BEHAVIORAL HEALTH PREDICTORS OF CRIMINAL RECIDIVISM

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ABSTRACT

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Research shows that correctional facilities face high rate of behavioral health disorders, with various mental health disorders and substance use disorders occurring in higher rates in jails and prisons than the general population. This is a problematic situation for these facilities due to their legal responsibility to provide inmates with necessary treatment, as well as the fact that they are typically unequipped to identify and care for individuals with these disorders. Determining correct prevalence rates requires adequate measurement tools, as well as agreement among constructs deemed as "mental health disorders". Research studies typically use a variety of methods to measure mental health disorders in these settings, leading to some discrepancy among findings. Some studies use restrictive criteria for what they deem as "serious mental illness", while others use broad definitions to capture a wider range of disorders, which can also result in behaviors related to arrests. This discrepancy between definitions of what constitutes mental illness can make it difficult for research to provide an accurate or meaningful estimate of prevalence in these facilities. Jails and prisons also face difficulties in accurately determining their specific facility's prevalence of behavioral health disorders, due to the frequent use of inadequate screens that are used in an attempt to save time and manage short-staffing. There is also a response bias based on who is doing the screening. Inmates are less likely to answer

truthfully to uniformed staff members when asked about substance use. High rates of recidivism are also a problem for correctional facilities. The frequent reoffending of inmates adds to the issue of overcrowding that these facilities face. Recidivism affects society insofar as an increase in recidivism translates to an increase in victimizations. Society is also affected financially, with high recidivism rates leading to higher costs for tax payers toward incarcerations. Although the research on behavioral health risk factors of recidivism mainly focuses on prison settings, mental health disorders have been found to be related to a higher risk of recidivism, specifically the comorbidity of both a mental health disorder and a substance use disorder. This study examined the relationship between behavioral health and recidivism rates among 283 inmates in a rural county jail. Behavioral health was measured using the Comprehensive Addictions and Psychological Evaluation, Fifth Edition (CAAPE-5), a structured diagnostic interview that assesses substance use disorders and the mental health disorders that often co-occur with these diagnoses. The prevalence rates for behavioral health disorders reflected the literature in regard to jails having high rates of both mental health and substance use disorders. The majority of participants were found to have at least one behavioral health condition. No specific diagnoses were found to be related to higher rates of recidivism.

CHAPTER 1: INTRODUCTION

Research has shown that correctional facilities, both jails and prisons, face higher rates of mental health disorders (MHD) and substance use disorders (SUD) than the general population (James & Glaze, 2006; Powell, Holt, & Fondacoro, 1997; Prins, 2014). This is a problematic situation for these facilities due to their legal responsibility to provide inmates with necessary treatment, as well as the fact that they are typically unequipped to identify and care for individuals with these disorders (Prins, 2014; Teplin & Swartz, 1989). The general finding among literature on this topic is that jails have a higher prevalence of mental health disorders than prisons (James & Glaze, 2006).

Determining correct prevalence rates requires adequate measurement tools, as well as agreement among constructs deemed as "mental health disorders." Research studies typically use a variety of methods to measure mental health disorders in these settings, leading to some discrepancy among findings. While some studies use restrictive criteria for what they deem as "serious mental illness" such as schizophrenia, psychosis, and major depressive disorder, (Steadman, Osher, Robbins, Case, & Samuels, 2009), others use broad definitions to capture a wider range of disorders, such as post-traumatic stress disorder (PTSD) and anxiety, which can also result in behaviors related to arrests (James & Glaze, 2006). This discrepancy between definitions of what constitutes mental illness can make it difficult for research to provide an accurate or meaningful estimate of prevalence in these facilities.

Jails and prisons also face difficulties in accurately determining their specific facility's prevalence of behavioral health disorders. One of the causes of this issue is the frequent use of inadequate screens that are used in an attempt to save time and manage short-staffing. This can

lead to an underestimate of mental health disorder prevalence, and can cause the facilities to be unaware of many inmates' behavioral health functioning (Teplin & Swartz, 1989). There is also a response bias based on who is doing the screening. Research shows that inmates are less likely to answer truthfully to uniformed staff members when asked about substance use, which can cause false negatives when determining if inmates meet criteria (Proctor, Hoffmann, & Corwin, 2011). These findings suggest a need for detention centers to include neutral appearing staff members available for mental health assessment.

High rates of recidivism are also a problem for correctional facilities. The frequent reoffending of inmates adds to the issue of overcrowding that these facilities face. Both clinical and demographic risk factors have been determined to lead to higher rates of recidivism, as well as behavioral health factors. Although the research on behavioral health risk factors of recidivism mainly focuses on prison settings, mental health disorders have been found to be related to a higher risk of recidivism, specifically the comorbidity of both a mental health disorder and a substance use disorder (Gagliardi, Lovell, Peterson, & Jemelka, 2004; Walter, Wiesbeck, Dittmann, & Graf, 2010).

These findings suggest the need for more in depth research in jail settings. These facilities must be able to correctly and efficiently identify inmates with behavioral health disorders as a routine in order to address these issues. These facilities need an accurate prevalence rate of mental health disorders, and the risk that these disorders have on reoffending is important to determine. If behavioral health is indeed a risk factor for recidivism, this is a greater reason to find ways to get these individuals into the treatment they need.

CHAPTER 2: LITERATURE REVIEW

Prevalence of Behavioral Health Conditions in Correctional Facilities

The prevalence of mental health and substance use disorders among inmates in correctional facilities has recently gained substantial attention. It has been found by multiple studies (James & Glaze, 2006; Powell et al., 1997; Prins, 2014) that various behavioral health diagnoses are heavily represented among these populations, and that mental illness occurs in higher rates in jails and prisons than in the general population. A recent research study conducted an in-depth review of literature on mental health disorder prevalence in correctional populations, and found serious mental illness to range from four to six times higher in jails than the general population; and three to four times higher in prisons (Prins, 2014). Moreover, a study of 2004-2005 data found that there are approximately three times more seriously mentally ill individuals in United States jails and prisons than there are in hospitals (Torrey, Kennard, Eslinger, Lamb, & Pavle, 2010). This poses a serious problem for these facilities, considering that the corrections system is not designed to care for mentally ill individuals, and is typically unequipped with the tools needed to diagnose and provide mental health or addiction treatment services (Prins, 2014). Also important is the legal mandate that places the responsibility of providing inmates with necessary mental health services on both jails and prisons (Teplin & Swartz, 1989).

The National Commission on Correctional Health (NCCHC) requires by law that correctional facilities screen inmates for mental health problems by a qualified health professional within two hours of admission, and then inform them of the types of mental health services available to them within 24 hours of arrival. They also must have a health appraisal within one week of arrival, and a mental health evaluation within two weeks. If a mental health

need is identified, a treatment plan must be created for the inmate, and treatment is required to occur in private with respect for the inmate's dignity and feelings (U.S. Department of Justice, 2004). It is important for these facilities to be able to correctly identify mental health disorders so that they can address the individual needs for each inmate.

The time frames for jails can be problematic for evaluating behavioral health disorders. While there are no national statistics available on the average length of stay, it is estimated that the average jail releases 75% of inmates within 72 hours (Community Resource Services, n.d.). This can widely vary, however, because jails have two different functions: temporarily holding inmates before they are released or working as a longer-term detention and corrections facility (Community Resource Services, n.d.). By Bureau of Justice Statistics definition, jails are short-term facilities that hold inmates for less than one year who are awaiting sentencing or trial, and prisons are defined as long-term facilities that hold inmates for typically more than one year (Bureau of Justice Statistics). Unlike prisons, where inmates being booked have likely been in custody for some time, jails often receive inmates directly out of the community, and they may go through booking while still intoxicated or under the influence. This could be an issue in correctly evaluating the inmate's mental health. Getting a thorough evaluation within 24 hours of arrival may be difficult to accomplish. The short-term stay can also lead to the inability to complete the evaluation and follow up with the results. These issues should be kept in consideration when discussing the evaluation and treatment of mental health and substance use disorders in jails.

Research shows differences in the prevalence for behavioral health disorders among the three correctional settings (jails, state prisons, and federal prisons), with jails generally having the highest rates of the three. For example, in 2006 the Bureau of Justice conducted a study to

determine prevalence in each of the three settings, with the Bureau of Justice statisticians finding 64% of jail inmates to have a mental health problem, while state prisons and federal prisons were found to have lower prevalence: 56% and 45%, respectively (James & Glaze, 2006). This study considered a broad range of symptoms to qualify the inmates for having a "mental health problem," while other studies tend to focus on a narrower set of qualifications. Broad ranges of mental health disorders seek to capture a wider range of diagnoses, while narrow foci tend to concentrate on a specific list of illnesses, usually chosen by the researchers.

An example of this narrow focus is a study that explored prevalence rates for current "serious mental illness" for recently booked jail inmates, finding 14.5% of men and 31% of women to meet criteria. This study employed the use of a screen, specifically the Brief Jail Mental Health Screen (BJMHS; Steadman, Osher, Agnese, & Robbins, 2005), to select the sample. Those that were chosen from the screened sample were then given the Structured Clinical Interview for DSM-IV (SCID; Spitzer et al., 1997) to determine if criteria were met for current serious mental illness, defined in this study as major depressive disorders, bipolar disorders, schizophrenia spectrum disorders, and psychotic disorder not otherwise specified (Steadman et al., 2009). This study, along with several others, focuses on a restrictive set of criteria in order to concentrate specifically on "serious" mental illnesses (Serin, 1996; Soloman & Draine, 1995). While the prevalence of these specific diagnoses is important, there are many mental illnesses that do not fall into the deemed "serious" category that are nevertheless vitally important to identify and address in a correctional setting. These include PTSD, panic attacks, anxiety, depression, and so on.

Substance use disorders (SUD) are often overlooked in these prevalence studies, although these diagnoses are also found to be significantly higher in correctional populations, and

frequently co-occur with other mental illnesses. In fact, it has been shown that approximately one in five people with a mental health disorder in the general population also meet diagnostic criteria for at least one SUD during the same 12-month period (Grant, Stinson, Dawson, Chou, Dufour, et al., 2004). Jail inmates with mental health issues have been found to be fourteen percent more likely to report drug use in the previous month than inmates without mental illness (Mumola & Karberg, 2006).

Substance-related disorders have been found to be the most prevalent behavioral health disorder in jails, regardless of the sample demographics (Young, 2003). Researchers have determined that SUDs, both dependence and abuse, affect more than two thirds of jail inmates (Karberg & James, 2005) and half of prison inmates (National GAINS Center, 2004). These rates are significantly higher than that of the general population, which has been found to be 9% (Cloud, 2014). In a study done to determine the prevalence of substance use disorders among female state prison inmates, 70% of the women were dependent on at least one substance (Proctor, 2012). These findings agree with a previous study that found 69.7% of female inmates to have a substance related disorder, with 65.9% of males meeting criteria (Young, 2003).

As noted previously, SUDs are often comorbid with other mental health disorders. A study in 2003 on jail inmates temporarily housed in the mental health unit found that nearly 45% of their sample had both a major mental illness as well as a substance-related disorder. It was also found that 76.8% of the inmates had previously received psychiatric treatment outside of jail; 68% of those having had treatment within the past year (Young, 2003). Similarly, a study done in a county jail using a sample size of only inmates with a dependence diagnosis found that only 25% of inmates did not meet criteria for at least one Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR) Axis I mental health disorder (Proctor &

Hoffmann, 2012). This study found 55% of the inmates to meet criteria for PTSD, and 51% for both a major depressive episode and antisocial personality disorder, showing high rates of co-occurrence among these disorders (Proctor & Hoffmann, 2012). These numbers stress the importance of considering substance related disorders when determining mental illness rates in correctional facilities. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) constitutes substance use disorders as independent diagnoses (American Psychiatric Association, 2013a), and the literature has shown that they are often comorbid with other diagnoses as well. The rates found by research studies for substance use disorders are in a general agreement that more than half of inmates struggle with at least one SUD.

Research makes it clear that jails are faced with significant rates of mental health and substance use disorders. This highlights the importance of jails and prisons being able to correctly determine prevalence rates in order to justify investment in staff to address these conditions, as well as provide services on an individual basis. In order to provide inmates with the treatment and services needed, jails and prisons must be able to determine possible diagnoses routinely. To address this need, limitations in determining diagnostic criteria must be considered.

Limitations in Determining Prevalence

Research

The array of methods used to determine prevalence rates of behavioral health disorders leads to discrepancy between research findings. These inconsistencies are likely attributable to the various definitions of behavioral health conditions, sampling strategies, instruments used, and case ascertainment strategies that are used (Prins, 2014). Methods using a variety of measurement tools including structured and unstructured interviews, screens, or simply the

inmate's provided information about their past mental health, including symptoms as well as received services, can lead to substantially different findings.

These studies use a wide variety of constructs deemed as mental illness/problems. Some only focus on what they refer to as "serious" or "major" mental illness, defined amongst the researchers, an example being the previously mentioned study on prevalence in jails of what the researchers defined as serious mental illness (Steadman et al., 2009). Other examples include a recidivism study that focused only on psychopathy (Serin, 1996), and another that considered only what the facility clinicians deemed as "major mental illness" (Soloman & Draine, 1995). These restrictive foci prevent the detection of several other mental illnesses that should also be considered of importance in the correctional population due to their potential for negative behavioral consequences. These include but are not limited to post-traumatic stress disorder, generalized anxiety, panic attacks, personality disorders, and substance use disorders. The detection of these disorders is important in order to address these conditions to avoid clinical consequences. It is also important so that decompensation on the inmate's behalf can be avoided, as well as reducing the likelihood of recidivism.

The different methods of measurement used to determine if diagnostic criteria are met also leads to inconsistencies. While some use comprehensive structured diagnostic interviews (Proctor, 2012; Powell et al., 1997; Gosein, Stiffler, Fransocia, & Ford, 2015), others use screens due to the time efficiency (Steadman et al., 2009; Proctor et al., 2011). Unstructured interviews have also been used as a method of measuring prevalence (Baillargeon et al., 2010; Young, 2003), which precludes knowing exactly what was covered. The aforementioned study by the Bureau of Justice gathered data through personal interviews with inmates, and reports of a "mental health problem" were considered evidence of mental illness. This study defined "mental

health problem" as either having a recent history or symptoms of mental health issues. The recent history included being clinically diagnosed or treated by a mental health professional, and the symptoms were based on the diagnostic criteria in the DSM-IV (James & Glaze, 2006). Methods are also sometimes chosen inappropriately, with tools being used to measure something they are not designed for. An example of this methodological error is a 2015 study that used the Addiction Severity Index to assess mental health, which is not an appropriate tool for measuring these conditions (Webster, Dickson, Staton-Tindall, & Leukefeld, 2015), leading to a lack of findings for this study.

Research should provide a clear picture of behavioral health disorder rates in jails and prisons in order for these facilities to understand both the prevalence and severity of this issue. Researchers should use appropriate assessment tools and/or procedures to document the diagnoses in accordance with the current diagnostic criteria. Correctional facilities must be properly informed of the statistics on these disorders, so that they can place appropriate focus on these issues. This would also include budgeting for personnel that is able to address behavioral health conditions, which will involve county budgets and state policies.

Facilities

Regardless of which study is considered, the general finding is that behavioral health conditions have high prevalence in correctional facilities, especially jails. These findings typically stem from research projects conducted to specifically determine rates of mental illness in facilities. In order to do this, these projects most often use structured diagnostic interviews conducted by researchers, or clinical interviews conducted by mental health professionals to determine whether inmates meet criteria for mental illness.

In contrast, difficulties arise when facilities attempt to determine if an inmate is mentally ill in routine operation of a jail/detention facility, due to many restrictions such as competing demands and lack of time, staff, and resources. However, despite these difficulties, corrections facilities must make every effort to identify potential behavioral health conditions in each inmate. Jails and prisons hold the legal responsibility to provide the minimum standards for mental health treatment including a systematic program that screens and evaluates the inmates for mental disorders, in both jails and prisons (Teplin & Swartz 1989; *Campbell v. McGruder, 1978; Pugh v. Lock, 1976; Ruiz v. Estelle, 1980*). Multiple court cases have contributed to the current laws on treatment for inmates' mental health. For example, *Pugh v. Lock* (1976) led to the mandate that adequate medical services are provided to inmates found to be "mentally disturbed" (Robbins & Buser, 1977), and *Campbell v. McGruder* (1978) and *Ruiz v. Estelle* (1980) established the component for the need to use trained mental health professionals to identify and treat inmates with mental health disorders (U.S. Department of Justice, 2004).

Despite the need for determining the mental health status of jail inmates, research shows that the mental health assessment of inmates by mental health professionals is one of the least used methods by jails (Phillips III & Mercke, 2003; Bales & Garduno, 2016). In order to save time, correctional facilities often resort to the use of screens to check for mental health disorders, which increases the potential for underestimating of prevalence. These screens are typically very short, and ask only yes/no questions. Screening procedures can make it difficult to differentiate whether an inmate is mentally disordered, or simply a disorderly detainee. Also, without a reliable screen that checks for wide varieties of mental diagnoses, some inmates that suffer with symptoms that do not present as a behavioral problem (e.g., depression, PTSD, or anxiety) may be overlooked although they truly have a behavioral health condition requiring attention (Teplin

& Swartz, 1989). Substance use disorders (SUD) might be indicated from obvious clues, such as being under the influence at the time of offense or an offense directly related to substance use. However, associations may not be readily apparent. For example, an individual may commit larceny in order to by drugs, but may not have obvious indications of an addiction at the time.

Another issue with detention facilities determining if inmates meet diagnostic criteria is the response bias that has been found among inmates and jail staff. Research has shown that inmates are less likely to answer truthfully if being asked by a sworn officer. They are more likely to be open and honest with those that are seen as neutral, and not clearly identified as law enforcement officers. An analysis of response bias in a county jail found that the inmates who were dependent on at least one substance were much less likely to answer honestly to jail staff about substance use disorder indications than they were to unaffiliated interviewers. On the substance use disorder screen used (UNCOPE; Hoffmann. Hunt, Rhodes, & Riley, 2003), jail staff found 43%-70% of the inmates to provide positive results on individual UNCOPE items, while the neutral interviewers found 78-95% positive findings (Proctor et al., 2011). Using a cut score of three or more positive items as an indication of a dependence diagnosis, 35% were negative when interviewed by officers as compared to 2% when interviewed by the researchers. This bias is important to be aware of when screening for behavioral health disorders in correctional settings. If the questions on these screens are asked by the uniformed staff of the facility, it is likely that the outcomes will be inaccurate, resulting in false negatives. These facilities should be aware of this bias, and staffing should include personnel who do not appear to be officers of the jail to conduct these evaluations.

Specific Behavioral Health Conditions in Jails

As discussed, a general finding among prevalence studies is that jails have higher rates of behavioral health conditions than state and federal prisons. Some research has sought to determine which specific diagnoses are more common in these populations; however, information in this domain is lacking.

The type of substance most commonly abused by jail inmates tends to be dependent on location. For instance, urban area facilities may see much more of one substance than a rural area does. It has previously been found that alcohol dependence is the most prevalent substance use disorder among males in both the United States and United Kingdom. It was found that 29% of the studied samples met criteria for alcohol dependence, with other substances including: marijuana (18%); cocaine (9%); heroin (2%); and stimulants (12%) (Jones & Hoffmann, 2006). Substance dependence may vary across locations, and each facility should determine which substances are most common in their specific population.

One specific diagnosis that has been found with high rates in these populations is Post-Traumatic Stress Disorder (PTSD). Inmate populations have been found to have a much higher rate of trauma exposure than the general population, likely leading to above average prevalence rates of PTSD (Briere, Agee, & Dietrich, 2016). A recent study using a structured diagnostic interview to identify the presence of PTSD in jail inmates found that 46.2% of the sample met diagnostic criteria. An alarming discovery in this study was that 80% of those meeting PTSD criteria reported at least one of the traumatic events that they have experienced to having occurred while they were incarcerated (Gosein et al., 2015). Another study that used a sample of inmates with a substance use disorder diagnosis found PTSD to be the most common mental health condition, with 55% of the sample meeting criteria (Proctor & Hoffman, 2012).

Urban area jails have primarily been the focus of research studies, and have shown to have higher rates of mental illness than the general population. A study of Chicago inmates found a trio of mental diagnoses - schizophrenia, severe depression, and mania - to be between two and three times higher than the general population (Bower, 1990).

A limitation to the research on specific illness in jails is the lack of rural populations considered. The available literature is largely focused on urban populations, with rural settings commonly not considered. In an effort to determine how rural state prisons and jails compare to urban facilities with mental illness rates, a 1997 study honed in on rural populations. With a sample of 213 inmates from rural jails and state prisons, researchers found that 56% met criteria for both alcohol dependence and drug dependence, and 47% meeting criteria for antisocial personality disorder (Powell et al., 1997). These rates typically agree with findings in other correctional populations, but the rates for other disorders seemed lower than expected by the researchers, based on previous findings involving urban jail inmates. In the anxiety cluster, comprised of generalized anxiety, post-traumatic stress, obsessive compulsive, and panic disorders, 30% met criteria. A major affective disorder cluster was also measured, consisting of bipolar, manic, and major depressive disorders, with 18% of the sample meeting criteria (Powell et al., 1997). This suggests a difference among diagnoses in urban and rural populations.

Another limitation to the research is that much of it is outdated in regard to the 2013 publication of the DSM-5 by the American Psychiatric Association. Research done before this date uses the mental health and substance use disorder criteria set forth by either the DSM-IV (American Psychiatric Association, 1994) or the DSM-IV-TR (American Psychiatric Association, 2000). The DSM-5 incorporated some important changes that affect the previously mentioned studies. For example, the DSM-5 removed the constructs of “abuse” and

"dependence" in the substance use disorders that are seen in the previous editions. There were also changes to the PTSD diagnosis. The DSM-5 places this diagnosis in a separate area of trauma related disorders, removing it from the anxiety group. Other various changes have been made to the criteria for multiple diagnoses including, but not limited to, bipolar disorders, panic attacks, and obsessive-compulsive related disorders (American Psychiatric Association, 2013b). Because these diagnoses now have updated criteria, much of research on this topic is outdated.

The high rates of behavioral health disorders in jails, or detention centers, are alarming. Due to the short stay time and uncertainty of departure, any type of ongoing treatment would be difficult to provide for the inmates in these setting. This implies the need for detention centers and jails to employ a strategy in which inmates can be referred to community resources or providers. This would iterate the importance of having efficient and accurate ways of identifying mental health disorders before the inmates have been released back into the community.

Recidivism

Another major concern for correctional facilities is the high rate of criminal recidivism. Recidivism is defined as a person's relapse into criminal behavior after being sanctioned or undergoing intervention for a previous crime, and is measured by criminal acts that result in rearrest, reconviction, or return to prison or jail (National Institute of Justice, 2008). Overcrowding is already an issue for jails, and the frequent reoffending of inmates contributes to this problem. The statisticians for the Bureau of Justice have found that within three years of release, 67.8% of released prisoners were rearrested, and 76.6% were rearrested within five years. Property offenders have been found to be the most likely to be rearrested, with a recidivism rate of 82.1%. Drug offenders are the second most likely to be rearrested, with a rate of 76.9%. The third and fourth most common are public order offenders, defined as "crime

which involves acts that interfere with the operations of society is the ability of people to function efficiently" (Siegel, 2004) and violent offenders, with rates of 73.6% and 71.3%, respectively (Durose, Cooper, & Snyder, 2014).

These high rates of recidivism are a core concern for the criminal justice system, as well as society. Correctional facilities are designed for incapacitation, meaning to stop people from committing crimes by removing the offender from the community, and deterrence, referring to whether a sanction prevents people from committing more crimes once the sanction is completed (National Institute of Justice, 2008). High recidivism rates are indicative of the criminal justice system's failure to meet these goals.

Society is affected by recidivism in that higher rates of reoffending translate to higher numbers of crime victims and higher costs for law enforcement, adjudication, and incarceration. With property offenders being the most likely to reoffend (Durose et al., 2014), it is important to consider how this re-offense pattern affects society and victimizations. Bureau of Justice Statisticians found that in 2013 there were 16.8 million property victimizations, including household burglary, theft, and motor vehicle theft. In that same year, there were 6.1 million violent victimizations, including rape, sexual assault, robbery, aggravated assault, and simple assault. These numbers translate into 155.8 property crime victimizations per 1,000 households, and 26.1 violent crime victimizations per 1,000 households (Truman & Langton, 2014), highlighting the effect that high recidivism rates have on society.

The rates are also problematic for society due to the financial implications of incarceration. The organization "The Price of Prisons" reported that the average annual cost of incarceration in the year of 2010 was $31,307 for one inmate (Henrichson & Delaney, 2012). The U.S. incarcerates a higher percentage of their population than any other country, leading to

taxpayers paying a total of $63.4 billion a year (Henrichson, Rinaldi, & Delaney, 2015). The high rates of recidivism contribute to the societal and financial costs of incarceration, and stress the need to determine causes of reoffending. Effective treatment that leads to lower rates of recidivism would be beneficial for the economy as well as reducing human costs in terms of trauma, loss of possessions, and so forth. Reducing recidivism could assist in paying for the cost of services. It is important to gain an understanding of the causes of recidivism so that the risks can be targeted in an attempt to reduce these rates.

Much of the corrections literature on recidivism focuses on what is referred to as "criminogenic" factors, or crime-producing factors (Latessa & Lowenkamp, 2005), and ignores behavioral health. These criminogenic factors include things such as ways of thinking, personal values, and family history. Criminogenic factors are considered either static, meaning they are unable to be changed, or dynamic, meaning they can be changed (Gendreau, Little, & Coggin, 1996). Some of the dynamic criminogenic factors that are considered most strongly related to recidivism include antisocial characteristics such as impulsivity, aggression, and irritability; pro-criminal attitudes such as rationalizing crime and negative attitudes toward the law; and social supports for crime such as criminal friends and isolation from positive influences (Gendreau et al., 1996; Bonta & Andrews, 2007). These have been identified as the strongest criminogenic risk factors of recidivism, and other factors including self-esteem, stress, and physical health have been found to have little relation with reoffending (Casey, Warren, & Elek, 2011).

Criminogenic factors are often measured by using the Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 1995). This is a survey that is used to gather offender attributes, and is used to assist in the allocation of resources, probation decisions, security level arrangements, and to assess treatment progress. The LSI-R includes scales for things such as

criminal history, education/employment, family/marital background, leisure/recreation, and attitudes (Andrews & Bonta, 1995). When focusing on effective interventions, the corrections literature stresses the need to target criminogenic factors in an attempt to determine who is at a high risk for reoffending (Kooy, 2007), again ignoring behavioral health conditions that may contribute to recidivism rates. While these factors may be related to recidivism, failure to consider behavioral health leads to accounting for only a portion of the variance.

Recidivism and Behavioral Health

In an effort to determine what leads to the high rates of criminal recidivism, other research has been done to establish which factors are related to a higher risk of reoffending. Among these risk factors, behavioral health is one of the most important to consider, due to the previously discussed high prevalence rates of behavioral health disorders. It has been found that offenders with a mental health disorder or substance use disorder are more likely to reoffend than those without. For example, one study found a recidivism rate of 77% for mentally ill offenders, compared to a rate of 38% for offenders without a mental illness (Gagliardi et al., 2004). Another project studied reoffending rates among released inmates that were on parole with and without mental health disorders. Parolees with a mental illness were approximately twice as likely to return to prison within one year of release than parolees without a mental health disorder (Eno Louden & Skeem, 2009). These findings, as well as other studies (Gagliardi, et al., 2004; Baillargeon et al., 2009), are in agreement that behavioral health is correlated with recidivism rates.

The phenomenon of recidivism is often compared to that of relapse after treatment for substance use disorders. It is a logical assumption that both instances involve individuals making their decisions due to mental health and/or substance use disorders. For instance, an individual

with a SUD that is arrested for offenses related to use, then uses and reoffends again following release, is comparable to an individual being released from treatment for a SUD, then reusing. Research has determined both clinical and demographic risk factors that are related to higher rates of relapse. The clinical factors include: current cocaine abuse or dependence diagnosis, current marijuana abuse or dependence diagnosis, monthly use of another drug (besides alcohol) in previous 12 months, use of three or more drugs in week prior to admission, any intravenous drug use ever, substance abuse treatment in the past 2 years, and 5 or more antisocial behaviors prior to age 15. The demographic risk factors include being less than 25 years old, having no high school diploma or General Equivalency Diploma, having no 4-year college degree, being unemployed (and not a homemaker by choice), and having never been married (Zywiak, Hoffmann, & Floyd, 1999). Due to the similarities between relapse and recidivism, such risk factors should be studied in their relation to reoffending to determine if they also lead to higher rearrest rates.

The high rate of relapse in individuals with substance use disorders warrants the importance to consider these diagnoses when studying recidivism. A 2016 study found that adult inmates reported SUDs as the most difficult challenge faced after being released back into the community (Ward & Merlo, 2016). A study on methamphetamine relapse after treatment found that 61% of the participants relapsed within one year after treatment discharge, with an additional 14% in 2-5 years after (Brecht & Herbeck, 2014). Relapse risk factors are important to consider with recidivism rates. If an individual with substance dependence is released from jail without receiving any kind of treatment or information about available treatment resources, it is likely that they will continue to use immediately after release. These situations will contribute to high recidivism rates.

Most of the studies that have considered mental health as a risk for criminal recidivism have focused solely on prison populations. The previously mentioned study (Gagliardi et al., 2004) looked at reconviction rates as well as type of crime committed among mentally ill offenders that had been released from prison. In this study, mentally ill offenders were defined as having either a major thought or mood disorder that substantially impairs daily functioning and required continuous treatment (Gagliardi et al., 2004). Within 27-55 months of release from prison, 77% of mentally ill offenders were arrested and charged with a new crime as compared to only 38% of those without a mental illness. While 23% of the mentally ill individuals were charged with a subsequent violent crime, only 10% of the non-mentally ill inmates had such charges (Gagliardi et al., 2004).

Another study considered recidivism among those with co-occurring disorders. They examined whether comorbidity of a substance use disorder and severe mental illness increases the risk of criminal recidivism for prison inmates over a six-year period (Baillargeon et al. 2009). The findings agreed with previous research that the inmates with co-occurring disorders have higher risks for multiple incarcerations compared to those with either a substance use disorder alone, or a mental illness alone. One year later, another study examined recidivism rates among those with comorbidity of personality disorders and substance use disorders, and found that the combination of disorders leads to higher recidivism, finding 69% of those with both diagnoses to reoffend within eight years of being released, compared to 44.6% for those only with a SUD, and 33% for those only with a personality disorder (Walter et al., 2010).

As mentioned, research on jail recidivism in relation to behavioral health is lacking, but some studies have been done using jail populations. For example, one study examined recidivism among substance using females within three years of being released from jail, broken down into

shorter time frames in an attempt to find which time period showed the highest occurrence of reoffending. This research found that 70.4% of the sample returned to custody during the three years: 18.8% within the first three months, 32.4% within four to twelve months, and 19.2% within thirteen to thirty-six months (Scott, Grella, Dennis, & Funk, 2014), concluding that most recidivism occurs within one year of release, but after the first three months. Another jail recidivism study examined reoffending rates within four years in the Philadelphia jail system. This study found 60% of jail inmates with no diagnosis to reoffend during the time frame, and 68% of those with a co-occurring mental health disorder and substance use disorder. While a difference of 8% does not appear to be substantially different, the sample used in this study consisted of 20,112 inmates; therefore, a difference of 8% actually represents a large number of inmates, and is a statistically significant difference (Wilson, Draineb, Hadley, Metraux, & Evans, 2011).

The literature on behavioral health and criminal recidivism indicates that mental health and substance use disorders are risk factors for higher rates of reoffending. Correctional facilities should take this into consideration when treating inmates for behavioral health disorders. These findings provide more evidence of the need to correctly identify and treat these disorders in correctional facilities; however, there are limitations in the research on recidivism and behavioral health that must be considered.

Limitations in Recidivism Research

As previously stated, the literature on mental health and criminal recidivism typically focuses on prison populations, and there is a dearth of information on behavioral health and recidivism among jail inmates. The short-term length of stay in jails shows the importance to study recidivism risk factors for these individuals. Because the stay times in jails are typically

less than a week, there is insufficient time for treatment before inmates return to the community. This makes procedures for assessment and referral critical. Prison inmates are typically confined for much longer than those in jail, and recidivism rates for these scenarios are not comparable to individuals released from jails. The little research that has been done using jail populations found high recidivism rates for inmates with behavioral health disorders, providing evidence that more information for these populations is needed (Scott et al., 2014; Wilson et al., 2011).

Another issue with the research is the frequent view towards these rates using survival analysis, a statistical technique, which is often used for recidivism studies (Salekin, Rogers, Ustad, & Sewell, 1998). This analysis includes a set of methods that are used to analyze data in which the outcome variable is the time until occurrence of the event of interest, typically death (Cornell University Statistical Consulting Unit, n.d.). Survival analyses also assumes that a more immediate occurrence of the event is worse than if it occurs later. The results are displayed in a survival curve by partitioning the complete studied period into small increments, then calculating rates for each of these time frames. These rates provide an estimate of the rate of recidivating in that specific time frame (McLean & Butler, 2008). This view towards recidivism rates does not provide an in-depth view of the problem. The survival curve view places emphasis on the time frames of recidivism rather than recidivism rates for individuals. If an inmate reoffends immediately after release, only once, this will increase the reported "rate" for that time frame, making it appear as a higher risk. If an inmate does not reoffend for several months, then reoffends multiple times, this is important to be aware of as well. While looking at time frames of recidivism is helpful, the rates for individuals should be considered. When the survival analysis view is applied to recidivism, it assumes a terminal situation, when in actuality there is a possibility for one to have an early negative experience, followed by a positive offense-free time

frame: when applied to addiction treatment this is type of occurrence is referred to as a "therapeutic relapse."

This area of research is in need of a more in-depth view of recidivism and behavioral health. The limitations in this area of research prevent a full scope of the problem. Correctional facilities should be aware of the true risk factors for reoffending so that they can correctly target them, and in turn reduce the rates of recidivism.

CAAPE-5

The routine assessment of inmates' behavioral health has proven to be a difficult task. Time constraint, availability of appropriate assessment tools, and staff members that are not properly trained in conducting and interpreting the assessments all contribute to this problem. As mentioned, correctional facilities are legally responsible for screening for mental health and substance use disorders in inmates upon arrival to the jail or prison. The Department of Justice has released a list of available and accepted assessment tools. The list includes two screens for mental health disorders; the Brief Symptom Inventory (Derogatis, 1993) and the Referral Decision Scale (Hart et al., 1993) and three for substance abuse disorders; the Simple Screening Instrument for Substance Abuse (SSI-SA; Center for Substance Abuse Treatment, 1994), the Alcohol Dependence Scale (ADS; Skinner & Horn, 1984), and the Addiction Severity Index (ASI; McLellan et al., 1990). For the assessment of co-occurring disorders, the list includes the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher et al., 2001), the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon et al., 1994), and the Personality Assessment Inventory (PAI; Morey, 1997) (U.S. Department of Justice, 2004). This list only includes brief screens, which can produce many false negative results, or personality assessments that take more time and training to administer and interpret. Some of the tools, such as the ASI,

are not assessment instruments but rather program evaluation tools. There is a need for more appropriate assessment options that cover a wide range of behavioral health disorders, are easy to train for administration and interpretation, and are able to be completed in an acceptable amount of time.

To combat these deficiencies, the Comprehensive Addictions and Psychological Evaluation (CAAPE; Hoffmann, 2000) is a clinical assessment tool that was developed to standardize a diagnostic assessment for co-occurring disorders. This structured assessment can be administered in multiple settings, including addiction and rehabilitation programs, chronic pain clinics, and prison and jail contexts (Jones & Hoffmann, 2006; Proctor & Hoffmann, 2012). The current version of this assessment is the CAAPE-5 (Hoffmann, 2013), which is compatible with the DSM-5 (American Psychiatric Association, 2013a).

The internal consistencies of the CAAPE's diagnostic subscales have shown substantial reliability. Cronbach's alphas (Cronbach, 1951) for each diagnostic subscale range from 0.74 to 0.90. The lowest Cronbach's alpha is for the Antisocial Personality Disorder subscale, due to a low threshold for the number of diagnostic criteria and widely varied criteria. The well-defined subscales (substance use disorders, panic attacks, major depressive episodes, etc.) have the highest Cronbach's alphas (Proctor & Hoffmann, 2012). The CAAPE has also been determined to provide accurate and complete diagnoses. The CAAPE maintains content validity (Cureton, 1951) by reflecting the DSM-5's criteria for each MHD and SUD measured. Construct validity (Cronbach & Meehl, 1955) is apparent in the CAAPE's ability to quantify the participant's responses in order to determine if criteria for various diagnoses is met. Additionally, the constructs measured on the CAAPE-5 mirror the constructs defined by the DSM-5. The concordance between the Structured Clinical Interview for DSM (SCID), the widely accepted

"gold standard" of diagnostic interviews, and the CAAPE has been calculated at 95% agreement (Gallager, Penn, Brooks, & Feldman, 2006).

Another benefit of the CAAPE is the short administration time. This assessment can be completed in approximately 30 minutes, which is convenient in correctional settings. The interview consists of yes/no questions, as well as branching, which require less clinical ratings and interpretation, leading to more reliable diagnoses. This assessment is also convenient in that it does not require extensive interviewer training (Gallager et al., 2006). This is an example of an assessment tool that would be beneficial for correctional populations, addressing the many difficulties that these facilities face in assessing inmates.

Statement of the Problem

As previously discussed, correctional facilities face high rates of behavioral health disorders. Determining accurate prevalence rates for these disorders in each of these facilities is important in order for the staff members to establish policy priorities and to be aware of specific inmates' diagnoses. In order to correctly determine these rates, personnel that are not clearly affiliated with the facility need to conduct reliable diagnostic interviews. It is also a fact that recidivism occurs in high rates and contributes to correctional facility's overcrowding issues. Research on behavioral health factors of recidivism in jails in rural settings is lacking. It is important to determine how mental health disorders are related to recidivism rates in these populations. This can help place greater emphasis on those with high risks of reoffending after being released into the community.

Hypotheses

Hypothesis 1: It is hypothesized that mental health and substance use disorders will be associated with higher rates of recidivism and higher numbers of charges, as seen in the previous literature on prison populations. Due to the exploratory nature of this study, no hypothesis concerning which MHDs and SUDs is predicted.

Hypothesis 2: It is hypothesized that the demographic risk factors for relapse will be associated with higher rates of recidivism, due to the previous literature on risks for substance use relapse.

- 2a: It is hypothesized that participants less than 25 years old will have higher rates of recidivism than participants aged 25 years and older.
- 2b: It is hypothesized that participants with no high school diploma or GED and/or with no 4-year college degree will have higher rates of recidivism than those with a high school diploma or GED and/or a 4-year college degree.
- 2c: It is hypothesized that participants that are unemployed (and not working by choice) will have higher recidivism rates than those that are employed, disabled, a homemaker by choice, or retired.
- 2d: It is hypothesized that participants that have never been married will have higher rates of recidivism than those that have been married.

Hypothesis 3: It is hypothesized that the clinical risk factors for relapse (multiple substance dependence, recent use of multiple substances, any intravenous drug use, and 5 or more antisocial behaviors prior to age 15) will be predictors of higher rates of recidivism, reflecting the literature on risk factors for substance use relapse.

Hypothesis 4: It is hypothesized that property offenders will have higher rates of recidivism than those with other arrest charges, reflecting the literature which states that these individuals have the highest recidivism rates of all types of offenses.

CHAPTER 3: METHODOLOGY

Participants

Participants for this study were a randomly selected group of inmates in the Haywood County Detention Center in Waynesville, North Carolina. Those chosen for participation were admitted to the facility within the four days prior to the interview. This time frame was used in order to capture the most generalizable group of inmates. Most individuals in jails do not stay for more than a few days, so inmates that had been booked for more than four days would not accurately represent the overall sample of Haywood County Detention Center inmates. Participants were randomly selected to be interviewed by drawing names of those in the window of availability (24 to 96 hours from booking). Female inmates were oversampled in an effort to obtain approximately equal numbers of each gender.

A total of 283 (males=200, females=83) inmates were interviewed. Data collection took place from 10 December 2015 to 21 November 2016. In that time frame, the facility was visited a total of eighty-two times. During data collection, sixty-eight inmates chose to refuse participation, with the most common reasons being lack of interest, feeling ill, lack of benefits, or fatigue. Twenty inmates were skipped per the jail staff's request, most often due to current withdrawal symptoms or aggression.

The average age of the 283 interviewed participants was 33 years old (minimum=18, maximum=66; SD=10.25). The majority of participants (84.5%) were Caucasian, with Native American being the second most prevalent ethnicity (9.9%), followed by African American (2.8%). Half (50.5%) of the participants reported never having been married, with 19% divorced, 18% currently married, and 9% separated. Almost half (48%) of the participants' highest level of

obtained education was a high school degree or equivalent. Approximately one third (34%) reported having no high school diploma. Of those with higher education, 6% completed vocational school, 9% an associate's degree, and 2.5% a bachelor's degree. Nearly half (48%) were unemployed at the time of the interview, with 32% working part time, 7% full time, and 10% disabled. The primary job type reported for 46% of participants was labor, and the personal income reported for 45% was less than $10,000 in the last 12 months, followed by $10,000 - $20,000 for 28%.

Measures

Behavioral health conditions were measured using the CAAPE-5 to identify potential substance use disorders and mental health disorders (See Appendix B). This structured interview typically takes between 25 and 35 minutes to complete, based on the frequency of positive responses. The CAAPE-5 includes demographic information, substance use disorder questions, and mental health disorder questions. As previously mentioned, this assessment has shown to have reliability and validity, and is appropriate for correctional settings (Gallager et al., 2006; Proctor & Hoffmann, 2012).

Extraction data were obtained for the inmates that agreed to participate in the interview (See Appendix C). These data include the medical questionnaire completed for each inmate at the time of booking, as well as previous arrest records for the 12 months before the date of interview. The number of charges and type of offenses in the previous 12 months were recorded, as well as the number and type of charges for the current booking. This information was obtained from the jail's computer system, referred to as Jail Management System (JMS).

Procedure

The randomly selected inmates were brought to a designated interview room by a jail staff member. This room is where inmates typically would have conversations with their attorneys. The researcher provided an explanation of the research project, then asked the inmate if he/she was interested in voluntarily participating in the study. Confidentiality and limitations were explained, as well as the right to refuse participation. It was also communicated that participation did not warrant any direct benefits, such as monetary compensation, accelerated judicial processing, and so on. If the inmate chose to participate and signed the consent form, the interview was then conducted.

Extraction forms were completed separately for each inmate that was interviewed. This information was obtained from JMS after the CAAPE-5 was conducted. Charge information was recorded for the current charge, as well as for bookings in the previous 12 months. Some of the medical questionnaire's information was also recorded, including mental state when arrested, self-report of drug/alcohol use, and previous psychiatric treatment information.

Analyses

Hypothesis 1 was measured using a series of one way analyses of variance (ANOVA) to look for statistically significant differences between recidivism rates among the independent variables measured by the CAAPE-5. These include six SUDs (alcohol, marijuana, cocaine, amphetamines/stimulants, sedatives/tranquilizers, and heroin/opiates) with severity levels of mild, moderate, and severe, and 13 MHDs (major depressive episodes, manic episodes, panic attacks, posttraumatic stress, anxiety/phobias, obsessions/compulsions, conduct disorder and antisocial personality disorder, paranoid personality, borderline personality, dependent personality, obsessive-compulsive personality, and psychosis). The analyses parsed out the

differences in recidivism rates for the SUDs, MHDs, and the interaction between the two. Given the nature of this sample, it was anticipated that some of the categories of the independent variables would need to be collapsed or removed. For example, because of the lack of observations of sedative/tranquilizer use disorder, this category was removed. For any statistically significant *F*-ratio, eta squared was calculated as the appropriate measure of effect size (Cohen, 1966). Those with no diagnosis were used as the control group, and Dunnett's tests were conducted as post hoc measures (Dunnett, 1955).

Hypothesis 2a was measured using an independent means *t*-test to analyze the differences in recidivism rates for participants under twenty-five years old and those twenty-five years and older. Given a statistically significant difference, Cohen's *d* was measured for effect size (Cohen, 1988). Hypothesis 2b was measured using a one-way ANOVA to test the differences between participants with no high school diploma or GED, those with a high school diploma but no 4-year college degree, and those with a 4-year college degree or greater. Given a statistically significant difference, eta squared was measured for effect size (Cohen, 1966) and Tukey's honestly significant difference (HSD) was conducted as a post hoc (Tukey, 1953). Hypothesis 2c was measured using a chi-squared test of independence to analyze the differences in recidivism rates for participants that are unemployed, and those that are either employed, disabled, or retired. Given a statistically significant difference, Cramér's *V* was measured for effect size (Cramér, 1946). Hypothesis 2d was measured using a chi-squared test of independence to determine if there was a statistically significant difference in recidivism rates for participants that have been married compared to those whom have never been married. Given a statistically significant difference, an effect size of Cramér's *V* was measured (Cramér, 1946).

Hypothesis 3 was measured using a stepwise multiple regression to determine the recidivism rate differences among the clinical risk factors. Recidivism was the outcome variable, with four predictor variables (multiple substance dependence, recent use of multiple substances, any intravenous drug use ever, and 5 or more antisocial behaviors prior to age 15).

Hypothesis 4 was measured using an independent means *t*-test to determine if there was a statistically significant difference between recidivism rates for participants that are property offenders compared to those with non-property offenses. Given a statistically significant difference, Cohen's *d* was measured for effect size (Cohen, 1988).

CHAPTER 4: RESULTS AND DISCUSSION

Results

The most prevalent type of behavioral health disorder (BHD) among the inmates was substance use disorders (SUDs), with 85.5% of the sample meeting criteria for at least one SUD based on the DSM-5 diagnostic criteria (American Psychiatric Association, 2013a). Strikingly, 67.5% met criteria for at least one severe SUD. Specific severe SUD prevalence rates are as followed: 38.2% for methamphetamine/stimulants, 29.7% for heroin/opioids, 24.4% for alcohol, 12% for marijuana, and 5.3% for cocaine. Nearly 40% of the inmates had injected at least one substance in the previous 12 months, and 32.9% reported regular injecting.

The most prevalent mental health disorder (MHD) among the sample was possible Posttraumatic Stress Disorder (PTSD), with 48.1% meeting these criteria. Additionally, 29.3% of the inmates reported suffering from panic attacks. Thirty-five percent of the inmates reported a major depressive episode in the past two months, with an additional 14.1% prior to this time frame. Eighteen percent reported manic episodes, resulting in 11% meeting criteria for a possible bipolar disorder. In the personality disorders measured, 35% met criteria for Antisocial Personality Disorder (ASPD). Nearly thirty percent (29.7%) had indications of Obsessive-Compulsive Personality Disorder (OCPD). Borderline Personality Disorder criteria was met by 12.4% of the inmates. Lastly, possible hallucinations and/or delusions were seen in 7.1% of the sample, with 1.4% showing indications of possible psychosis.

The analyses of the extraction forms for recidivism revealed that 66.8% of the inmates that were interviewed had been booked at least once in the previous 12 months, with 43.1% booked at least twice. More than one third of the sample (36.7%) had at least one felony charge.

Fourteen percent of the participants were currently incarcerated for a violent crime, and 37% for a property offense. Thirty-nine percent of the participants' current charges were directly related to drug or alcohol use.

The analyses of variance for Hypothesis 1 revealed no statistically significant differences among recidivism and the measured MHDs, indicating that no single MHD was associated with recidivism. In the SUD analyses using a multiple regression, higher positive criteria for methamphetamine/stimulant use disorder and alcohol use disorder was a predictor of higher rates of recidivism ($F = 8.015$; $p = .021$). However, this test revealed a very small effect size (eta squared = .054; Cohen, 1966). Although this relationship was statistically significant, there is no practical utility due to the effect size. No other statistically significant relationships were found, indicating that no single SUD is associated with recidivism.

Hypothesis 2 was broken down into the four demographic risk factors: age, education, employment, and marital status. The independent means *t*-test for hypothesis 2a revealed no statistically significant differences in recidivism among participants less than 25 years old and those 25 and older. For hypothesis 2b, only seven participants reported having a four-year degree, and the analysis of variance revealed no statistically significant difference in recidivism for inmates with a four-year degree and/or a high school diploma or equivalent compared to those without. The chi-squared test of independence for hypothesis 2c revealed no statistically significant differences in recidivism among inmates that were unemployed compared to those that were employed, disabled, retired, or a homemaker by choice. The chi-squared test of independence for hypothesis 2d approached significance (p=.051), but did not meet criteria for a statistically significant relationship among recidivism and marital status. When all four independent variables were used to predict recidivism using a stepwise multiple regression, only

marital status was found to be a significant predictor (b=.155; t(281)=2.629, p=.009, r^2=.024). Again, although this is a statistically significant finding, the effect size shows almost no practical utility.

The stepwise multiple regression performed to test hypothesis 3 examined the clinical risk factors as predictors of recidivism. Of the four predictors, only the number of severe SUDs was a statistically significant predictor of recidivism (b=.187; t(281)=3.192, p=.002, r^2=.035). While the prediction model is statistically significant (F(1,281)=10.186, p=.002, η^2=.034), it accounts for only 3.5% of the variability in recidivism, which is a small effect size (see Tables 1-3, Appendix A). Further examination of this relationship revealed that 61% of participants with two or more severe SUDs had multiple bookings in the previous twelve months, as compared to 35.3% of participants with one or no severe SUD (see Table 4, Appendix A).

Hypothesis 4 analyzed the relationship among recidivism and inmates with property offenses, and the independent means t-test revealed no statistically significant difference (t=-1.636, p>.05) among recidivism rates for participants with a property offense compared to those with a non-property offense.

Discussion

This study does have some limitations, with the most obvious being the self-report nature of methodology and the rate of refusals for participation. Also, the use of a single assessment without verification by an expert clinician should be considered when drawing conclusions about verified diagnoses. It is also important to interpret the results with respect to data collection being conducted in a single rural detention center rather than from a group of such facilities. As previously discussed, the hypotheses for this study revealed no statistically significant relationships with a practical effect size, showing an inconsistency with previous research on

behavioral health and recidivism among corrections populations. This may be explainable by the fundamental differences in the studied population in comparison to the heavily researched populations. The facility used in this study was a rural county jail, while the most commonly researched facilities are either prisons or urban area jails. The inconsistencies among this study and others may reflect the differences among rural county jails in comparison to other corrections facilities. Regardless of these limitations and inconsistencies, there are meaningful conclusions that can be drawn from these results.

This study's findings warrant the need for a stronger focus on the assessment of BHDs, particularly SUDs, among corrections populations, as well as the identification and implementation of treatment resources for these individuals. The majority of inmates met criteria for at least one severe SUD. Further, 61% of individuals with a comorbidity of severe SUDs had multiple bookings in the previous twelve months. These individuals should receive greater focus in an effort to not only treat their addiction, but to also reduce recidivism rates.

The high rate of drug injecting is also a significant discovery, specifically due to the public health concern that this poses for the community, as well as the relationship between intravenous drug use and difficulty with success in treatment. The awareness of this information is vital in a correctional setting. Intravenous drug use increases the likelihood of infection as well as the spreading of blood borne pathogens to others by sharing needles or disposing of them improperly. Not only should these individuals be a focus for treatment, but education on proper needle disposal and access to clean needles should also be communicated in an effort to benefit both the individual and the community.

As previously mentioned, the majority of arrestees in the rural county where this data was collected meet criteria for at least one behavioral health condition. These prevalence rates

suggest the need for greater availability of clinical services. Even if the only goal of the detention facility is to meet minimum mandated requirements and refer inmates to community providers, this requires a substantial amount of effort. The first step in addressing the needs of inmates is to provide them with information on the treatment resources in their community that are available to them upon release, and communicate to them how they can seek out these services. This is the easiest way to approach the need for services, and is a realistic starting point; however, more extreme measures are necessary. Routine identification of behavioral health disorders in a rural detention center is highly important. Notably, the average completion time for the CAAPE-5 was under thirty minutes, showing that this instrument is a feasible option for mental health assessment among inmates.

Correctional facilities would likely benefit from the hiring of a clinician that is available to assess each inmate for behavioral health concerns, then further assessing any indicated issues. This clinician should be skilled in behavioral health assessment and should appear neutral due to the previously discussed response bias that correctional facilities face. Any potential conditions identified in the assessment could then be addressed in regard to clinical services during incarceration and after release back into the community. Access to services should also be determined. The hired clinician could also aid in determining qualification for service reimbursement for each inmate in need of treatment, which could lead to a higher availability of services.

These implementations are vital in order to address the high rates of behavioral health disorders among incarcerated individuals. As mentioned, correctional facilities are legally required to provide inmates with necessary mental health services. The identification of SUDs is also important in that it can raise awareness of potential withdrawal during incarceration, a

medical concern that requires proper monitoring and treatment. Although there were no single diagnoses that worked as predictors of recidivism, data revealed that the majority of individuals with a comorbidity of severe SUDs had higher rates of recidivism. This discovery, and the prevalence rates alone, are enough to argue the need for increased services for incarcerated individuals.

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APPENDIX A: TABLES

Table 1: Coefficients for Hypothesis 3

Model	B	Std. Error	Beta	t	Sig.
Number of Severe SUDs	0.027	0.065	**0.187**	**3.192**	**0.002**

Table 2: ANOVA for Hypothesis 3

Model	Sum of Squares	df	Mean Square	F	Sig.	η^2
Regression	7.459	1	7.459	**10.186**	**0.002**	**0.034**
Residual	205.771	281	0.732			
Total	213.23	282				

Table 3: Model Summary for Hypothesis 3

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.187	**0.035**	0.032	0.856

Table 4: Crosstabulation for Hypothesis 3

Severe SUDs		Recidivism			Total
		0	1	2+	
0	Count	35	26	31	92
	Expected Count	30.6	21.8	39.7	92
	% within Severity	38%	28.3%	33.7%	100%
1	Count	40	28	41	109
	Expected Count	36.2	25.8	47	109
	% within Severity	36.7%	25.7%	37.6%	100%
2+	Count	19	13	50	82
	Expected Count	27.2	19.4	35.3	82
	% within Severity	23.2%	15.9%	**61%**	100%
Total	Count	94	67	122	283
	Expected Count	94	67	122	283
	% within Severity	33.2%	23.7%	43.1%	100%

APPENDIX B: CAAPE-5 PREVIEW

CAAPE-5™

Comprehensive Addictions And Psychological Evaluation – 5

Norman G. Hoffmann, Ph.D.

Name: _____

ID #: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ Interviewer: _____

Date of Birth: ___ ___ / ___ ___ / ___ ___ ___ ___ (month / day / year) Current Date: ___ ___ / ___ ___ / ___ ___ ___ ___ (month / day)

1. Gender:
   - ___ (1) Male
   - ___ (2) Female

2. How old are you? ___ ___ years

3. In which ethnic grouping would you classify yourself?
   - ___ (1) Hispanic / Latino
   - ___ (2) African-American
   - ___ (3) Native American
   - ___ (4) Native Hawaiian / Pacific Islander
   - ___ (5) Asian
   - ___ (6) Middle Eastern
   - ___ (7) Caucasian / White
   - ___ (8) Multiracial / Biracial / Other

4. What is your current marital status?
   - ___ (1) Never married
   - ___ (2) Divorced
   - ___ (3) Separated
   - ___ (4) Widowed
   - ___ (5) Living as married
   - ___ (6) Married

5. **If ever marri**
   How many times ... been married? ___

6. Wha... ...hest d... ...e you have earned?
   - ___ ...ool diploma earned
   - ___ ...h school diploma or GED
   - ___ (3) ...tional/technical/business school grad.
   - ___ (4) Associate degree
   - ___ (5) Bachelor's degree
   - ___ (6) Master's degree
   - ___ (7) Doctoral-level degree

7. What is your current employm... ...s?
   - ___ (1) Working ful... pa... (...wk. or more)
   - ___ (2) Working ... time ... (...5 hr./wk.)
   - ___ (3) Unemplo...
   - ___ (4) N... ...k... ...y choice
   - ___ (5) ...abled
   - ___ (6) ...tired

8. What is ... ...y job type when working for pay?
   - ___ (1) Professional
   - ___ (2) Upper-level management / business owner
   - ___ (3) Mid-level management
   - ___ (4) Sales / marketing
   - ___ (5) Supervisory
   - ___ (6) Craft / skilled trades / technical
   - ___ (7) Office / white collar / clerical
   - ___ (8) Transportation / equipment operator
   - ___ (9) Laborer / unskilled worker
   - ___ (10) Service worker (waiter / waitress)
   - ___ (11) Domestic worker (housekeeper, etc.)
   - ___ (12) Military service
   - ___ (13) Other (specify) _____

9. In what range was your personal income in the past year?
   - ___ (1) $10,000 or less
   - ___ (2) $10,001 to $20,000
   - ___ (3) $20,001 to $35,000
   - ___ (4) $35,001 to $60,000
   - ___ (5) $60,001 to $90,000
   - ___ (6) Over $90,000

10. When did you last use [name substance]?

Name each substance group including local terminology where appropriate.

Code according to the most recent use:
0 = Never used
1 = Not used for more than 12 months
2 = Used within the past 12 months, but not during past 6 months
3 = Used within the past 6 months, but not during past month
4 = Used in past month
5 = Used within the past week
6 = Used within the past 24 hours

For each substance used in the past month, record number of days used.

Tobacco
0 1 2 3 **4** **5** **6** __ __ days

Alcohol
0 1 2 3 **4** **5** **6** __ __ days

Marijuana
0 1 2 3 **4** **5** **6** __ __ days

Cocaine (powder or crack)
0 1 2 3 **4** **5** **6** __ __ days

Amphetamines / stimulants
0 1 2 3 **4** **5** **6** __ __ days

Sedatives / tranquilizers
0 1 2 3 **4** **5** **6** __ __ days

Heroin / opioids
0 1 2 3 **4** **5** **6** __ __ days

Hallucinogens / PCP
0 1 2 3 **4** **5** **6** __ __ days

Inhalants
0 1 2 3 **4** **5** **6** __ __ days

Other substance (s[illegible]) _____
0 1 2 **3** **4** **5** **6** __ __ days

If [illegible]ce use[illegible]eported go to Item 48.

One p[illegible]one or two substances are used, th[illegible]problems in the past 12 months can be [illegible]stance.

[illegible]ss option: If multiple substances are used, the [illegible]al question can be asked without naming a [illegible]nce. Circle "no" or "yes" above the left column, and [illegible] the next question. Once all the questions in this section are covered, return to the first "yes" question and do the probes for specific substances.

11. **[U]** - Have you ever spent more time using [name substance] than you intended to?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drugs _____	0 1 2 3+

12. **[N]** - Have you ever ne[illegible] com[illegible]r usual responsibilities bec[illegible]name [illegible]stance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Ma[illegible]a	0 1 2 3+
0	1	[illegible]	0 1 2 3+
0	1	[illegible]phetam[illegible]s / stimulants	0 1 2 3+
0	1	[illegible]tives [illegible]quilizers	0 1 2 3+
0	1	[illegible]oids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drugs _____	0 1 2 3+

13. [illegible] Have you ever wanted to cut down on your use of [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drugs _____	0 1 2 3+

14. **[O]** - Has anyone ever objected to your use of [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drugs _____	0 1 2 3+

15. **[P]** - Have you ever found yourself thinking a lot about using [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drugs _____	0 1 2 3+

16. **[E]** - Have you ever used [name substance] to relieve emotional discomfort, such as sadness, anger, or boredom?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drugs _____	0 1 2 3+

If no positive responses to Items 11-16, skip to Item 48

Any positive response to the UNCOPE (Items 11- ...ds a possible problem. Two or more positive ... 11-15 indicates at least a mild substance ... or more at least a moderate use disord... findings pertain to the same substance. ...sitive response on Item 16 may indicate self-medication.

Continuation of the inter... ...d to cover content necessary to c...firm ...

Criterion 1: Unpla... ...use, ...re use, or longer time using ... Items 14)

17. Have you ... dri... ...ore than you had intend...

If y... ...sk: ...s that apply to [name substance]?

no			times in past 12 mo.
	1	...hol	0 1 2 3+
	1	...juana	0 1 2 3+
	1	Cocaine	0 1 2 3+
	1	Amphetamines / stimulants	0 1 2 3+
	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

Criterion 2: *Desire and/or attempts to restrict use (includes Item 13)*

18. Have you ever set rules to control your drinking or drug use? **If no to all, skip the next item**

If yes, ask: Does that apply to [name substance]?

no	yes		times in pas... mo.
0	1	Alcohol	...
0	1	Marijuana	...
0	1	Cocaine	0 1 2
0	1	Amphetamines / stimu...	1 2 3+
0	1	Sedatives / tranquiliz...	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinog...	1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other dru...	0 1 2 3+

19. Have yo... ...iled t... ...rules to control your drinkin... drug us...

If yes, ask: ...s that ...y to [name substance]?

no	yes		times in past 12 mo.
0	1	Al...	0 1 2 3+
	1	Marijuana	0 1 2 3+
	1	Cocaine	0 1 2 3+
		Amphetamines / stimulants	0 1 2 3+
	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

Criterion 3: Spending a great deal of time using

20. **A.** On a typical Friday, or last day of work for the week, how many hours do you spend drinking or using drugs and getting over the effects of use? __ __

B. For a typical Saturday and Sunday, or two days when you don't work, how many total hours do you spend drinking or using and recovering from use? __ __

C. When you drink or use during a typical work day, such as Monday through Thursday, how many hours would you typically spend drinking or using and recovering from use. __ __

D. During a typical week, on how many weekdays do you drink or use drugs? ___

Estimated hours of use during a typical week equals A + B + (C x D). __ __

Hours of use can be calculated after the interview.

21. Have you ever found yourself planning your activities around being able to drink or use drugs?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

22. Have you ever stayed intoxicated on alcohol or high from drugs for more than a day at a time?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

Criterion 4: Craving or strong compulsion
(Includes Item 15)

23. Have you ever had a strong craving to [illegible] or use drugs?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

24. Has the desire to drink or use a drug ever been so strong that you couldn't resist drinking or using?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug	0 1 2 3+

Criterion [illegible] failure
(I[illegible]

25. Have you [illegible] school because of your drinking [illegible] use?
If yes, [illegible] Does [illegible] apply to [name substance]?

no	yes		times in past 12 mo.
0	1	[illegible]	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

26. Have you ever had any work or school problems related to your drinking or drug use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

27. Have you ever had any financial problems related to drinking or drug use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

Criterion 6: Social or interpersonal problems (Includes Item 14)

28. Have you ever been violent or hit anyone while drinking or using drugs?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

29. Has your drinking or drug use ever ha… relationship with someone you … ab…
If yes, ask: Does that apply to [n… subst…]?

no	yes		…s in pa… 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocain…	0 1 2 3+
0	1	Amp… stim…nts	0 1 2 3+
0	1	S…tive… …s	0 1 2 3+
0	1	…/ op…	0 1 2 3+
0	1	H… …ens / PCP	0 1 2 3+
0	1	…ta…	0 1 2 3+
1		…r drug _____	0 1 2 3+

30. Have you ever had conflicts with anyone over matters that might have been related to your drinking or drug use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past … mo.
0	1	Alcohol	0 1 … 3+
0	1	Marijuana	0 1 … 3+
0	1	Cocaine	…
0	1	Amphetamines / stimulants	0 1 2
0	1	Sedatives / tranquilizers	… 1 2 3+
0	1	Heroin / opioids	… 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	… 1 2 3+
0	1	Other drug _____	0 1 2 3+

Criterion 7: Soc… because of use

31. Have yo… skipped … family or social functions becaus… your dr… or drug use?
If yes, … Does … apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alc…	0 1 2 3+
	1	Marijuana	0 1 2 3+
	1	Cocaine	0 1 2 3+
		Amphetamines / stimulants	0 1 2 3+
	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

32. Have you ever given up or reduced any activities so that you could drink or use drugs?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

33. Has you ever missed any work opportunities or work related activities because of alcohol or drug use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug ______________	0 1 2 3+

Criterion 8: Dangerous behaviors

34. Have you ever injected a drug to get high?
If the response is yes, ask:
Did you inject [name substance]?

no	yes		times in past 12 mo.
0	1	Cocaine	0 1 2 3+
0	1	Heroin or other opioids	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Other drugs ______________	0 1 2 3+

35. Have you ever driven any type of motor vehicle when you may have been intoxicated or under the influence?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug ______________	0 1 2 3+

36. Have you done things while drinking or using where being under the influence was dangerous?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug ______________	0 1 2 3+

Criterion 9: Medical or psychological contraindication

37. Have you ever had any physical problems that might have been caused by drinking or drug use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug ______________	0 1 2 3+

38. Have you ever continued to drink or use drugs when you had a physical problem or illness that might be made worse by use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug ______________	0 1 2 3+

39. A. Have you ever not remembered things you said or did while drinking or after drinking?

no	yes		times in past 12 mo.
0	1		0 1 2 3+

39. B. Have you ever not remembered things you said or did when using other drugs?

no	yes		times in past 12 mo.
0	1		0 1 2 3+

40. Have you ever drunk or used despite experiencing emotional or psychological problems that might have been caused by or made worse by drinking or drug use?
If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug ______________	0 1 2 3+

Criterion 10: Tolerance

If no alcohol use is reported in past year, skip to Item 43.

41. When you drink, how many standard drinks do you usually have? A standard drink would be 12 oz. of beer, glass of wine or 1.5 oz. of liquor.

___ (1) 9 or more
___ (2) 7 or 8
___ (3) 5 or 6
___ (4) 3 or 4
___ (5) 1 or 2

42. Have you ever been able to drink about a fifth of liquor or 20 beers or 3 bottles of wine in a day?

no	yes		times in past 12 mo.
0	1		0 1 2 3+

43. Have you ever found that you could drink or use more than you once did? That is, did it take more to get intoxicated or high?

If yes, ask: Does that apply to [name substance]?

ever no	ever yes		in the past 12 mo. no	in the past 12 mo. yes
0	1	Alcohol	0	1
0	1	Marijuana	0	1
0	1	Cocaine	0	1
0	1	Amphetamines / stimulants	0	1
0	1	Sedatives / tranquilizers	0	1
0	1	Heroin / opioids	0	1
0	1	Hallucinogens / PCP	0	1
0	1	Inhalants	0	1
0	1	Other drug _____	0	1

44. Have you ever found th[illegible] the same effect with the same amount [illegible]

If yes, ask: Does [illegible] apply to [name substance]?

ever no	ever yes		in the past 12 mo. no	in the past 12 mo. yes
0	1	Alcohol	0	1
0	1	Marijuana	0	1
0	1	Cocaine	0	1
0	1	Amphetamines / stimulants	0	1
0	1	Sedatives / tranquilizers	0	1
0	1	Heroin / opioids	0	1
0	1	Hallucinogens / PCP	0	1
0	1	Inhalants	0	1
0	1	Other drug _____	0	1

Criterion 11: Withdrawal

45. Have you ever had shakes, sweating, nausea, fatigue, runny nose, insomnia, or any other ill effects after stopping or cutting down on drinking or drug use?

If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

46. Have you ever used a drug or drugs to ease a hangover or reduce other ill effects of use?

If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

Legal problems: Not a DSM-5 criterion

47. Have you ever been arrested, ticketed, or detained by any law officers for any reason related to your alcohol or drug use?

If yes, ask: Does that apply to [name substance]?

no	yes		times in past 12 mo.
0	1	Alcohol	0 1 2 3+
0	1	Marijuana	0 1 2 3+
0	1	Cocaine	0 1 2 3+
0	1	Amphetamines / stimulants	0 1 2 3+
0	1	Sedatives / tranquilizers	0 1 2 3+
0	1	Heroin / opioids	0 1 2 3+
0	1	Hallucinogens / PCP	0 1 2 3+
0	1	Inhalants	0 1 2 3+
0	1	Other drug _____	0 1 2 3+

Comments:

Major Depressive Episode

48. Has there ever been at least a two-week period when you felt depressed, blue, or sad?

___ (0) No ___ (1) Yes

49. Have you ever had at least a two-week period when you lost interest in almost all activities or were unable to get pleasure from almost anything?

___ (0) No ___ (1) Yes

If both Item 48 and Item 49 are "no," skip to Item 59.

50. How recently have you had a two-week or longer period of feeling depressed or when you lost interest in things?

___ (1) In the past 2 months
___ (2) 3 to 6 months ago
___ (3) 7 to 12 months ago
___ (4) Over a year ago

The following questions refer to your experiences during these periods.

51. Did you have trouble getting to sleep and staying asleep or did you find yourself sleeping a lot?

___ (0) No ___ (1) Yes

52.A. Did you lose your appetite or lose weight witho dieting?

___ (0) No ___ (1) Yes: ski

52.B Did you gain weight without intendi do

___ (0) No ___ (1) Yes

53. Did you have trouble thinking or entrat

___ (0) No ___ (1)

54. Did you have little y or w fatigued most days?

___ (0) No ___ (1) Yes

55. Did you rth y?

___ (0) No ___ (1) Yes

56. Were did you find your movements ed?

___ (0) No ___ (1) Yes

d you have any thoughts of death, dying, or suicide?

___ (0) No ___ (1) Yes

58. Did such periods of depression or loss of interest occur when you were not using alcohol or other drugs?

___ (0) No ___ (1) Yes, when not using

Manic Episode

59. At any time in your life, have you ever experienced at least a week when you felt unusually happy or "on top of the world" for no reason?

___ (0) No ___ (1) Yes

60. During a period of a week or more were ly agitated or irritable?

___ (0) No ___ (1)

61. Has there been a period of a where you had so much energy that you ne or no sleep for at least several day

___ (0) No ___ Yes

If Items 59 through 1 are skip to Item 69.

62. How rec ve you ith a period of at least a week w you fel top of the world or needed little sleep?

___ (1) months
___ (2) 3 to 6 months ago
___ (3) 7 to 12 months ago
___ (4) More than a year ago

he following six questions refer to your experiences ing these periods of elevated or irritable mood.

63. Were you distractible; that is, was it hard to keep your mind focused on a topic or task?

___ (0) No ___ (1) Yes

64. Was there ever a period of at least a week when your thinking seemed speeded up or when you could hardly keep up with your thoughts or they seemed jumbled?

___ (0) No ___ (1) Yes

65. Were you more talkative than usual or did you feel a need to keep talking?

___ (0) No ___ (1) Yes

66. Did you feel you could do almost anything or did you feel very important?

___ (0) No ___ (1) Yes

67. Did you do something you regretted later, such as spending a lot of money, engaging in out of character sexual behavior, or making bad decisions?

___ (0) No ___ (1) Yes

68. Have these types of episodes always been associated with alcohol or drug use or have they happened when you were not using?

___ (0) Only with use ___ (1) When not using

Panic

69. Have you ever experienced a distinct period of intense fear or discomfort in the absence of any real danger?

___ (0) No ___ (1) Yes

If no, skip to Item 76.

70. How may such periods have you experienced in the past 12 months? ___ ___ panicky periods

Score one criterion for each positive response coded "1"

71. During such a period, have you experienced choking, shortness of breath, or smothering sensations?

____ (0) Neither
____ (1) Choking only
____ (1) Shortness of breath / smothering

72. Did you feel dizzy, lightheaded, or faint?

___ (0) No ___ (1) Yes

73. During a period of fear, did you experience sweating, shaking, or trembling?

____ (0) None
____ (1) Sweating
____ (1) Shaking or trembling

74. Did you have nausea or stomach distress, chest pa... or a pounding heart?

____ (0) None
____ (1) Nausea or stomach distress
____ (1) Chest pains
____ (1) Pounding or racing h...

75. During such a period, were you afr... of going crazy or dying?

____ (0) Neither
____ (1) Goin... / ...ing control
____ (1) Dy...

Comment...

Posttraumatic Stress

76. Have you ever experienced or witnessed a traumatic event that involved possible death or serious injury?

___ (0) No ___ (1) Yes

77. Has learning about a violent or life threatening ...dent or event involving a family member or clos... ever caused you distress?

___ (0) No ___ (1) Y...

If both Item 76 and Item 77 are ... to Item 89.

78. Do the memories of that experie... coming back into your mind? (Cri...

___ (0) No ___ (1) Yes

79. Have you ever had ... han... distressing dream about that ...ress... time? (B)

___ (0 ___ (1) Yes

80. Have yo... fel... though the event was happening again? (B)

___ (0) No ___ (1) Yes

...you ever experienced intense distress when ...ing reminds you of the stressful event? (B)

___ (0) No ___ (1) Yes

82. Have you actively avoided thoughts or feelings associated with the event? (Criterion C)

___ (0) No ___ (1) Yes

83. Do you avoid places or things that remind you of the event or otherwise avoid such memories? (Criterion C)

___ (0) No ___ (1) Yes

84. Are you unable to remember some parts of the event or stressful time? (Criterion D)

___ (0) No ___ (1) Yes

85. Have you been more withdrawn since the event, or less interested in activities you used to enjoy? (D)

___ (0) No ___ (1) Yes

86. Since the event, have you found it hard to be happy or to feel positive about the future? (D)

___ (0) No ___ (1) Yes

87. Since the event, have you had trouble sleeping, concentrating, or dealing with anger? (Criterion E)

___ (0) No ___ (1) Yes

88. Since the event, are you more easily startled? (E)

___ (0) No ___ (1) Yes

Anxiety and Phobias

89. Do you tend to worry about things or possible events when others might say there is no good reason to worry?
___ (0) No ___ (1) Yes

90. Are you often anxious about things or possible events even though others say there is no danger or problem?
___ (0) No ___ (1) Yes

91. Do you have problems concentrating or forgetting things because you are anxious?
___ (0) No ___ (1) Yes

92. Do you frequently feel nervous, keyed up, or on edge?
___ (0) No ___ (1) Yes

93. Are you afraid of going into open areas, public places, or away from home even when there is no real physical danger?
___ (0) No ___ (1) Yes

94. Does your avoidance of situations or things interfere with your life?
___ (0) No ___ (1) Yes

Obsessions / Compulsions

95. Are you repeatedly bothered by ideas, thou[illegible] or impulses that seem to come from nowhere?
___ (0) No **Skip to #97** ___ (1) Y[illegible]k #9[illegible]

96. Do you have to do something to [illegible]rol o[illegible] these thoughts or impulses go away?
___ (0) No ___ (1) [illegible]

97. Do you spend a lot [illegible]me on activ[illegible] necessary to overcome thou[illegible]r i[illegible]ses?
___ (0) No ___ (1) Yes

98. Do a[illegible] or th[illegible]vities to control them int[illegible] w[illegible] daily life?
___ (0) No ___ (1) Yes

9[illegible] you ha[illegible] do things again and again in the same ct way to reduce stress and anxiety or to keep omething bad from happening?
___ (0) No ___ (1) Yes

Conduct Disorder

100. Before the age of 13, did you skip school a number of times?
___ (0) No ___ (1) Yes

101. Did you run away from home overnight at leas[illegible]ce?
___ (0) No ___ (1) Yes

102. Before the age of 15, did you start[illegible]al fights others more than once or twice?
___ (0) No ___ [illegible]

103. Did you ever use a g[illegible]lat[illegible]er weapon in more than one [illegible]
___ (0) No ___ Yes

104. Before th[illegible]f 15[illegible]ver deliberately destroy someo[illegible] property?
___ (0[illegible] ___ (1) Yes

105. Did you s[illegible]ith the intention of causing damage?
___ (0) No ___ (1) Yes

106. [illegible]ou ever do cruel things to people or animals?
___ (0) No ___ (1) Yes

107. Did you frequently lie to get things you wanted?
___ (0) No ___ (1) Yes

108. Before the age of 15, did you ever force others to give you things that belonged to them?
___ (0) No ___ (1) Yes

109. Did you ever break into a home or car to steal or steal something without confronting the victim?
___ (0) No ___ (1) Yes

ASPD

110. Since the age of 15, have you ever done dangerous things just for the thrill or the fun of it?
___ (0) No ___ (1) Yes

111. Since the age of 15, did you often do things for which you could have been arrested?
___ (0) No ___ (1) Yes

112. Since the age of 15, have you been arrested for a criminal offense?
___ (0) No ___ (1) Yes

113. Since the age of 15, have you ever lied or conned people to get what you wanted?
___ (0) No ___ (1) Yes

114. Since the age of 15, have you done things impulsively without thinking ahead to consequences?
___ (0) No ___ (1) Yes

115. Since the age of 15, have you been involved in any fights?
___ (0) No ___ (1) Yes

116. Since the age of 15, have you ever been unable to pay bills or debts because you had spent the money on something else?
___ (0) No ___ (1) Yes

Paranoid Personality

117. Do you tend to hold a grudge?
___ (0) No ___ (1) Yes

118. Have you frequently been concerned that someone may be trying to harm or control you?
___ (0) No ___ (1) Yes

119. Have you ever been suspicious about the loyalty or trustworthiness of family or friends?
___ (0) No ___ (1) Yes

120. Have others ever suggested that you [illegible] easily offended?
___ (0) No ___ (1) Yes

Schizoid Personality

121. Do you prefer doing things
___ (0) No ___ (1) Yes

122. Are you a lone[illegible], you don't need or want close friendships
___ (0) No ___ (1) Yes

123. Do you rarely experience strong emotions?
___ (0) No ___ (1) Yes

Borderline

124. Do you find that your mood can change quickly?
___ (0) No ___ (1) Yes

125. Are your friendships more intense than those of most people?
___ (0) No ___ (1) Yes

126. Do your friendships tend not to last long?
___ (0) No ___ (1) Yes

127. Do you frequently experience feelings of emptiness or boredom?
___ (0) No ___ (1) Yes

128. Are you overly worried of being abandoned by someone you care about?
___ (0) No ___ (1) Yes

129. Have you done impulsive things that caused you problems?
___ (0) No ___ (1) Yes

Dependent Personality

130. Have you had difficulty making decisions without advice or reassurance from others?
___ (0) No ___ (1) Yes

131. Have you found it more comfortable to let others make important decisions?
___ (0) No ___ (1) Yes

132. Do you frequently agree with people even when you think they are wrong just to avoid offending them?
___ (0) No ___ (1) Yes

133. Are you uncomfortable when you are alone?
___ (0) No ___ (1) Yes

134. Do you have trouble starting or doing things on your own?
___ (0) No ___ (1) Yes

135. Are you willing to do most anything to get support and reassurance from people you care about?
___ (0) No ___ (1) Yes

Obsessive-Compulsive Personality

136. Would you say you are a bit of a perfectionist?
___ (0) No ___ (1) Yes

137. Do you tend to keep things even when you have no immediate use for them?
___ (0) No ___ (1) Yes

138. Are you a person who pays close attention to details?
___ (0) No ___ (1) Yes

139. When you work with others, do you tend to be in charge or see to it that the others do things right?
___ (0) No ___ (1) Yes

140. Are you a harder worker than most people?
___ (0) No ___ (1) Yes

Psychosis Indications

141. Have you ever heard voices when no one was there?
___ (0) No ___ (1) Yes

142. Have you ever smelled, tasted, or felt something touching you and there was nothing around to cause it?
___ (0) No ___ (1) Yes

143. Have you ever seen things others could not see
___ (0) No ___ (1) Yes

If all Items 141 – 143 are "no" end the interview.

144. Have you ever had these experiences when you were **not** using alcohol or drugs?
___ (0) No ___ (1) Yes

145. Have you ever heard voices or seen things at a time when you were **not** drifting off to sleep or just waking up?
___ (0) No ___ (1) Yes

146. Have you ever thought you had special powers, such as being able to read people's minds, predict the future, or move objects with your mind?
___ (0) No ___ (1) Yes

End interview

Complete observation after interview.

Is speech disorganized or idiosyncratic (peculiar)?
___ (0) No ___ (1) Yes

Does this individual manifest unusual behaviors or mannerisms?
___ (0) No ___ (1) Yes

149. Is affect flat or inappropriate to the situation?
___ (0) No ___ (1) Yes

150. Is motor activity unusual – either stiff, nearly immobile, or inappropriately active?
___ (0) No ___ (1) Yes

COMMENTS

APPENDIX C: EXTRACTION FORM

ID#: _____ _____/_____ _____/_____ Gender: M(1) F(2)
Month/Year of interview Month/Year of Birth

From Standard Medical Questionnaire:

Y N 3. Appears under the influence of drugs or alcohol
Y N 4. Withdrawal Symptoms
Y N 7. Appears confused or depressed
Y N 13. Ever treated for a psychiatric disorder
Y N 14. Taking any medication
Y N 18. Recent head injury
Y N 22. Uses alcohol
Y N 23. Uses drugs
Y N 30. Previous or current treatment for depression
___ ___ 33. Level of education (years)

Prior arrest record:

Number of prior bookings in the past 12 months:___
Number of prior felony charges:_____
Number of prior misdemeanor charges:_____

Current Arrest:

Number of charges:_____
Felony charges:_____
Misdemeanor charges:_____
Status offense: _____
Time in Jail: _____

Offense Types:

Y N Violent offense
Y N Non-violent offense
Y N Crime against person
Y N Property crime
Y N Alcohol related
Y N Drug related
Y N Status offense (e.g., probation violation)

Charge descriptions:

_____
_____
_____