Loss of a significant relationship

☐ Decline in physical health

☐ Aggression

☐ Impulsive behaviors

Historical Factors:

☐ Prior suicide attempts

☐ Violent family history

☐ Family history of impulsivity

☐ Victim of physical abuse

☐ Victim of sexual abuse

☐ Lack of structured religion

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Suicide Risk Assessment

Offender Name:	**DOC #:**
Date of Birth/Age:	**Date of Assessment:**
Date DOC Received:	**Release Date:**
Facility:	

Sources of Information:

☐ Offender Observation/Interview   ☐ Staff (specify): _____

☐ Records/mental health/suicidal behavior history

☐ Family members   ☐ Others (specify): _____

Reason for Assessment: _____

_____

_____

_____

Risk Factors: (Check all that apply)

☐ Caucasian

☐ Prior suicide attempts/gestures

☐ Long remaining sentence

☐ Segregation status

☐ Clinical restraints required within last 30 days

☐ Chronic physical health issues or pain

☐ History of previous mental health treatment

☐ Family history of suicide

☐ Family history of mental health treatment

☐ Recent termination of involvement in programs or work

☐ Recent stressors or loss (job, transfer, relationship problems, "Dear John letter", legal issues or charges, parole turndown, impending release, victimization, gang problems, etc.)

☐ History of Schizophrenia, Major Affective Disorder, Severe Personality Disorder or Multiple Diagnoses

☐ Other Risk Factors (explain): _____

☐ Agitated/demanding/argumentative/hostile

☐ Persecutory Delusions

☐ Command hallucinations regarding suicide

☐ Current psychotic state

☐ Self-neglect or deterioration of hygiene

☐ Excessive weight gain/loss

☐ Giving away possessions

☐ Fear/Shame/Guilt

☐ Hopelessness/Helplessness/Worthlessness

☐ Positive view of death/suicide

☐ Negative view of the future

☐ Thought constriction (tunnel vision/polarized thinking)

☐ Refusing or non-compliant with medications

☐ Refusing or uncooperative with interview

☐ Refusing to contract for safety/denial of intent for self-injury

Protective/Risk Reduction Factors: (Check all that apply)

☐ Engaged in positive treatment relationship with staff

☐ Sense of responsibility to family

☐ History of good coping and problem solving skills

☐ Religious beliefs that prohibit suicide

☐ Positive social supports (family, friends, other offenders, etc.)

☐ History of positive job performance and/or program involvement

☐ Future oriented/hopeful/willingness to accept help

☐ Denies suicide intent with credibility   ☐ Low symptom severity/stable mood

☐ Other Protective Factors (explain): _____

Summary/Intervention Plan: _____

_____

_____

_____

☐ Offender to be placed on/remain on Suicide Precautions, specify _____

_____

☐ Offender to be taken off Suicide Precautions

Complete Special Management Instructions (SMI) and Notifications to Staff

_____

Examining QMHP Signature   Date

_____

Examining QMHP Printed Name/Title   Time

File: Health Record - Section IV

Suicide Risk Assessment

Offender Name:	**DOC #:**
Date of Birth/Age:	**Date of Assessment:**
Date DOC Received:	**Release Date:**
Facility:	**Location:**

Sources of Information:

☐ Offender Observation/Interview   ☐ Staff (specify): _____

☐ Others (specify): _____

Reason for Assessment: _____

_____

_____

_____

Risk Factors: (Check all that apply)	**Protective/Risk Reduction Factors:** (Check all that apply)
☐ Prior suicide attempts/gestures	☐ History of good coping and problem solving skills
☐ Long remaining sentence	☐ Future oriented/hopeful/willingness to accept help
☐ Segregation status	☐ Denies suicide intent with credibility
☐ Clinical restraints required within last 30 days	☐ Low symptom severity/stable mood
☐ Chronic physical health issues or pain	☐ Other Protective Factors (explain): _____
☐ History of previous mental health treatment	
☐ Recent stressors or loss	
☐ History of Schizophrenia, Major Affective Disorder, Severe Personality Disorder or Multiple Diagnoses	
☐ Self-neglect or deterioration of hygiene	
☐ Excessive weight gain/loss	
☐ Fear/Shame/Guilt	
☐ Giving away possessions	
☐ Hopelessness/Helplessness/Worthlessness	
☐ Positive view of death/suicide	
☐ Negative view of the future	
☐ Thought constriction (tunnel vision/polarized thinking)	
☐ Refusing or non-compliant with medications	
☐ Refusing or uncooperative with interview	
☐ Refusing to contract for safety/denial of intent for self-injury	
☐ Other Risk Factors (explain): _____	

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Summary/Intervention Plan: _____

_____

☐ Offender to be placed on/remain on Suicide Precautions, specify _____

☐ Offender to be taken off Suicide Precautions

Complete Special Management Instructions (SMI) and Notifications to Staff

Examining QMHP Signature   **Date**

Examining QMHP Name and Title   **Time**

File: Health Record - Section IV

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