THE SIGNIFICANCE OF TRAUMA IN THE RELATIONSHIP BETWEEN CO-OCCURRING DISORDERS AND RECIDIVISM AMONG PARTICIPANTS OF A COMMUNITY MENTAL HEALTH'S JAIL DIVERSION PROGRAM

by

Emily A. Schott

Department of Community Care & Counseling, Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

School of Behavioral Sciences

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Abstract

Individuals with a psychiatric diagnosis have higher levels of criminal justice involvement compared to the general population. Multiple programs have been developed through grant monies utilizing various models to allow these individuals to be linked to mental health services in the community for the treatment of symptoms which may contribute to recidivism. These programs are designed to provide an encounter with mental health professionals who collaborate with law enforcement and other agencies to intercept these individuals at various points of justice involvement and possibly prevent further entanglements with the legal system. This study explores how trauma may impact justice involvement in individuals with a psychiatric diagnosis. For the diversion program to succeed, it is essential to provide integrated, whole-health treatment to these individuals. More studies are needed to develop diversion programs and reduce recidivism rates in those with a co-occurring psychiatric diagnosis and substance use disorder and to provide education to law enforcement and community agencies to foster collaborative relationships between community mental health agencies and the legal system.

Keywords: trauma, Adverse Childhood Experiences (ACE), justice involvement, severe and persistent mental illness (SPMI), recidivism, law enforcement, criminal justice system, criminogenic risk

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Adverse Childhood Experiences (ACE)

Bio-Psycho-Social (BPS)

Community Mental Health Authority (CMHA)

Forensic Assertive Community Treatment (FACT)

Level of Care Utilization System (LOCUS)

Risk-Need-Responsivity (RNR)

Sequential Intercept Model (SIM)

CHAPTER ONE: INTRODUCTION

Overview

Recidivism comes with high economic and social costs. Rates of recidivism in individuals with co-occurring psychiatric and substance use diagnoses are higher than individuals with a psychiatric or substance use diagnosis alone and much higher than that of the general population (Baillargeon- et al., 2010).

Background to the Problem

Recidivism

Records from the end of 2016 show that approximately 2.2 million people, equivalent to nearly 1% of the population of the United States, were incarcerated in jails or prisons (Bureau of Justice Statistics, 2016). Research shows that 68% of individuals released from prison are rearrested within the first three years, and 83% return to the criminal justice system within nine years of being released (Alper & Durose, 2019). Individuals with a psychiatric or substance use diagnosis show higher rates of recidivism depending on the diagnosis. Offenders with co-occurring psychiatric and a substance use diagnoses recidivate at a higher rate than those who have either a substance use disorder or a psychiatric diagnosis (Baillargeon- et al., 2010).

Psychiatric Diagnoses

Research has shown that individuals with a psychiatric diagnosis recidivate at similar rates to that of the general population. Those with a serious mental illness such as schizophrenia or bipolar disorder have higher recidivism rates than those with other, less severe, psychiatric disorders. Thus, there is evidence that serious and specific psychiatric diagnosis contributes to recidivism (Hawthorne- et al., 2012; Nielssen- et al., 2019).

Through bivariate analyses, Matejkowski- et al. (2011), found that inmates with a psychiatric diagnosis differed from inmates without a psychiatric diagnosis in several areas including the need for housing placement upon release and having possession of antisocial personalities. Their research further evidenced that inmates with psychiatric diagnoses also had higher rates of substance abuse; more than twice that of inmates without a psychiatric diagnosis. Finally, Matejkowski- et al.'s 2011 study indicated that inmates with a psychiatric diagnosis had higher average numbers of prior adult convictions indicating higher rates of recidivism while also exhibiting higher annual rates of violent charges during incarceration (Matejkowski- et al., 2011).

Substance Use Disorders

Research further demonstrates that individuals with substance use disorders recidivate at a higher rate than the general population and this is increased if the individual also has a psychiatric diagnosis (Katsiyannis- et al., 2017). SAMHSA (2009) developed an evidence-based treatment approach emphasizing the importance of collaboration between the jail and community services. The proposed model integrated service delivery during confinement in jail and then providing for a transition to community-based services upon release. Without using an integrated treatment model, individuals are at risk of future offenses (Kubiak- et al., 2011).

Simmons and Suarez's 2016 study on trauma and substance use in adolescents concluded that adolescents with a co-occurring substance use disorder and posttraumatic stress disorder experienced greater functional impairment and problem severity than adolescents with only one of these diagnoses. This study provides evidence that there is a significant relationship between trauma, substance use, and problem severity in adolescents many of whom find themselves in

and out of juvenile justice facilities. Both substance use disorders and posttraumatic stress disorder influence recidivism (Simmons & Suarez, 2016).

Trauma

Sadeh and McNiel (2015) demonstrated that a diagnosis of posttraumatic stress disorder (PTSD) increases risk of recidivism beyond other criminogenic risk factors including cumulative history of arrest and presence of a co-occurring substance use disorder, yet mental health courts and jail diversion programs still do not include trauma treatment for individuals during incarceration or upon their release from prisons or jails (Sadeh & McNiel, 2015). A previous study conducted by Sadeh- et al. in 2014 showed that recent experiences of violent victimization increased the likelihood that an individual would reoffend (Sadeh- et al., 2014). These findings support the need for further research on how trauma exposure and PTSD might function as a unique risk factor for criminal involvement (Feingold- et al., 2018).

The Adverse Childhood Experiences (ACE) Questionnaire

The Adverse Childhood Experiences (ACE, Boullier & Blair, 2018) Questionnaire is a quantitative, self-report measure made up of 10 questions designed to assess the presence of a history of childhood sexual, physical, and emotional abuse in adults. There is also a questionnaire for youth between the ages of 0 to 5, 5 to 10, and 11 to 17, but the ACE questionnaire used in this study is the questionnaire designed for individuals over the age of 18 which assesses for traumatic experiences during the first 18 years of an individual's life (Boullier & Blair, 2018).

Problem Statement

There are multiple studies which show links between trauma and substance use, and co-occurring psychiatric diagnoses and substance use disorders and recidivism (Sadeh- et al., 2014;

Sadeh & McNiel, 2015; Katsiyannis- et al., 2017; & Simmons & Suarez, 2016). Despite this, current diversion and mental health court programs do not address trauma treatment needs. Diversion and mental health court programs currently provide linkages to the individual's most emergent needs, but do not make any attempt to get to the heart of what may be truly causing higher recidivism rates in this population.

It has been posited that a psychiatric diagnosis may contribute to high recidivism rates as this population is more prone to substance use according to Matejkowski- et al.'s 2011 study. Simmons and Suarez provided evidence in their 2016 study that adolescents who experienced both trauma and substance use were more likely to have difficulties with functioning and problem severity. Sadeh and McNiel (2015) demonstrate how a diagnosis of PTSD increases the risk of recidivism over and above other criminogenic risk factors including substance use. This study will link all four variables to study the significance of the role trauma plays in recidivism rates.

Recidivism rates cannot be effectively addressed without getting to the root of what may be increasing an individual's risk for criminogenic behavior. The problem is that diversion and mental health court programs do not currently provide trauma treatment to inmates who have a trauma history, and this study will provide further evidence that trauma is a unique factor contributing to recidivism which requires effective treatment to adequately address recidivism reduction.

Purpose of the Study

The purpose of this study is to gain knowledge on how trauma, psychiatric diagnoses, and substance use disorders collectively influence recidivism, and provide education to the local jail diversion teams. Future studies may include other models with these variables and a longitudinal,

qualitative study on a piloted, integrated trauma treatment program to further develop diversion programs, and ultimately assist in reducing recidivism and incarceration rates.

Jail diversion programs cannot hope to effectively reduce recidivism without using an integrated treatment approach toward an individual's trauma history and symptoms of PTSD, substance use disorder, and psychiatric diagnosis.

Significance of the Study

This study will add to the existing literature on the significance of trauma in the relationships between co-occurring psychiatric diagnoses, substance use disorders, and recidivism. The conceptual framework for this study is based on Zgoba- et al.'s 2020 study and Craig- et al's 2019 study. Zgoba- et al. (2020) found that psychiatric diagnosis and substance use disorders operated independently of one another in their influence on recidivism rates. Meanwhile, Craig- et al. (2019) studied how ACE scores impact recidivism in juveniles with co-occurring disorders finding that substance use and current mental health problems serve as partial mediators. This study will look at the possible mediating role of substance use disorders on the relationship between trauma and recidivism and determine if a psychiatric diagnosis moderates this relationship.

It will further show how trauma is a unique factor contributing to recidivism and that unless diversion and mental health court programs provide integrated trauma treatment beginning with an individual's incarceration and continuing upon release, individuals with trauma histories and co-occurring disorders will continue to return to jail through re-arrest. The only way to effectively reduce recidivism is to treat the integrated needs of the individual by including trauma treatment. This study can be used to further the development of diversion and mental health court programs to include trauma treatment.

Research Questions

RQ 1: Does the presence of a psychiatric diagnosis moderate the relationship between trauma and substance use?

RQ 2: Does substance use mediate the relationship between trauma and recidivism?

RQ 3: Does trauma impact recidivism?

Definition of Terms

1. *Recidivism* – In this study, recidivism is defined as re-arrest (Zgoba- et al., 2020).
2. *Psychiatric Diagnosis* - Having a history of presenting symptomology for a period of six months or longer that involves a substantial limitation in daily activities or work disability, a suicide attempt with serious lethal intent, or psychosis (Cowell- et al., 2013; Kessler- et al., 2005).
3. *Substance Use Disorder* – A diagnosis given to individuals who use alcohol and drugs with a negative impact on their functionality (Kubiak- et al., 2011).
4. *Trauma* –A score between 1 to 10 on the Adverse Childhood Questionnaire (ACE), thereby indicating the presence of physical, sexual, or emotional abuse (Reavis- et al., 2013).
5. *Adverse Childhood Experiences (ACE)* - A quantitative, self-report measure made up of 10 questions designed to assess for the presence of a history of childhood sexual, physical, and emotional abuse in adults over age 18.
6. *Level of Care Utilization System (LOCUS)* – A tool developed to assess adults with co-occurring mental health and substance use disorders.
7. *Bio-Psycho-Social Assessment (BPS)* – An assessment developed in 1977, the BPS gathers data in multiple areas biologically, psychologically, and socially (Engel, 1980).

Chapter Summary

Jail diversion and mental health court programs have been developed to address the immediate needs of individuals with co-occurring psychiatric diagnoses and substance use disorders in an attempt to reduce recidivism. Trauma may be a significant factor contributing to the symptom presentation and substance use currently going unaddressed in these programs. This study purposes to examine trauma's role in co-occurring psychiatric diagnoses and substance use disorders and thus recidivism.

CHAPTER TWO: LITERATURE REVIEW

Overview

Individuals with a psychiatric diagnosis are overrepresented in jails (Abreau- et al., 2017). The prevalence of inmates with a severe and persistent psychiatric diagnosis in jails and prisons is so high that jails and prisons have been nicknamed “the new asylums”. According to the Treatment Advocacy Center’s Office of Research & Public Affairs (2016), Los Angeles’s County Jail, Chicago’s Cook County Jail, and New York’s Riker’s Island Jail each held more mentally ill inmates than any remaining psychiatric hospital in the United States. In 2016, approximately 20% of jail inmates and 15% of state prison inmates were estimated to have a psychiatric diagnosis (Treatment Advocacy Center, 2016).

Statistics from the Prison Policy Initiative (2020) indicate this number has increased to 37% of people in state and federal prisons and 44% in locally run jails having a psychiatric diagnosis. One in four inmates are reported to experience serious psychological distress in jails with 66% of people in federal prisons not receiving any mental health care while incarcerated. In 2015, 27% of police shootings involved a mental health crisis while another 27% of people jailed three or more times within a year report having a moderate or serious psychiatric diagnosis. Some of the effects of incarceration include posttraumatic stress, anxiety, and impaired decision making (Prison Policy Initiative, 2020).

Many programs have addressed this public policy concern based on research into what factors mediate or influence recidivism rates (Alarid & Rubin, 2018). Some of the factors studied include: psychiatric diagnosis and other criminogenic risk factors including age of first offense, gender, and socioeconomic status (Matejkowski- et al., 2011); substance use and trauma (Simmons & Suarez, 2016); posttraumatic stress disorder and psychiatric diagnoses (Sadeh &

McNiel, 2015); psychotic illness and cognitive disorders (Nielssen- et al., 2019), co-occurring severe mental illness and substance use disorders (Zgoba- et al., 2020); and childhood trauma (Wang- et al., 2019). Craig- et al. (2019) studied the relationship between co-occurring substance use and mental health disorders and recidivism in justice-involved youth, but there are no recent studies on these variables with regard to the adult population.

Some programs have attempted to intercept individuals prior to or during legal involvement (Andrews- et al., 2011). Programs such as California's Conditional Release Program (Gray, 2015) and Douglas County's mental health diversion program (Boganowski, 2011) were developed to address the problem of recidivism in individuals with a severe psychiatric diagnosis. This is addressed through linking these individuals with the proper treatment for their diagnoses to reduce recidivism and create a deeper understanding of the effects of symptoms related to a psychiatric diagnosis on an individual's risk for criminogenic behavior (Boganowski, 2011).

Despite the efforts of these programs to reduce the population of inmates who have co-occurring psychiatric and substance use disorders, there have been no significant changes to the inmate population in the United States in the year 2020 (Kang-Brown- et al., 2021). The total inmate population in jails and prisons in 2020 was approximately 1.8 million individuals. The introduction of the COVID-19 pandemic in 2020 has been cited by Kang-Brown, et al. (2021) as the drive behind the reduction in the number of inmates from 2.1 million in late 2019 to 1.8 million in midyear 2020. The increased risk of exposure to and the rapid spread of COVID-19 in close quarters drove the significant decrease in incarcerated individuals (Kang-Brown- et al., 2021). If inmates with untreated trauma histories and co-occurring psychiatric and substance use disorders are repeatedly returning to the jail system, jail diversion

programs cannot show data of their effectiveness until something is done to treat these individuals' trauma histories.

When offense history is factored in with trauma history, the predictive value regarding recidivism is greater (Maschi- et al., 2019). Magee, et al. (2021) found that individuals with a substance use diagnosis were arrested more often for substance-related offenses on more than one occasion. Magee- et al. (2021) further found that individuals with co-occurring psychiatric and substance use disorders had a greater likelihood of repeat arrest. If substance use and psychiatric diagnoses mediate the relationship between trauma and recidivism, then diversion programs that treat substance use and psychiatric diagnoses without treating trauma will not be as effective in reducing recidivism rates as they might be when utilizing integrated trauma treatment. This study will show that trauma is a unique factor preceding substance use and psychiatric diagnosis leading to increased recidivism rates.

Conceptual Framework

This study will expand on Craig- et al.'s 2019 study with youth to look at ACE scores, symptomology, and substance use of individuals with a psychiatric diagnosis with adult participants of a community mental health's jail diversion program and study the impact of their ACE scores on recidivism rates. The number of corrections-involved individuals with a co-occurring psychiatric diagnosis and substance use disorder has been on the rise since deinstitutionalization began in the 1960's (Alarid & Rubin, 2018). Since then, jails have become a means for housing these individuals (Alarid & Rubin, 2018). Many psychiatric providers do not provide long-term psychiatric inpatient care, nor do they treat co-occurring psychiatric and substance use disorders or accept individuals with a criminal record (Alarid & Rubin, 2018). This has led to the overrepresentation of this population in jails (Abreau- et al., 2017).

Grubaugh- et al. (2011) found that individuals with a psychiatric diagnosis experience high rates of trauma and trauma-related stress disorders and that this population is underrepresented in the treatment literature. For this reason, Feingold- et al. (2018) completed a study on the effectiveness of psychotherapy on this population. Their findings suggest that psychotherapy can be effective for treating trauma-related disorders on populations with a psychiatric diagnosis and recent criminal justice involvement (Feingold- et al., 2018). According to Feingold- et al. (2018), the gains derived from trauma treatment did not differ from the benefits derived from evidence-based practices for trauma-related distress in individuals without a psychiatric diagnosis or criminal justice involvement. This indicates that trauma treatment can effectively treat the trauma histories of this population yet jail diversion programs are not currently using integrated trauma treatments with individuals involved in their programs. Feingold- et al.'s 2018 study did not indicate reduced recidivism rates in the adult inmate population which this study hopes to evidence.

Incarcerated individuals with a psychiatric diagnosis have been found to be a higher risk of up to 170% of being placed in extended solitary confinement depending on their diagnosis and how they are perceived by, interact with, and sanctioned by prison staff. Solitary confinement affects an individual's mental and physical well-being and could be potentially traumatic and harmful, thus resulting in posttraumatic stress. Psychiatric diagnoses influence solitary confinement placements and arrests and incarcerations which are not necessarily due to criminalization. More understanding of how psychiatric symptoms affect an individual's behavior and decision making is needed along with an understanding of how this impacts corrections involvement in order to offset negative consequences for individuals with a psychiatric diagnosis (Siennick- et al., 2021). In addition, more information about how trauma

affects an individual's co-occurring substance use and psychiatric diagnosis symptom presentation and proclivity toward criminal offense is needed.

It is estimated that nearly 2 million people with psychiatric diagnoses are arrested each year (Iglehart, 2016). Often, individuals with untreated or undertreated psychiatric diagnoses and a co-occurring substance use disorder encounter law enforcement prior to being connected with community mental health agencies for appropriate treatment. Without the proper information, law enforcement officers are not equipped to interact with these individuals in the best possible manner with the least amount of resistance. As a result, these individuals often do not receive mental health treatment in jail or prison and the addition of posttraumatic stress from being incarcerated contributes to further offenses. This is compounded if the individual's symptom presentation causes behaviors which could result in solitary confinement. The first offense committed by these individuals often results from the commission of an alleged misdemeanor such as petty theft, trespassing, panhandling, or some sort of minor, nonviolent felony.

The conceptual framework for this study is based on Zgoba- et al.'s 2020 study and Craig- et al.'s 2019 study. Zgoba- et al. (2020) found that psychiatric diagnosis and substance use disorders operated independently of one another in their influence on recidivism rates. Meanwhile, Craig- et al. (2019) studied how ACE scores impact recidivism in juveniles with co-occurring disorders finding that substance use and current mental health problems serve as partial mediators. Using a parallel multiple mediator model, this study will include both psychiatric diagnosis and substance use disorders as possible mediators between trauma and recidivism while also testing for the direct effect of trauma on recidivism.

Recidivism

Studies have shown that jail settings are unable to adequately address the treatment needs of individuals with psychiatric diagnoses. If left untreated, these individuals are at increased risk of further legal involvement due to the risk of committing a future offense (Boutros- et al., 2018). Diversion programs have been developed to address this along with the financial aspects of recidivism. Cowell- et al. (2013) found jail diversion programs which intercepted an individual at pre-booking were associated with savings in taxpayer costs. Pre-booking programs divert individuals with a psychiatric diagnosis into treatment, thus reducing the burden on criminal justice budgets. However, if these same individuals do not receive the necessary treatment, criminogenic behavior may continue. In the long run, untreated symptomology may precipitate further problem behavior thus being less effective at reducing taxpayer costs. This includes untreated symptoms of posttraumatic stress disorder (Cowell- et al., 2013).

In their study on recidivism in individuals with a psychiatric diagnosis and co-occurring substance use disorder Zgoba- et al. (2020) found psychiatric diagnosis alone did not increase risk of recidivism any more than in individuals with neither a psychiatric diagnosis nor a substance use disorder. They further gathered that offenders with a substance use disorder were at a greater risk of recidivism independent of having a co-occurring psychiatric diagnosis. Zgoba- et al. (2020) hypothesized that individuals with co-occurring psychiatric diagnoses and substance use disorders would have the highest risk of recidivism. However, this hypothesis was not supported by the data, thereby indicating there may be another factor playing a role in increasing recidivism risk (Zgoba- et al., 2020). As stated above, trauma has been linked to reoffending in juveniles (Craig- et al., 2019; Vitopolous, 2019) and in women (Maschi- et al., 2019). This study will look at trauma histories in adults with co-occurring psychiatric and

substance use diagnoses to discover if there is a link between trauma, co-occurring disorders, and recidivism.

Rowe and Baranoski (2011) recognized that mental health clinicians, administrators, and clinical programs need to form collaborative relationships with the police, public prosecutors, judges, and policy makers to address the problem of the overrepresentation of individuals with psychiatric diagnoses in the prison and jail systems. Programs have been developed to address the problem of recidivism in individuals with psychiatric diagnoses. These programs use early detection and intervention to pause the legal process so that an individual's psychiatric symptoms might be treated prior to further legal involvement. The goal is to prevent further legal involvement through evidence-based practices which effectively address an individual's treatment needs, thus improving the individual's overall functionality (Bernacchio & Burker, 2016).

These programs include jail diversion programs, forensic assertive community treatment teams (FACT), and mental health courts which utilize various evidence-based models including the Sequential Intercept Model (SIM) and the Risk-Needs-Responsivity (RNR) assessment and model. Professionals involved in rehabilitative programs with training in counseling, psychiatric rehabilitation, case management, and vocational training are equipped to be an integral part of restoration and successful reentry into society for individuals with co-occurring disorders in the criminal justice system provided each individual's treatment needs are being adequately addressed. For those who do not receive the appropriate treatment, the risk of reoffending increases (Bernacchio & Burker, 2016).

Ideally, it behooves the mental health and criminal justice systems as well as other communities and systems to design collaborative and comprehensive diversion programs which

not only divert, but also seek to reduce and prevent recidivism of individuals who have a psychiatric diagnosis. These programs, including the ones mentioned above, should be designed with multiple, evidence-based strategies in mind. This includes pre- and post-booking programs, acute stabilization units, substance use disorder treatment, and methods for addressing the psychiatric, criminogenic, and socioeconomic needs of this population. Research into these programs should focus on who does well in these programs and why so the programs can be bolstered and developed to more efficiently and effectively treat justice-involved individuals with co-occurring psychiatric and substance use disorders more efficiently and effectively (Landess & Holoyda, 2017).

Early Intervention

There is a high rate of individuals in jails and prisons with undiagnosed and untreated psychiatric diagnoses including individuals experiencing their first episode of psychosis. This has led to a mental health crisis as these individuals who could benefit from a community treatment setting become involved in the criminal justice system where they may or may not receive the appropriate treatment for their symptoms. Longer durations of untreated psychosis compound the impact and severity of the individual's psychiatric symptoms making it crucial for these individuals to be linked to treatment as quickly and sensitively as possible (Ford, 2015).

It is essential for individuals with psychiatric diagnoses to be identified at jails as soon as possible upon their first encounter with the justice system. If their psychiatric diagnosis goes untreated in jail, and later, in the community, it can lead to repeated involvement as symptoms increase and worsen (Comartin- et al., 2020). Providing treatment for these individuals is accomplished through cooperation between community-based mental health agencies and law enforcement who work together to identify and intercept these individuals prior to, or during

legal involvement (Pinals & Callahan, 2020). Collaboration between law enforcement and mental health is critical to avoid neglecting or punishing individuals whose first institutionalized treatment might be in jail (Ford, 2015).

Women's Initiative for Success with Early Intervention

The Women's Initiative for Success with Early Intervention (WISE) program has demonstrated that corrections agencies' commitment to the early identification of psychiatric diagnoses in offenders and readiness to allow these offenders to work with case management services to link and coordinate psychiatric treatment along with assisting with meeting other treatment needs, can successfully diverted some of these defendants out of justice involvement and back into their communities (Coffman- et al., 2017).

The significance of this program is that it is designed to target the identification of symptoms of psychiatric diagnoses in women who are justice involved and often overlooked or delayed in receiving treatment. At psychiatric facilities in the state of Georgia, demand for placement into inpatient forensic facilities is high. This demand combined with the report that only 15% of those spots are reserved for women often results in women's psychiatric symptoms going untreated as they wait in jail for an opening at an appropriate treatment setting. Diversions such as the WISE program intervene and allow these women to receive treatment for their psychiatric diagnoses while still waiting for an inpatient bed to become available in jail (Coffman- et al., 2017).

The numbers of justice-involved women with chronic medical problems, psychiatric diagnoses, and substance use disorders is significant. Approximately 33% of women in jail systems report having a psychiatric diagnosis and approximately 82% of these women report having had an alcohol or illicit substance use disorder (Lynch- et al., 2012). Swavola- et al.

(2016) demonstrated that approximately one-third of justice-involved women reported the presence of PTSD symptoms in the last year. These studies illuminate the prevalence of psychiatric diagnoses and symptoms of trauma, but more research is needed to show the need for the incorporation of trauma-informed treatments in jail diversion programs such as the WISE program. Studies further emphasize the importance of the early detection of these symptoms when a woman is arrested and booked into jail along with the need for research into effective, trauma-informed treatments to assist with addressing these issues and ensuring that adequate and appropriate treatment is received (Swavola- et al., 2016).

Forensic Assertive Community Treatment

Forensic Assertive Community Treatment (FACT) teams were developed to work with individuals with psychiatric diagnosis who have been charged with serious crimes. These FACT teams provide a greater level of treatment supports and monitoring while also providing criminal justice supervision. Although court systems view these teams as most appropriate for diverting these individuals from having to serve time, there is some question about the potentially coercive aspects of the arrangements. Allowing an individual to avoid jail time in exchange for treatment services can place a burden on the clinician if the individual does not follow through. Inmates may be inclined to attend treatment no longer than necessary in order to avoid jail time. There has also been concern expressed regarding mental health staff acting as probation officers by proxy (Landess & Holoyda, 2017).

The Rochester Forensic Assertive Community Treatment (FACT) model (Lamberti- et al., 2017) is a criminologically informed model which incorporates both clinical and criminal justice elements to target criminogenic risk factors. This program also utilizes legal leverage to promote engagement in treatment by collaborating with mental health and criminal justice

agencies to effectively problem solve the treatment needs of the justice-involved population with psychiatric diagnoses. Participants in the Rochester FACT program served less jail time and had fewer new crime convictions, thus demonstrating the effectiveness of this model in preventing legal involvement for individuals with a psychiatric diagnosis (Lamberti- et al., 2017).

The Rochester FACT model was adapted from other assertive community treatment models to address the treatment needs of individuals with psychiatric diagnoses involved in the criminal justice system to include trauma-informed care. Awareness of the significant role of trauma in criminal justice involvement is growing, but further research is needed into the exact role it plays. With further exploration of the role trauma plays in justice-involved individuals' psychiatric symptoms and criminal offenses, trauma awareness will increase and improve the chances of trauma-informed care being integrated into other program models to fully meet the needs of this population.

Mental Health Court

Mental health courts are often seen as the best alternative to incarceration for an individual with a psychiatric diagnosis who has been charged with a serious felony. For this reason, it is critical for diversion programs such as mental health courts to continue to exist as viable options for this population who are in need of psychiatric treatment due to lack of alternative. This is because individuals with a psychiatric diagnosis who are charged with a serious felony may not have the option of a not guilty plea by reason of insanity (NGRI) (Landess & Holoyda, 2017).

Each mental health court is distinctly unique as it is designed to align with the policies, procedures, and process of the individual court systems (Sarteschi- et al., 2011). Mental health courts are structured to only accept individuals who are charged with misdemeanors, non-violent

crimes, or low-level felonies; however, individuals with felony offenses are often also accepted into the program. Participants of mental health court programs must meet the legal and clinical eligibility criteria set forth by the courts in collaboration with the intervening mental health agency (Landess & Holoyda, 2017).

An integral part of any diversion program is linking and coordinating individuals in the criminal justice system with psychiatric treatment, housing, and community support agencies to improve public safety, cost savings, and increased quality of life for individuals with a psychiatric diagnosis. For certain diversion programs, such as mental health court programs, these services can serve as an alternative to incarceration which can more accurately address the multiple issues these individuals face (Boganowski, 2011).

Veterans are another heavily justice-involved population. Treatment programs such as mental health courts have been developed to specifically target symptoms of PTSD and foster recovery in this population. Programs which provided an integrated approach with a combination of trauma-specific treatment, peer-supports services, and medication, presented the most promising improvement for justice-involved veterans (Knudsen & Wingenfeld, 2016). Research is needed to show the trauma needs of all justice-involved individuals specifically in relation to psychiatric symptoms including symptoms of PTSD and substance use disorders which may account for instances of reoffending leading to higher recidivism rates. This is especially important for programs which have been designed to provide early detection of signs and symptoms of psychiatric diagnosis in jail detainees to link the detainees to appropriate treatment.

Jail Diversion

Effective jail diversion programs utilize evidence-based practices and treatments to meet the needs of these systems and, more importantly, the needs of the individual (Bonfine & Nadler,

2019). Huck and Morris (2017) found that the intervention and diversion of indigent defendants into an alternative program instead of serving time had benefits beyond easing the overrepresentation of individuals with psychiatric diagnoses in prisons and jails throughout the United States. One benefit noted by Huck and Morris (2017) is the reduced risk of future offending. In their study, Huck and Morris (2017) used a sample of individuals who held many criminogenic risk factors including low levels of education, high unemployment, and low income. In spite of this, Huck and Morris (2017) note that there are additional variables likely affecting recidivism rates that were not captured in their study. If trauma is one of those additional variables as this study would suggest, diversion programs can be adapted to include integrated, trauma-focused treatment in an effort to further reduce or eliminate recidivism rates for individuals with co-occurring psychiatric and substance use disorders.

Jail diversion programs were initiated in the 1980s and 1990s to reduce the financial and social costs of increasing incarceration resulting, in part, from deinstitutionalization (Huck & Morris, 2017). With jail diversion programs, the most pressing needs of the individual are initially addressed including housing needs, mental health or substance use disorder treatment, and financial needs. Miami-Dade County has a community mental health project (CMHP) which includes diversion programs that intercept individuals with psychiatric diagnoses prior to booking as well as at post-booking (Iglehart, 2016).

Pre-Booking Diversion. The pre-booking diversion team functions as a critical part of the Crisis Intervention Team. During pre-booking, individuals experiencing psychiatric symptoms who are being arrested for a minor offense are diverted into treatment with community mental health providers. In this project, police officers participate in 40 hours of training to educate and assist them in recognizing signs and symptoms of various psychiatric

diagnoses in individuals involved in crisis situations to which law enforcement has been called to respond. The training provides the officers with skills to deescalate potentially violent situations which pose a threat to themselves, the individual, and the community (Iglehart, 2016).

Evidence regarding the effectiveness of pre-booking diversion programs in reducing arrest rates of individuals with psychiatric diagnoses is limited and any existing evidence is not strong. There is some evidence of the effectiveness of pre-booking diversion in helping link these individuals to mental health services and community treatment. More studies are needed to further understand what contributes to arrest rates and recidivism in individuals with a psychiatric diagnosis (Dewa- et al., 2018).

Post-Booking Diversion. Individuals who are intercepted for diversion at post-booking require providers and law enforcement officials to identify those with potential psychiatric diagnoses who are in acute psychiatric distress and have been booked into the county jail. Once it is determined these individuals meet the criteria for participation in the program, judges can approve their transfer from the jail to an inpatient or outpatient treatment provider where they will begin their treatment while the court and case managers monitor progress (Iglehart, 2016).

Post-booking diversion also involves arranging for discharge and continuity of care to continue maintaining any gains achieved in treatment. While in treatment, individuals are assessed for criminogenic risk factors and treatment needs utilizing evidence-based tools such as the RNR assessment or a bio-psycho-social assessment and then linked to the appropriate services. After the individual is released back into the community, monitoring continues to ensure they do not return to jail and continue to engage in treatment (Iglehart, 2016).

Pre-arrest and post-booking diversion programs have quickly spread due to nationwide efforts to reform the criminal justice system. Kopak (2019) found that participant characteristics

correlated to program success and subsequent arrest. In his study, Kopak (2019) stated that pre-arrest and post-booking diversion programs have great potential for improving the criminal justice system by making it less harmful and more efficient. Kopak (2019) further states a need for further assessment or studies and possibly additional treatment focused on the particular area of need impacted by certain participant characteristics which may be linked to that individual re-offending for that.

Alternative Order for Mental Health Treatment (AOT). Individuals with psychiatric diagnoses in Miami-Dade's post-booking jail diversion program can receive treatment on a voluntary basis and avoid serving further jail time by participating in the program. This premise is based on Florida's civil commitment laws which provide treatment as an alternative to jail if the individual is inclined to receive it. If the individual meets the criteria for the diversion program, and agrees to participate in treatment, the treatment provider then petitions the court to request transfer to community-based or inpatient psychiatric and substance use treatment providers (Iglehart, 2016).

If someone with a psychiatric diagnosis who is currently in the jail does not agree to participate in treatment, but meets the criteria for civil commitment, the treatment provider can petition the court for involuntary outpatient or inpatient treatment, often referred to as an alternative order for mental health treatment (AOT). These AOT-s have time limits attached to them as specified by the state's judicial system and can be petitioned as a second and then continuing order each with a specified time limit. More often, individuals do not meet the criteria for civil commitment, at which point the treatment provider provides referrals and linkages to community-based providers. Trauma may play a role in an individual's willingness to engage and participate in treatment (Iglehart, 2016).

Law Enforcement Assisted Diversion. The Law Enforcement Assisted Diversion (LEAD) program began in Seattle, Washington in 2011 and is comprised of three parts including an initial intake into the program which involves diversion from justice involvement, case management services aimed at harm-reduction, and higher-level coordination of the legal system involved. LEAD has effectively reduced criminal recidivism over six-months, and longer time frames, following arrest. Programs like this diversion program are helpful in putting a stop to the revolving door that sometimes occurs with justice-involved individuals with psychiatric diagnoses when they are arrested, their symptoms are left untreated, and then they are rearrested within a short time span. Offenders with psychiatric diagnoses often get caught in this revolving door due to the symptoms of their diagnoses and without treatment, they cannot exit this cycle without intervention (Clifasefi- et al., 2017).

Diversion Models

Using evidence-based practices while collaborating across multiple agencies assists in the proper allocation of resources and the development of informed policies to effectively rehabilitate justice-involved individuals with psychiatric diagnoses (Chua- et al., 2014). One of the essential steps to validating a diversion model is identifying its critical elements (McGuire & Bond, 2011). This enhances the clarity of the model and promotes the development of a fidelity scale to measure the program's adherence to the principles of the model (Bond- et al., 2000). This study suggests that a potential critical element to the development of any diversion program under the mental health services category created by McGuire and Bond during their 2011 study is the utilization of trauma-informed treatment.

Greenhalgh- et al. (2004) suggest that inadequate empirical research and the rush to develop diversion programs without clear measures of fidelity to evidence-based models

confuses efforts to address the critical elements from the less-than-critical practices that are recommended as part of any jail diversion program. The models listed below do not assess for trauma needs or integrate trauma-informed care into their practices. Thus, if trauma is a critical element to address, but is not being addressed in these models then any diversion program which utilizes them- may be less effective than it would be if trauma-informed care were being practiced.

Risk-Need-Responsivity Model

The Risk-Need-Responsivity model advocates for the assessment and treatment targeting of justice-involved individuals based on eight central risk/need factors: a history of antisocial behavior, antisocial personality pattern, antisocial cognition, antisocial associates, family/marital circumstances, school/work, leisure/recreation, and substance abuse. This is not to say that these are the only circumstances to take into consideration when developing a treatment plan, however, this provides a framework for diversion programs to assess and intervene by linking individuals with appropriate treatment and preventing further justice-involvement (Andrews- et al., 2011). The RNR model notably does not consider trauma history in its assessment of justice-involved individuals' psychiatric treatment needs.

The RNR model also includes the principle of professional discretion which facilitates the targeting of dynamic risk factors based on the individual of which various factors may be a major contributor to justice involvement (Andrews- et al., 2011). The Risk-Needs-Responsivity model has improved transparency and consistency when community corrections agencies are working to amend policy and decision-making processes in order to effectively reduce recidivism and, in certain circumstances, prevent criminal justice involvement (Chua- et al., 2014).

Lester- et al.'s (2020) study showed that standard approaches to diversion which implement a Risk-Needs-Responsivity model-informed cognitive behavioral methodology were insufficient at producing long-term, meaningful changes in individuals in custody. This suggests that to affect change, treatment should be refined to address the specific needs of the individual or the subgroup. Defining treatment by groups including those with a trauma history, may be the answer to providing truly effective treatment which reduces recidivism and provides mentally ill, justice-involved individuals with meaningful recovery. Research is needed to show the significance of trauma and its impact on an individual's mental illness to highlight the need for trauma-informed care and further develop jail diversion programs to incorporate this into their treatment approaches (Lester- et al., 2020).

Sequential Intercept Model

The Sequential Intercept Model (SIM) attempts to intervene at various points of justice involvement to provide linkages to community mental health treatment providers (Pinals & Callahan, 2020). Sequential intercept mapping is a tool used in this model to organize community response teams to effectively respond to complex problems including the overrepresentation of people with psychiatric diagnoses who are justice involved and the opioid epidemic of addiction and overdose deaths (Bonfine- et al., 2018).

At intercepts 0 and 1, individuals with psychiatric diagnoses whose symptoms are such that they could come into contact with law enforcement are put in contact with a crisis intervention team and linked to services to address their presenting symptomology. At these points of intercept, law enforcement officers can refer these individuals to emergency rooms, 911 call centers, and other psychiatric crisis services to divert them from arrest. The more training on SIM provided to community agencies and law enforcement officials involved in crisis

interventions for individuals with psychiatric diagnoses, the more competent mental health providers and law enforcement officials are at de-escalating situations and establishing policies and procedures for working together when they encounter crisis situations (Pinals & Callahan, 2020).

At intercepts 2 and 3, individuals with psychiatric diagnoses are intercepted during court appearances, jail stays, and in specialty courts where the question of competency is first considered due to the presence of psychiatric symptoms and when diversion options are offered (Pinals & Callahan, 2020). Intercepts 4 and 5 involve individuals who are in jail at the time of intercept and at the time of release into the community under probationary conditions. Diversionary efforts include linkages to community-based mental health treatment providers. These linkages may or may not include trauma treatment depending on the location of the program and availability of resources. Further research is needed to show that trauma-informed care is needed throughout jail diversion programs across the United States to improve the success of these programs and fully meet the needs of the participants (Pinals & Callahan, 2020).

Crisis Intervention Training

Crisis intervention training (CIT, Ritter- et al., 2010) is a comprehensive training for law enforcement officials which assists them in responding to the needs of individuals with psychiatric diagnoses through collaboration with and linkages to community-based mental health agencies. This training informs SIM, is utilized at intercepts 0 and 1, and assists in the collaboration efforts across agencies to most effectively meet the treatment needs of the individual which may not be possible in serving jail time. The training provides knowledge about psychiatric diagnoses and the mental health treatment system, and trains individuals on attitudes,

biases, and fears. With education on psychiatric diagnoses, the stigma surrounding those with psychiatric diagnoses is defused and ensures these individuals receive appropriate treatment.

In the crisis-intervention model studied by McGuire and Bond (2011), there were 36 critical elements identified and grouped into three categories: philosophy and collaboration, law enforcement, and mental health services. While crisis intervention addresses immediate need, assessments must be completed to determine continuity of care needs including assessing for a history of trauma using tools such as the ACE questionnaire and other screenings. More research is needed to show the prevalence of encounters between individuals with a trauma history and crisis intervention teams (Ritter- et al., 2010).

Trauma-Related Literature

Mental health jail diversion programs have utilized the SIM framework to develop and expand their programs. However, there are some individuals whose psychiatric symptoms are so extensive and challenging that they are unable to move forward in the legal process or even be considered for participation in diversion programs. For this reason, alternatives with greater opportunities for diversion which route these individuals into the needed treatment services in the least restrictive settings are needed to fully meet these individuals' treatment needs. Research is needed to show the prevalence and impact of trauma upon an individual's treatment needs to ensure trauma-informed care (Pinals & Callahan, 2020).

Areas of Need

There are multiple criminogenic risk factors which may contribute to an individual's involvement with the criminal justice system including socioeconomic status, age, gender, race, substance use, and trauma history. These factors may also negatively influence recidivism rates. Psychiatric symptoms alone do not dictate recidivism and research is needed to continuously

improve on programs aimed at intercepting individuals with psychiatric diagnoses prior to or during criminal justice involvement and diverting them to appropriate and adequate treatment (Skeem- et al. 2011).

Morgan- et al. (2020) point out that knowledge regarding the relationship between psychiatric diagnoses and criminal behavior has been growing as a result of continued research into contributing risk factors and the programs developed to address the treatment needs of this population. This has resulted in significant clinical advances in the ways and means by which this population's treatment needs are addressed. In order to continue these advances, researchers must examine the risk factors which contribute to an individual's co-occurring psychiatric and substance use disorder diagnoses and criminal behavior. Furthermore, it is essential to consider how these factors affect treatment needs, justice involvement, and psychiatric and criminal justice outcomes (Morgan- et al., 2020).

Gender

Gender is one demographic in which treatment needs vary greatly, thereby affecting an individual's chance of success in avoiding future legal involvement (Robertson- et al., 2020). For example, female offenders often have higher rates of and more extensive trauma histories, thus indicating distinct treatment needs. These trauma histories often include violent trauma such as rape or intimate partner violence (Fritzon- et al., 2020).

In a study by Scott- et al. (2014), women who had no custody of their children showed a 50% increase in recidivism rates with new charges within 36 months of their release. These women were at four times the risk of recidivism compared to women without children. Women whose children were in foster care before their arrest showed a significantly decreased time to

their second offense. This suggests that loss of child custody is a strong overall indicator for risk of recidivism in females who are justice involved (Scott- et al., 2014).

Some gender-specific challenges faced by clinicians working with justice-involved individuals with psychiatric diagnoses include lack of treatment resources and differences in engagement and compliance. Jail diversion programs offer solutions to these issues by assisting in redirecting individuals from standard criminal prosecution and possible incarceration into community agencies to address substance use and psychiatric treatment. These programs provide individualized treatment plans, thus improving their chances of success, but often do not include trauma treatment (Robertson- et al., 2020).

Diagnosis

Skeem- et al. (2011) showed a direct relationship between psychiatric diagnoses and criminal behavior. However, they were not able to apply this to all offenders with psychiatric diagnoses. In fact, they were only able to apply the direct relationship model to one in ten offenders who participated in the study. They also suggested a possible mediator in the relationship between psychiatric diagnoses and criminal behavior such as socioeconomic status or social learning that would establish general risk factors for criminal behavior and increase proneness for offending and reoffending. The mediation model was applicable to the majority of offenders with psychiatric diagnoses. According to Skeem- et al. (2011), the effect of psychiatric diagnoses on criminal behavior varies across subgroups of offenders with psychiatric diagnoses with the relationship usually being indirect. Further research to identify specific moderators such as trauma is needed to differentiate subgroups into those for whom the effect is direct versus mediated.

Studies on FACT teams demonstrate that there are two types of mentally ill offenders typically served by these teams. These types are homeless males with a specific psychiatric diagnosis and females with mood disorder diagnoses. Homeless males with a diagnosis of schizophrenia and a substance use disorder who are noncompliant with psychiatric treatment often become involved with a FACT team. Females with mood disorder diagnoses will often have trauma histories of sexual abuse and interpersonal violence leading to criminal behavior and involvement with a FACT team. This highlights the need for trauma treatment in individuals with psychiatric diagnoses, substance use disorders, and trauma histories (Cuddeback- et al., 2013).

Prisoner Misconduct

In their study of psychiatric diagnoses and violence history's impact on prisoner misconduct and recidivism, Walters and Crawford (2014) found that major mental illness (MMI) and violence history (VH) predicted both general prisoner misconduct and aggressive prisoner misconduct in an interactive way. They state that taking either one of those variables alone did not predict institutional infractions, but when combined, MMI and VH showed a predictive value regarding future disciplinary problems. Although these variables were found to have a combined, predictive effect on general and aggressive prisoner misconduct, they did not have predictive value on recidivism regardless of qualifiers (Walters & Crawford, 2014). This suggests the presence of another variable or variables predictive of recidivism.

The misconduct of prisoners has been used to assess risk of recidivism as well. If offenders with psychiatric diagnoses are presenting with misconduct, this should be assessed and attributed appropriately, especially if their misconduct is a result of the symptoms of their diagnosis and possible lack of access to appropriate treatment (Cochran- et al., 2014).

Specifically, male offenders show poor engagement patterns and are generally less compliant with treatment. They are also more likely to act out and get penalized for misconduct (Robertson- et al., 2020). Swanson- et al. (2008) report little evidence that the status of an individual's psychiatric symptom presentation affects the danger a person poses to others as much as antisocial factors.

Age

Programs designed to link and coordinate psychiatric services in lieu of the individual serving jail time are much more likely to be successful if implemented immediately after the first offense which typically occurs at a younger age (Boutros- et al., 2018). Justice-involved youth show overall recidivism rates of 80% revealing that five years after their initial arrest, only 20% of those who were under an order which placed them in an institution for juveniles for mandatory treatment (PIJ order) were successful at not being reconvicted. When controlling for type of offense, 70% of youth offenders involved in a PIJ order continued their criminal careers (Mulder- et al., 2011).

Vitopoulos- et al. (2019) and Craig- et al. (2019) highlighted the connection between trauma and recidivism in justice-involved youth. Vitopoulos- et al. (2019) found that maltreatment, cumulative adversity, and PTSD in the juvenile justice population was well documented. Vitopoulos- et al. (2019) further demonstrated that the link between maltreatment, criminogenic needs, and reoffending in the justice-involved youth population highlights the need for integrated, evidence-based, trauma-informed interventions to be utilized with this population. Studies regarding trauma history, recidivism, and the adult justice-involved population are sparse.

Substance Use Disorders

Substance use disorders (SUD) are highly prevalent among participants in jail diversion programs and play a significant role in criminal justice involvement (Cusack- et al., 2013). Many individuals with SUD become entangled with the legal system and do not receive treatment thus resulting in repeated offenses and further justice involvement (Cusack- et al., 2013). Substance use disorders are linked to an individual's trauma history, thereby indicating the need for integrated treatment for both the substance use and the individual's trauma history (Cusack- et al., 2013).

Belenko- et al.'s (2004) findings confirmed previous findings in other studies regarding the improvement in public safety when utilizing offender treatment and diversion programs to treat high-risk drug offenders. As of Belenko- et al.'s 2004 study, it was unknown what elements of the drug treatment alternative to prison (DTAP) program contributed to reduced recidivism in this population and whether similar reductions in recidivism can be achieved with less expensive outpatient treatment, shorter residential programs, or non-therapeutic community models. More studies on the factors which contribute to recidivism and the treatment methods for addressing these factors are warranted to further reduce recidivism rates and the cost of recidivism to society.

The Impact of Trauma

Neurobiological dysregulation and attachment pathology are two mediating variables between adverse childhood experiences and justice involvement (Reavis- et al., 2013). Empirical literature on interpersonal neurobiology shows the effect of childhood social experiences on neurodevelopment (Reavis- et al., 2013). These experiences of abuse, neglect, and different parenting styles influence brain functioning. It is ineffective to provide treatment interventions

which focus on reducing recidivism by reducing crime without treating the individual's interpersonal neurobiological wounds as well (Reavis- et al., 2013). Restorative justice and diversion programs must assess for the risks and needs involved using the RNR model and incorporate evidence-based interventions to address adverse childhood experiences to successfully rehabilitate justice-involved individuals (Reavis- et al., 2013)

Trauma and Justice Involvement. Higher rates of trauma experiences are found in justice involved individuals compared to community samples. Trauma has been linked to risk factors for justice involvement based on the Risk-Needs-Responsivity model which has also indicated that trauma symptomology may adversely affect the effectiveness of conventional approaches to treating other RNR risk factors (Fritzon- et al., 2020). The link between trauma as indicated by scores on the ACE questionnaire and psychiatric symptoms, including those which lead to aggressive criminal behavior, has not yet been clearly identified. Individuals within the inpatient forensic psychiatric system have presented with psychiatric diagnoses and histories of violence preceded by a history of traumatic events which often trend based on gender. It has been suggested that populations with trauma histories involving high rates of serious forms of abuse or complex trauma in addition to involvement in the foster care system as a youth can help understand the individual differences in outcomes for participants of jail diversion programs (Stinson- et al., 2016).

Trauma and Recidivism. Recidivism rates are a chronic problem for society, but more research is needed to determine what affects re-offending behavior. Wang- et al. (2019) show how childhood trauma and emotional intelligence influence recidivism by interacting with each other. Wang- et al. (2019) found that emotional intelligence by itself does not directly influence recidivism, but rather exerts indirect influence on recidivism severity through childhood trauma

which mediates this relationship. Age, education, and relationship status also played significant roles in determining risk for criminogenic behavior and recidivism. Recidivists often reoffend by committing non-violent crimes, thus indicating that the nature of the offense also contributes to recidivism as individuals are less likely to reoffend through violence (Wang- et al., 2019).

When taken alone, childhood trauma showed a significant predictive effect on recidivism when controlling for the other factors involved including age, relationship status, education, and the nature of the offense (Wang- et al. 2019). There was a correlation between the severity of childhood trauma and the severity of recidivism when studying recidivism as the number of convictions an individual has as a continuous variable (Wang- et al., 2019). This was also true for emotional intelligence when controlling for demographic variables. This indicates that emotional intelligence also influences recidivism severity through childhood trauma (Wang- et al., 2019).

Tripodi- et al.'s 2019 study on childhood abuse showed that experiences of abuse in childhood, whether they are physical, sexual, or emotional, amplified the risk of recidivism for women who were also suffering from depressive symptoms and a depression diagnosis. Direct effects between childhood trauma and reoffending were not identified, but in this study, there was an indirect pathway from childhood trauma to recidivism through depression. This study did not include substance use as a possible variable and contributor to recidivism following childhood abuse (Tripodi- et al., 2019).

Meanwhile, Narvey- et al.'s 2021 study focused on two criminogenic risk factors. Empathy is a factor which protects against offending, while ACE scores influence the likelihood of criminal behavior (Narvey- et al., 2021). The study examined how ACE scores negatively impact empathy and how this can be reduced or reversed with changes in empathy often

achieved in residential placements (Narvey- et al., 2021). Narvey- et al. (2021) found that empathy inhibited offending and helped to moderate traumatic early life experiences in juvenile offenders. They charge the readers with obtaining a more complete understanding of methods and resources needed to intercept offenders who were first victimized to give them the tools and the opportunity to actualize their full potential (Narvey- et al., 2021).

Recidivism as a Measure of Success

Relying on recidivism leads to inaccurate, harmful, and often discriminatory conclusions. It is essential to work toward replacing recidivism with more accurate and positive outcome measures (Butts & Schiraldi, 2018). One study found that using a brief incarceration period prior to diversion to the community did not achieve desired outcomes of reducing recidivism and improving public safety. It was thought that a brief incarceration may provide stabilization not otherwise achieved through instant diversion. Assessment to determine integrated treatment needs is necessary to evaluate not only criminogenic risk, but also the more comprehensive needs of the individual being diverted in order to provide a person-centered approach that will ultimately optimize overall outcomes for the treatment needs of the individual (Robertson- et al., 2014).

Recidivism has been linked to a number of variables related to the post-release of offenders into the community including parental status, sexually risky behaviors, engagement in recovery, criminal behavior, and substance use (Scott- et al., 2016). Parental status and risky sexual behaviors were both linked to recidivism in inverse ways (Scott- et al., 2016). In cases where women lived with their children in the year prior to justice involvement, their chances of reoffending were reduced whereas having a greater number of sexual partners was an indicator of increased risk of recidivism (Scott- et al., 2016).

Sung's 2011 study found six factors which the authors grouped into three categories that have been found to be risk factors for recidivism. The six factors are having few or no children, how treatment is perceived, having an HIV/AIDS diagnosis, gunshot or stab wounds, living with multiple different people following treatment, and living alone. These six factors have been categorized as treatment engagement, lifestyle-induced health conditions, and few or no natural supports or interpersonal ties. The study did not mention trauma as a risk factor for recidivism although having an HIV/AIDS diagnosis or a gunshot or stab wounds could be considered a traumatic experience. Further assessment is needed to determine if those factors contributed to an increased risk of recidivism due to their traumatic nature (Sung, 2011).

The Need for Integrated Treatment

Approaching the psychiatric and social service needs of individuals who are justice involved with a singular and limited approach is not enough to effectively meet each individual's integrated treatment needs and reduce recidivism (Edgely, 2014). It has been strongly recommended that jail diversion programs utilize integrated treatments to treat both substance use disorders and symptoms of PTSD (Cusack- et al., 2013).

Studies conducted by Fritzon- et al. (2020) and Stinson- et al. (2016) used scores from the ACE questionnaire to research how trauma impacts mental illness symptoms and criminogenic risk in forensic inpatient populations. Substance use disorders were not included in this study.

Data on how the impact of restorative justice programs varies with individual characteristics is limited. Such characteristics may increase an individual's risk of becoming justice-involved and may moderate the effectiveness of RJ programs (Bergseth & Bouffard, 2013). Research is needed to continue to attempt an understanding of why some offenders

succeed in diversion programs such as mental health court programs, but others do not. Integrated assessments focused on true recovery and the path toward reducing recidivism may improve diversion programs' ability to achieve the goals of reducing justice involvement and the criminalization of offenders with psychiatric diagnoses and enhancing these individuals' overall ability to function as a productive member of society (Campbell- et al., 2015).

Summary

Jail diversion programs have been developed as a response to the high numbers of justice-involved individuals with psychiatric diagnoses. However, many of these programs do not utilize trauma-informed care in their approach to treatment with this population and are thus not as successful at assisting individuals with remaining out of jail and addressing their psychiatric treatment needs (Alarid & Rubin, 2018). The success of these programs depends on intercepting these individuals at various points of justice involvement and the effectiveness of assessing and providing trauma-informed treatment to meet the individual's treatment needs to reduce and eliminate recidivism (Maschi- et al., 2019).

This study expands on Narvey- et al.'s (2021) and Craig- et al.'s (2019) studies and aims to show if ACE scores impact substance use and psychiatric symptoms for adult participants of a local community mental health authority's jail diversion program, thus leading to repeated justice involvement. The potential link between trauma and recidivism will be explored to determine if trauma is a unique factor contributing to recidivism in individuals with substance use and psychiatric disorders. Does trauma impact substance use and consequently impact criminal justice involvement? It is posited that substance use mediates the relationship between childhood trauma as measured by the ACE questionnaire and recidivism and that the presence of a psychiatric diagnosis moderates that relationship. Thus, if trauma-informed care is not the

approach utilized by this jail diversion program, this study will emphasize the need for evidence-based trauma treatments to effectively treat justice-involved individuals and reduce recidivism by looking at the relationships between trauma, psychiatric diagnosis, substance use, and recidivism.

CHAPTER THREE: METHODS

Overview

This study will explore how a psychiatric diagnosis impacts the relationship between trauma, substance use, and recidivism. Adverse Childhood Experiences (ACE) questionnaire scores along with demographic information and diagnoses to include substance use diagnoses contained in Bio-Psycho-Social (BPS) assessments, and information from the Level of Care Utilization System (LOCUS) rating scale for individuals with psychiatric diagnoses and substance use disorders who are participating or have participated in a local community mental health's jail diversion program were obtained and utilized. This chapter will cover the study's design, research questions, hypotheses, participants and setting, instrumentation, procedures, ethical considerations, researcher bias, and data analysis.

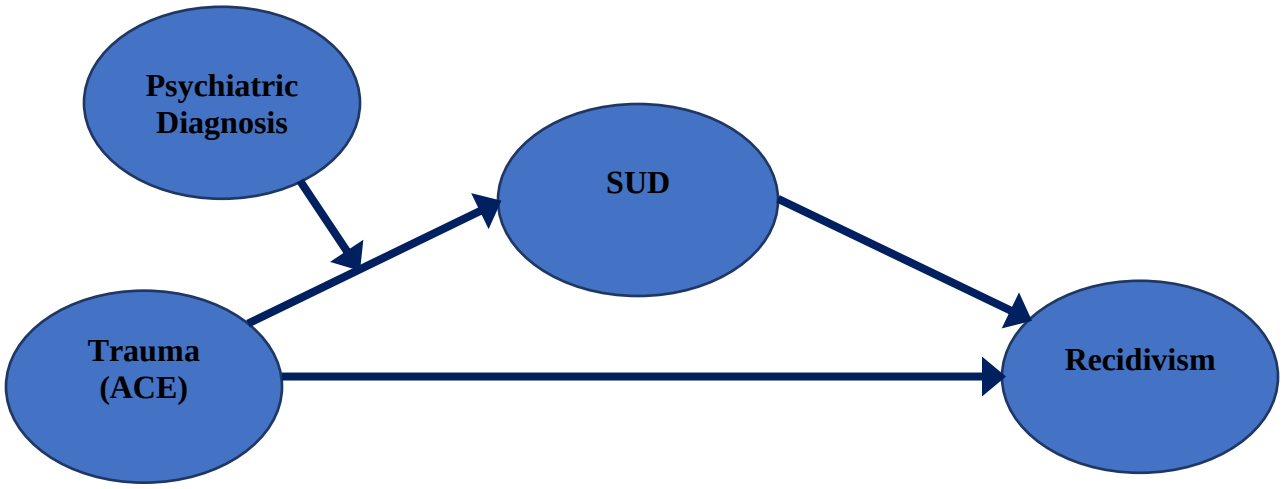
Design

This study uses a quantitative, causal-comparative research design using archival data. In quantitative research, numerical data is collected and analyzed using statistical methods (Apuke, 2017). The quantitative design used in this study allows for the data from the quantitative measures used in this study to provide numerical data that may be applied to the research variables and statistically analyzed for results and application to the research questions being asked (Apuke, 2017). Determining the presence of trauma using the ACE questionnaire which yields a number from 1 to 10 and comparing that number to the number of times an individual has been rearrested while participating in a jail diversion program may provide additional information for modifying the current program to improve its success rates through proper treatment.

Craig- et al. (2019) used a mixed design when studying how ACE scores correlate to violent re-arrest taking into consideration the individual's ethnicity and gender as well. Narvey- et al. (2021) used a quantitative study design when comparing empathy and ACE scores to determine how empathy impacts recidivism. This study will be comparing trauma and recidivism in individuals who have a psychiatric diagnosis and substance use disorder (See Figure 1).

Figure 1

Regression Model



Model 7 (Hayes, 2018)

Research Questions

RQ 1: Does the presence of a psychiatric diagnosis moderate the relationship between trauma and substance use?

RQ 2: Does substance use or psychiatric diagnosis mediate the relationship between trauma and recidivism?

RQ 3: Does trauma impact recidivism?

Research Hypotheses

H_{a1} There is a significant relationship between psychiatric diagnoses, trauma, and substance use.

H_{a2} There is a significant relationship between trauma, substance use, and recidivism.

H_{a3} There is a significant relationship between trauma and recidivism.

H_0 There is no significant relationship between trauma, psychiatric diagnoses, substance use disorders, and recidivism.

Participants and Setting

The participants in this study were drawn from a convenience sample from a local community mental health authority's jail diversion program from 2015 to 2020. The total number of subjects was 456 with 321 males and 135 females. Out of these, 73.9 percent of subjects were Caucasian while 17.8 percent were African American. The remaining 8.3% were Hispanics, American Indians, and two or more races. After screening the data, the final number of subjects was 164 (See Table 1). The sample is comprised of justice-involved individuals with a psychiatric diagnosis and co-occurring substance use disorder over the age of 17 with varying socioeconomic and cultural backgrounds who were offered the opportunity to reduce or avoid jail time in lieu of participating in the program and receiving mental health treatment. The subjects did not receive any compensation for participation in this study.

Data Collection

Exclusion Criteria and Ethical Considerations

Data was excluded from being utilized in the study if any of the following criteria were present: an individual did not have co-occurring psychiatric and substance use disorders or an individual did not have a score of one or more on the ACE questionnaire. Since the data being

used in this study is archival, the participants were not asked to provide anything. Identifiable information was not utilized thus providing confidentiality to the subjects and assuring no risk of harm would come to them. Only the dissertation chair, reader, and writer have access to the data along with the program supervisor of the local community mental health agency's jail diversion program. The data was stripped of all identifiable information by the community mental health agency's jail diversion program supervisor before being provided.

Researcher Bias

Working at a community mental health agency has allowed this writer to see the impact of trauma on psychiatric diagnoses and substance use. What led me to this particular design, was discussions with other supervisors on the need for trauma treatment with all populations, specifically, the jail diversion population. Since the agency is moving in the direction of developing a youth diversion program, this writer was hopeful this study would provide data regarding the significance of trauma in the relationship between psychiatric diagnoses, substance use disorders, and recidivism in order to assist in the development of these programs.

Instrumentation

Adverse Childhood Experiences (ACE) Questionnaire:

Adverse childhood experiences (ACE) are described to be adverse events which are potentially traumatic in nature and can negatively affect an individual's health and well-being well into their future, potentially leading to criminal justice involvement and substance use. ACEs can include abuse, maltreatment, or living in an environment which is harmful to the development of the individual (Boullier & Blair, 2018).

The ACE questionnaire, developed in 1985, asks for information on adverse childhood experiences prior to the age of 18 related to emotional, physical, and sexual abuse; neglect; and

other household demographics including divorce, domestic violence, parental abandonment, parental substance abuse, history of familial mental illness, and familial history of substance use (Reavis- et al. 2013). The ACE questionnaire consists of ten, close-ended questions requiring a "yes" or "no" answer. Individuals with high scores on the ACE questionnaire may be experiencing the long-term, negative effects of adverse childhood experiences, which can increase their risk of substance use and criminal justice involvement.

The structure of the ACE questionnaire contains several suggested subscales to include physical, emotional, and sexual abuse; parental separation/divorce, household physical violence; incarceration of family members; household substance or alcohol abuse; and household mental illness.

Although the ACE questionnaire does not delve into the specific details of an individual's adverse childhood experiences, it does contain enough information to indicate the presence of a trauma history indicating the need for further assessment and treatment (Ford- et al., 2014). The reliability of the ACE questionnaire in providing robust and reproducible analytic results is proven in the way the assessment is structured. Each subscale has several questions, which makes a dramatic change difficult unless all the items in the subscale are also answered differently. This makes the ACE an ideal measure for quantitative investigations involving trauma history (Ford- et al., 2014).

Research on concurrent criterion validity and reliability has demonstrated that the physical, emotional, and sexual abuse subscales to have good criterion validity with a mean of .88 compared to a range of previously established adverse outcomes with the sexual abuse subscale having weaker criterion validity with a mean of .21 than the physical and emotional abuse subscales with a mean of .67. Results from Ford- et al.'s (2014) study confirmed that the

ACE Abuse Short Form which includes questions only from three subscales is a valid measure of physical, emotional, and sexual child abuse and even with the study's limitations, the ACE-ASF is supported by evidence proving its validity in comparison to many other measures. Some of the benefits to using the ACE are that it can be completed easily and rapidly and it is a free outcome measure. High responses to this questionnaire in multiple surveys show it is an acceptable measure which translates appropriately across different cultural contexts (Ford- et al., 2014).

Bio-Psycho-Social (BPS) Assessment

The bio-psycho-social (BPS) assessment, developed in 1977, gathers data in multiple areas: biologically, psychologically, and socially (Engel, 1980). The premise behind the assessment is that behaviors, thoughts, and emotions inform an individual's physical state thus indicating the need to thoroughly treat the individual in all three areas simultaneously to meet that individual's treatment needs (Engel, 1980).

The data gathered when assessing an individual using the BPS include demographic data, developmental history, mental health treatment history, presenting symptomology, diagnoses, and substance use history and it is utilized to inform treatment plans for individuals with psychiatric diagnoses. The BPS assessment utilized in this study incorporates the ACE and is completed upon the initiation of services with the community mental health agency involved in this study and at least annually thereafter. The BPS is completed through an interview of the individual and their natural supports if available. Following the initial BPS, a review of the individual's mental health record for the reporting period is completed prior to interviewing the individual for reassessment.

BPS questions, in random order, include the following:

1. Were you hospitalized psychiatrically during the reporting period?

2. Were there any complications during your birth?
3. What psychiatric symptoms are you experiencing?

The BPS assessment is specific to the agency or organization using it and includes a combination of population-specific assessments such as the LOCUS and the ACE questionnaire in addition to the collection of demographic data. Its reliability and validity are dependent on the reliability and validity of the measures incorporated as well as the reliability and validity of the overall model. Thus, the reliability of the BPS model is dependent on how the model is incorporated into assessment form and how it is utilized with each population. Community mental health agencies use their BPS assessment to inform the appropriate level of care for individuals as well as to inform the person-centered planning process.

Wade and Halligan (2017) report a wealth of validity of the BPS model from which the assessment was developed and continue to support its validity as a powerful model. They support this conclusion by reporting the ease with which other models are incorporated into this assessment as well as the widespread use of this model in classifications systems. This model is also useful and valid as an analytic and explanatory model as it is increasingly used in research involving complex health interventions (Wade & Halligan, 2017).

Level of Care Utilization System (LOCUS) Assessment

The Level of Care Utilization System (LOCUS) assessment was developed to assess adults with co-occurring psychiatric and substance use disorders. According to Sowers- et al. (1999), there are seven scales over six parameters with one parameter having two subscales. Each scale has descriptors under ratings from 1 to 5, and a composite score is calculated at the end of the assessment and a level of care recommendation based on the severity of the

descriptors indicated under each scale. The six parameters are risk of harm; functional status; medical, addictive, and psychiatric comorbidity; recovery environment (subscales under this parameter are level of stress and level of support); treatment and recovery history; and engagement and recovery status (Sowers- et al., 1999).

LOCUS information was utilized in this study to indicate the presence of co-occurring psychiatric and substance use disorders. Some descriptors in the LOCUS include the following:

1. History of chronic impulsive suicidal/homicidal behavior or threats, but current expressions do not represent significant change from usual behavior.
2. Limited constructive involvement with any professional sources of support available.
3. Recently conflicted, withdrawn, alienated or otherwise troubled in most significant relationships, but maintains control of any impulsive, aggressive, or abusive behaviors.

The LOCUS has been shown in preliminary studies to have high external consistency in placing individuals into appropriate levels of care within psychiatric or addiction services. Level of care recommendations made by raters in the Sowers, et al. (1999) study showed consistency despite variability in the raters' levels of training and experience (Sowers- et al., 1999). Inter-rater reliability in the preliminary study on the LOCUS was lower due to conflicting interpretations between raters, however, validity is higher when making level of care recommendations with the utilization of the LOCUS than without. The standard deviation was not greater than 1.3 between the LOCUS author's scores on the case vignettes used in this study and the expert's consensus (Sowers- et al., 1999).

Procedures

The names and consumer identification numbers of the subjects in this study were retrieved from the data kept by the supervisor of the community mental health agency's jail diversion program. The names were then coded with numbers to prevent the identification of the subjects and ensure confidentiality. Archival data including ACE scores, LOCUS scores, and information from the BPS assessment completed on each participant was obtained from the participant's electronic health record kept by the community mental health authority. Assessments are completed annually at a minimum. The most recently completed data was entered into the data set.

ACE scores from 1 to 10 were entered as the true number. LOCUS scores were collected to establish severity of mental illness and substance use. LOCUS scores identified each participant's recommended level of care. Higher LOCUS scores correlate to higher levels of care. These data were entered as true numbers. Substance use data includes the age of first use and was entered as a true number. The information obtained from the BPS includes the individual's diagnoses. The BPS identifies if the consumer has a co-occurring psychiatric and substance use disorder and the age of first use of substances. Psychiatric diagnoses were numbered from 1 to 4 with 1 being equal to psychosis, 2 equaling a mood disorder, 3 representing personality disorders, and 4 having two or more mental illness diagnoses. No identifiable information was included in the data set to ensure anonymity and confidentiality. The number of rearrests was collected from the information provided by the jail diversion program supervisor and entered into the data set as the true number.

Variables

The independent variable in this study is the presence of a trauma history as indicated by scores obtained from the ACE questionnaire, where any score of 1 or above indicates the presence of trauma in the participant's history, and substance use and psychiatric diagnoses as indicated by the participants' diagnoses and their scores on the LOCUS assessment. The dependent variable is recidivism based on archival data obtained from the jail diversion program's supervisor. The mediator is substance use while the moderator is psychiatric diagnosis.

Data Analysis

A multiple linear regression analysis was completed on the archival data obtained using SPSS statistics and Hayes Process Macro (Version 4.0) to determine if trauma is a unique factor contributing to current recidivism rates and if it prevents recidivism rates from being lowered further if left unaddressed. The regression analysis allowed for several models to be tested to determine if there is a statistically significant relationship between the dependent variables and the independent variable. Multiple regression permits examination of the plausibility of several explanations for the association between trauma, co-occurring disorders, and recidivism which helps build the argument that the association between trauma and recidivism may be causal and mediated or moderated by co-occurring disorders (Hayes, 2018). This study aims to show that substance use disorders mediate the relationship between trauma and recidivism and that the presence of a psychiatric diagnosis moderates this relationship.

Trauma's relationship with recidivism was assumed to meet the assumption of linearity. It was further assumed the data would be normally distributed. Homoscedasticity was also

assumed, along with the assumption that the errors in estimation are statistically independent of one another (Hayes, 2018).

Validity Threats

Threats to the internal validity of this study include the fact that the ACE questionnaire, BPS assessment, LOCUS assessment, and trauma treatment questionnaire are self-report measures. Thus, meaning the answers given may or may not be completely accurate which limits the ability to imply a causal relationship between the independent and dependent variables. This could cause a Type 1 error in the statistical validity of this study if the null hypothesis stating there is no statistically significant relationship between the variables does in fact yield statistically significant results. A Type 2 error could also be caused if the null hypothesis is not rejected based on underreporting on the ACE questionnaire.

Threats to the external validity of this study include the sample size being too small. This could affect the power of the study and facilitate a Type 2 error as the sample size may not be ample enough to prevent the null hypothesis from being rejected. If the sample size is small, the effect size could come under question as well. The impact the sample size has on the effect size of this study could be reduced by categorizing the ACE questionnaire scores to show the strength of the relationship between trauma and substance use and criminal justice involvement depending on higher ACE scores.

Demographics may have also included some diversity in cultural or socioeconomic backgrounds, making it more difficult to apply what is learned to participants in jail diversion programs throughout the state and country. The fewer diverse populations included in the sample, the less generalizable the study is to the population being studied.

Summary

This study aimed to highlight the need for jail diversion programs to provide integrated treatment including trauma treatment to improve the effectiveness of the program in reducing recidivism and criminal justice involvement in individuals with co-occurring psychiatric diagnoses and substance use disorders and fully addressing those individuals' treatment needs. This was done by focusing on participants of a local community mental health agency's jail diversion program with co-occurring disorders and a trauma history and analyzing the data to explore how psychiatric diagnoses impact the relationship between trauma, substance use, and recidivism.

CHAPTER FOUR: FINDINGS

Overview

In this chapter, the results of the regression analysis will be discussed in conjunction with the hypotheses listed in the previous chapter. Descriptive statistics will be provided to give readers a picture of the population studied and the variables involved in the study. A summary of the data, regression analysis, and how the data correspond to the suggested hypotheses will conclude this chapter.

Descriptive Statistics

The total number of subjects studied was 164 and comprised of 117 males and 47 females ranging from 17 to 61 years in age. The mean age was 32.66 with a standard deviation of 9.63. The median age was 30, and the mode was 24. Of the individuals studied, 81.7% were Caucasian while 14% were African American. The remaining 4.2% were either Hispanic or two or more races. ACE scores ranged from 1 to 10 with the mean being 5.08, the median being 5, and the mode being 2. The standard deviation of ACE scores was 2.68. Substance use data collected included the age at which the individual reported first using substances and ranged from 0 to 37 with zero being no substance use reported. The earliest age reported was four years old at first use. The mean age of first use was 14.59, the median was 15, and the mode was 12. Zeros in the data indicate there was no substance use reported.

The number of times an individual was rearrested ranged from 0 to 11. Of the total, 45.1% of individuals were rearrested one time and 11.6% were arrested two times. The mean number of rearrests was 1.37. Mental illness was classified from 1 to 4: 1 = Psychosis, 2 = Mood Disorder, 3 = Personality Disorder, and 4 = two or more mental illness diagnoses. Of the

individuals studied, 56.7% had two or more mental illness diagnoses while 40.2% of the individuals had a mood disorder diagnosis alone (See Table 1).

Table 1

Descriptive Statistics (Table view)

	N	Range	Min.	Max.	Mean	Std. Dev.	Variance	Skewness	Kurtosis
Age at time of report	164	44	17	61	32.66	9.627	92.678	.865	.102
Gender	164	1	1	2	1.29	.454	.206	.953	.102
Race	164	4	1	5	1.26	.682	.465	3.618	15.509
ACE	164	9	1	10	5.08	2.677	7.165	-.002	-1.222
MI	164	4	0	4	3.11	1.045	1.092	-.451	-1.394
Age at first use	164	37	0	37	14.59	7.217	52.084	.081	1.402
Recidivism	164	11	0	11	1.84	1.784	3.181	2.248	7.051
Valid N (listwise)	164								

Results

The first alternate hypothesis, H_{a1}, stated that there is a significant relationship between psychiatric diagnoses, trauma, and substance use. For this hypothesis, a regression analysis using Hayes Process Macro (v. 4.0) was completed using Hayes model 1. The overall p value for the model was .075 with a p value of less than .05 indicating statistical significance. According to the p value of this model, there was no significant relationship between psychiatric diagnoses, trauma, and substance use.

The second alternate hypothesis, H_{a2}, stated that there is a significant relationship between trauma, substance use, and recidivism. Hayes model 4 was used for this analysis using

Hayes Process Macro (Version 4.0). The p value for the model with the outcome variable Recidivism was .249. The p value for the outcome variable SUD was .782. The direct effects of trauma on recidivism yielded a p value of .5 and the indirect effects of trauma on recidivism were .002.

The third alternate hypothesis, H_{a3} was that there is a significant relationship between trauma and recidivism. The direct effects of trauma on recidivism reported in the previous analysis gave a p value of .367. This shows there is no significant relationship between trauma and recidivism.

The null hypothesis, H_0, stated there is no significant relationship between trauma, psychiatric diagnoses, substance use disorders, and recidivism. For this analysis, Hayes model 7 was used with Hayes Process Macro (Version 4.0). The model summary yielded a p value of .075 with three degrees of freedom and a Mean Squared Error of 51.396 showing the null hypothesis to be true. Hence, there is no significant relationship between trauma, psychiatric diagnoses, substance use disorders, and recidivism (See Table 2).

Table 2

Regression Analysis Results from moderated mediation model. (Table view)

	b	se	*t*	*p*	LLCI	ULCI
Substance Use: ***R*=.177, R^2=.031, *MSE*=51.396, *F*=2.343, *p*=.075**	8.024	3.025	2.652	.009	2.050	13.998
ACE scores	.675	.588	1.147	.253	-.487	1.836
Psychiatric Diagnoses	2.053	.886	2.317	.022*	.303	3.803
Recidivism: ***R*=.147, R^2=.022, *MSE*=3.151, *F*=1.404, *p*=.249**	1.434	.407	2.786	.006	.330	1.937
ACE scores	.049	.054	.906	.367	-.058	.156
Psychiatric Diagnoses	.031	.020	1.584	.115	-.008	.070

Table 3

Indirect effects and conditional indirect effects of moderated mediation model (Table view)

Pathway	Coefficient	LLCI	ULCI
ACE → SUD → Recidivism	-.006	-.024	.006
MI			
Low – 16th percentile	.008	-.012	.037
Medium – 50th Percentile	-.004	-.026	.013
High – 84th percentile	-.004	-.026	.013

When looking at Pearson's *r* output, there was a statistically significant relationship between SUD and psychiatric diagnoses (See Table 4).

Table 4

Pearson's r, means, and SDs (Table view)

	1	2	3	4	5	6
1. Gender	1	.093	.143	.076	.058	-.047
2. Race	.093	1	.076	.045	-.085	-.030
3. ACE scores	.143	.076	1	.087	.021	.076
4. Psychiatric Diagnosis	.076	.045	.087	1	.159*	.053
5. SUD (Age at first use)	.058	-.085	.071	.159*	1	.127
6. Recidivism	-.047	-.030	.076	.053	.127	1
Mean	1.29	1.26	5.08	3.11	14.59	1.84
SD	.454	.682	2.677	1.045	7.217	1.784
Pearson's *r*						
Total						

*Correlation is significant at the .05 level (2-tailed).

Assumption Testing

When testing for the assumption of normality, the skewness and kurtosis were within normal ranges with the exception of the variables Race and Recidivism. The skewness of Race was 3.618 and that of Recidivism was 2.248. This means that the skewness was positive and the data skewed right. The kurtosis of Race was 15.509 and that of Recidivism was 7.051. The skewness of the data for Race and Recidivism being skewed right could interfere with the outcome of the analysis.

Levene's testing for homogeneity of variance showed the null hypothesis to be true for Age at the time of report, Age at first use (SUD), and ACE scores. The following variables violated the homogeneity of variance assumption: Gender, Race, Psychiatric diagnosis, and Recidivism. As stated above, Race and Recidivism were not normally distributed (See Table 5 and Figures 2 and 3).

Table 5

Skewness, Kurtosis, and Standard Errors (Table view)

	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Gender	.953	.190	-1.106	.377
Race	3.618*	.190	15.509*	.377
ACE scores	-.002	.190	1.222	.377
Psychiatric Diagnosis	-.451	.190	-1.394	.377
SUD (Age at first use)	.018	.190	1.402	.377
Recidivism	2.248*	.190	7.051*	.377

* Numbers are outside of the +1/-1 range of normality.

Figure 2

Histogram: Race

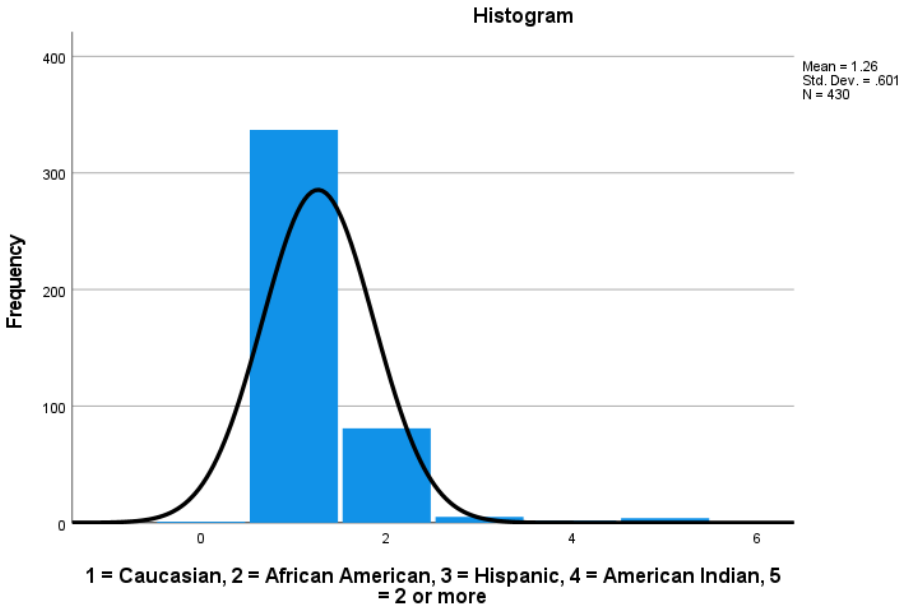
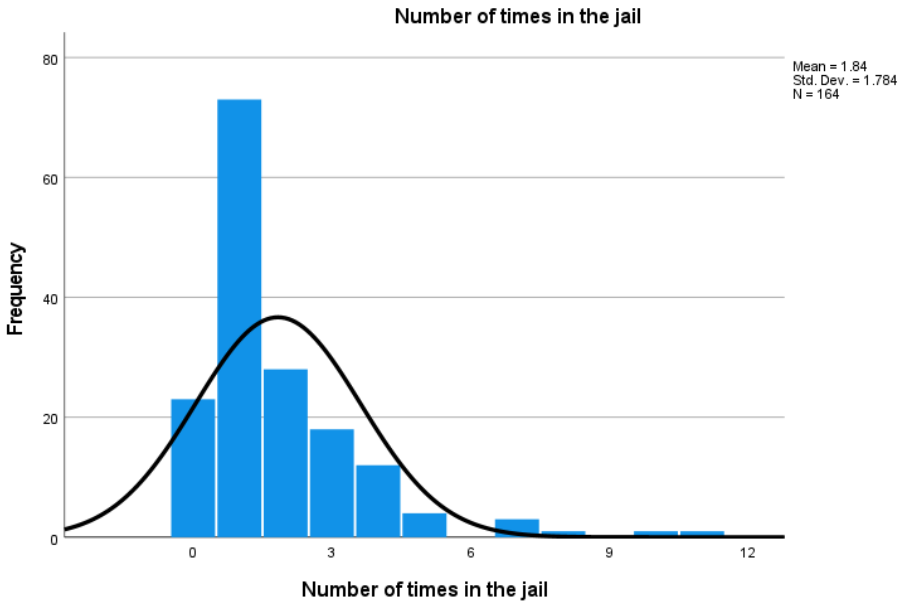


Figure 3

Histogram: Recidivism



Cronbach's alpha testing resulted in an α of .112. This is low and indicates low correlation between items and low internal reliability. This may be, in part, due to having lower numbers for the Recidivism variable based on the number of years following an individual's first offense. In the years 2018, 2019, and 2020, recidivism data was limited to one, two, and three years of collection. It could also be because there are a low number of questions on the ACE and LOCUS. The way the variables were coded may also contribute to a low Cronbach's alpha.

Summary

The implications in the assumptions testing indicate that the data was retrieved in a manner which may prevent it from being reliable and valid. The null hypothesis was proven. Based on the results of this study with this experimental design, there is no significant relationship between trauma, mental illness, substance use, and recidivism. Further studies which include a more carefully crafted experimental design would be beneficial and could contain more internal and external validity, thereby making them more generalizable and increasing their value.

CHAPTER FIVE: CONCLUSIONS

Overview

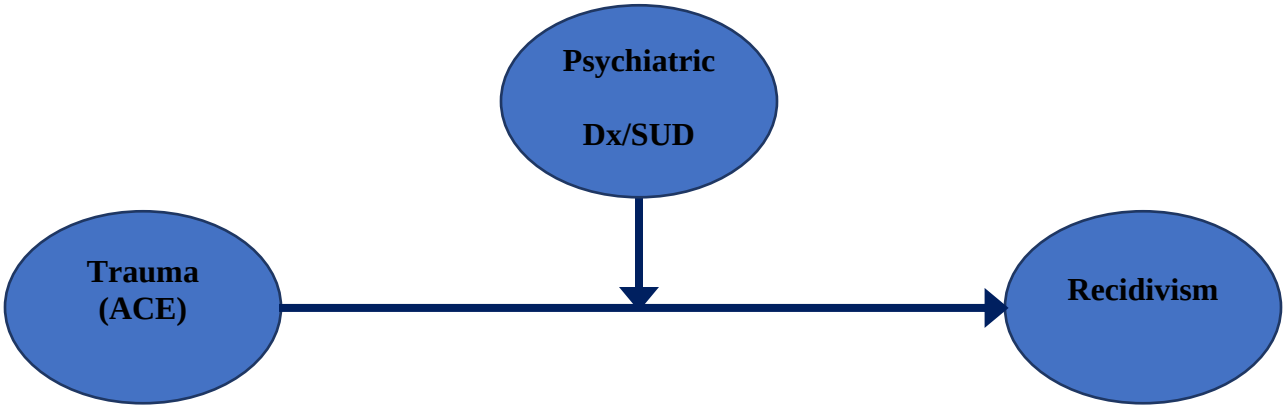
In this chapter, a review of the previous chapters will be utilized to draw conclusions from the study. The discussion will include the implications of the study, limitations of the study, and recommendations for future research. This chapter will conclude the study.

Discussion

The purpose of this study was to examine the relationships between trauma, mental illness, substance use disorders, and recidivism rates. In their study on these relationships, Zgoba- et al. (2020) discovered that mental illness and substance use affected the relationship between trauma and recidivism independently of one another (see Figure 4). This study expanded on Zgoba- et al.'s 2020 model to separate mental illness and substance use from one another by placing mental illness in a moderator position.

Figure 4

Zgoba, et al.'s 2020 Model



Findings

The findings of this study did not corroborate Craig- et al. (2019) and Zgoba- et al.'s (2020) studies. In Craig- et al.'s study (2019), a bivariate analysis showed ACE scores to be significantly correlated with juvenile recidivism, current alcohol use, current drug use, and current mental health problems at a p value of <.001. Additionally, Craig- et al. (2019) found that the substance abuse measures used were significantly associated with re-arrest (2019). Meanwhile, Zgoba- et al. (2020) found no statistical differences in the mean number of rearrests for individuals with a psychiatric diagnosis and no substance use disorder and individuals who had neither. Individuals who had only a substance use diagnosis had statistically higher means of rearrests. While this study found no statistically significant relationship between these variables, taking the statistical design errors into account and adjusting may produce different results.

The current study changed and expanded on Craig- et al. (2019) and Zgoba- et al. (2020) studies by moving the variables around to search for another explanation for how ACE scores, mental illness, and substance use affect recidivism rates. Once the factors playing a role in recidivism rates are discovered, clinicians will be able to develop diversion programs which fully meet the treatment needs of the individuals they serve and assist in further preventing offenders from reoffending and cycling through the criminal justice system.

Research Questions

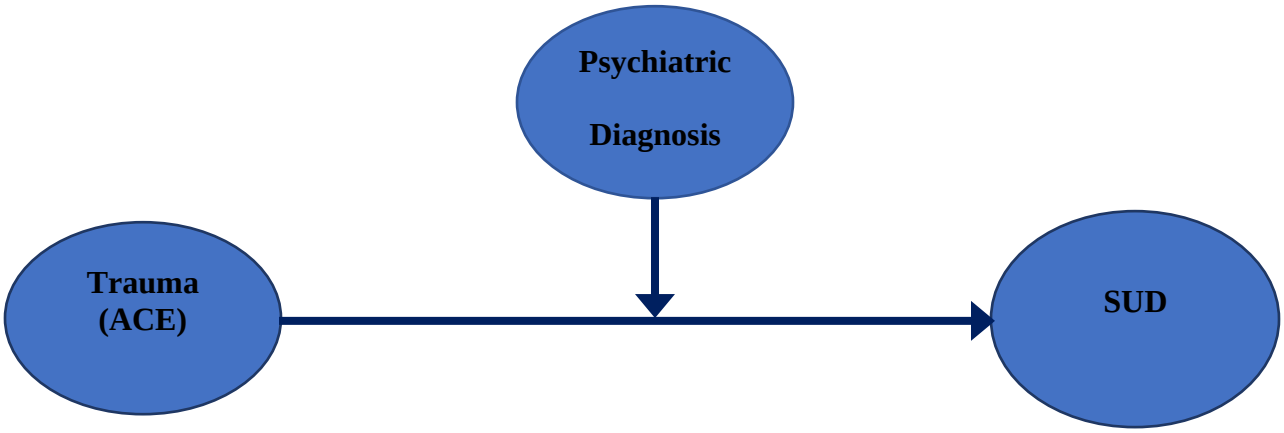
Question 1: Does the presence of a psychiatric diagnosis moderate the relationship between trauma and substance use?

This question was asked to separate psychiatric diagnoses from substance use in the model (See Figure 5) since Craig- et al. (2019) studied how co-occurring disorders impact the

relationship between trauma and recidivism and found them to be statistically significant relationships in juveniles. Zgoba- et al. (2020) then found that psychiatric diagnosis and substance use impact the relationship between trauma and recidivism independent of one another. The analysis of this model did not produce an overall statistically significant result; however, there was a statistically significant relationship (p = .022) between mental illness and substance use.

Figure 5

Regression Model 1



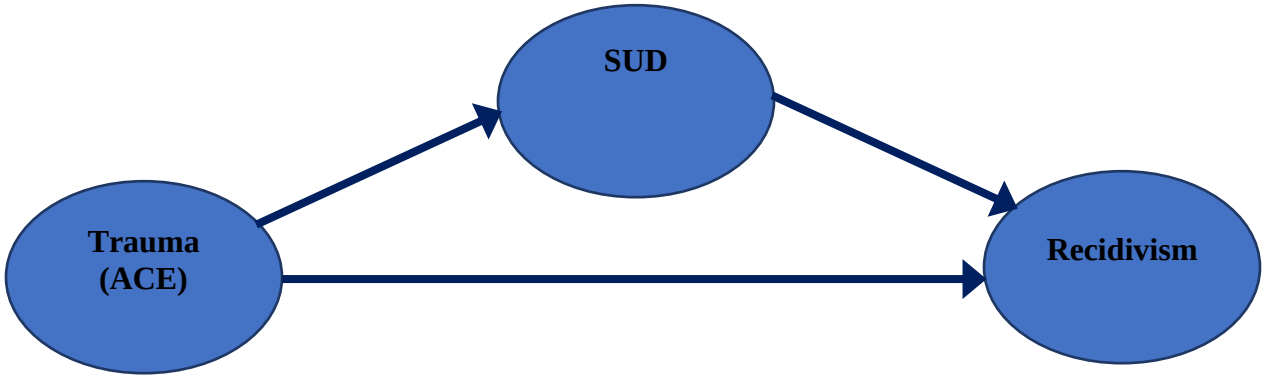
Model 1, Hayes (2018)

Question 2: Does substance use or psychiatric diagnosis mediate the relationship between trauma and recidivism?

This question was asked to further explore how psychiatric diagnosis and substance use affect the relationship between trauma and recidivism independently of one another as suggested by Zgoba- et al. in their study (2020). To test this question, Hayes (2018) Model 4 was used twice: once with psychiatric diagnosis mediating the relationship between trauma and recidivism, and then with substance use as the mediator (See Figures 6 and 7). The results of these analyses showed no statistically significant relationships between these variables when substance use is

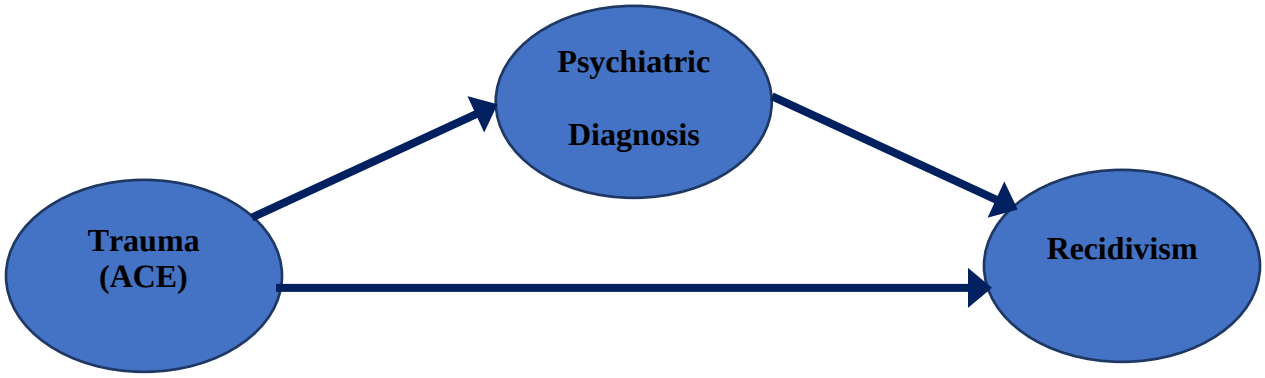
separated from psychiatric diagnosis, thus corroborating Zgoba- et al.'s findings (2020). Using only the data from 2015 and 2016, there was a statistically significant relationship between substance use and recidivism (p = .039). There was also a statistically significant relationship between ACE scores and substance use (p = .044) when using the data from 2015 and 2016 only, but the number of participants dropped to 14 making it not generalizable to the general population. Please see the limitations section to read about the limitations of the data used in this study.

Figure 6 - Regression Model 2



Model 4, Hayes (2018)

Figure 7 - Regression Model 3



Model 4, Hayes (2018)

Question 3: Does trauma impact recidivism?

In this third analysis, there was no significant relationship between ACE scores and recidivism rates. However, there was a statistically significant relationship between psychiatric diagnosis and substance use ($p = .022$). Based on the statistically significant relationships indicated by the data from 2015 and 2016, and this statistically significant relationship, it can be assumed that there is a mediated and moderated effect of trauma on recidivism. What this mediation and moderation are is yet to be discovered.

Implications

The implications of this study include the need for more research like Craig- et al. (2019) and Zgoba- et al. (2020) as well as the need to complete this study in order to fully understand the impact pf trauma, mental illness, and substance use on recidivism rates. Diversion programs have been moderately successful at assisting individuals with obtaining treatment for their psychiatric diagnoses and substance use disorders, but not much attention is being paid to the trauma and PTSD treatment needs of these individuals. More studies are needed to research what variables contribute to recidivism rates in order to fully meet the complete treatment needs of such individuals. This study adds to the existing studies by further exploring the relationships between these variables. With the right data and experimental design, this study could prove to be instrumental for counselors in the corrections systems by assisting them to focus on the treatment needs of individuals who have been arrested, incarcerated, or are on probation.

As Christians, we can relate to God and Jesus through our sufferings. In Hebrews 4:15 it says, “For we do not have a high priest who is unable to sympathize with our weaknesses, but one who in every respect has been tempted as we are, yet without sin” (English Standard

Version). In Isaiah 53:3-5, it says, “He was despised and rejected by men, a man of sorrows and acquainted with grief; and as one from whom men hide their faces he was despised and we esteemed him not. Surely he has borne our griefs and carried our sorrows; yet we esteemed him stricken, smitten by God, and afflicted. But he was pierced for our transgressions; he was crushed for our iniquities; upon him was the chastisement that brought us peace, and with his wounds we are healed” (English Standard Version).

The calling for Christian counselors is in 2 Corinthians 1:3-5 where it says, “Blessed be the God and Father of our Lord Jesus Christ, the Father of mercies and God of all comfort, who comforts us in all our affliction, so that we may be able to comfort those who are in affliction, with the comfort with which we ourselves are comforted by God. For as we share abundantly in Christ’s sufferings, so through Christ we share abundantly in comfort too” (English Standard Version). Christian counselors are to assist others through their own and through Christ’s sufferings, so they can provide comfort to others who are suffering as well. People who are in the criminal justice system are suffering for various reasons. In order to reach this population and effectively provide comfort, continued research is needed.

Limitations

The limitations to this study include the fact that the data is archival and was collected by an individual who is not this writer. This produces an instrumentation threat to the internal validity of the findings since the ACE is a self-report measure and some individuals choose not to divulge their abuse history particularly in their first meeting with a clinician. Data was also collected on participants in the jail diversion program from 2015 to 2020. In 2019 and 2020, the more recent years and the years with the most data, recidivism rates were lower since it had only been one or two years since their participation in the program. A longitudinal experiment with

the same group of individuals over a span of five to ten years may produce different results. When analyzing only the data from 2015 and 2016, the results were different, but the numbers were fewer.

Recommendations for Future Research

As stated above, a longitudinal study following the participants of a jail diversion program over the span of five to ten years to tally the number of rearrests, may produce more valid and generalizable results. Other directions would include rearranging the model as seen in Figure 5 (p. 69) to a multiple mediation model by suggesting that trauma precedes mental illness and substance use, both of which mediate the relationship between trauma and recidivism. The variables have been shown to be related in Zgoba- et al. (2020), and Craig- et al. (2019), but it is uncertain how exactly they affect each other. Understanding the core of these relationships will assist with the development of diversion programs to encompass the treatment needs of these individuals.

Summary

The problem of recidivism, while reduced with the help of programs such as jail diversion, mental health courts, and FACT teams, continues to plague counties and states nationwide. The purpose of this study was to explore the relationships between variables which may be contributing to recidivism rates but are not receiving treatment through any of the above-mentioned programs. Trauma, mental illness, and substance use contribute to higher rates of recidivism. Mental illness and substance use are addressed through diversion programs, mental health courts, and FACT teams, however trauma is not.

Craig- et al. (2019) linked trauma, mental illness, and substance use while Zgoba- et al. (2020) linked trauma, mental illness, substance use, and recidivism together with mental illness

and substance use operating independently from one another. This study looked at another possible explanation for how mental illness and substance use affect trauma and recidivism but did not find any significant relationships which could support the proposed model. For this reason, research must continue to explore the relationships between these variables to gain a better understanding of how to best meet the treatments needs of this population.

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APPENDIX A

IRB #: IRB-FY21-22-105 Date: 10-7-2021

Title: The Significance of Trauma in the Relationship Between Co-Occurring Disorders and Recidivism Among Participants of a Community Mental Health's Jail Diversion Program

Creation Date: 8-4-2021

End Date: Status: Approved

Principal Investigator: Emily Schott

Review Board: Research Ethics

Office Sponsor: Study History Submission Type Initial Review Type Exempt Decision No Human Subjects Research

Key Study Contacts Member Eric Camden Role Co-Principal Investigator

Member Emily Schott Role Principal Investigator

Member Emily Schott Role Primary Contact

September 16, 2021

Lisa Jennings - Executive Director
Monroe Community Mental Health Authority
1001 S. Raisinville Road
Monroe, MI 48161

Dear Emily Schott:

After careful review of your research proposal entitled The Significance of Trauma in the Relationship between Co-occurring Disorders and Recidivism Among Participants of a Community Mental Health's Jail Diversion Program, I have decided to grant you permission to receive and utilize the requested archival data to include the LOCUS and ACE scores of the consumers who have participated in our jail diversion program from 2015 — 2020, whether or not they have co-occurring substance use and psychiatric disorders, and the number of times they have returned to jail.

Check the following boxes, as applicable:

- ✓ The requested data WILL BE STRIPPED of all identifying information before it is provided to the researcher.

I/We are requesting a copy of the results upon study completion and/or publication.

Sincerely,

Lisa Jennings

Executive Director

Monroe Community Mental Health Authority

Accredited

Lighting the Way.

Phone 734-243-7340 • Fax 734-243-5564 • www.monroecmha.org • 1001 S. Raisinville Road • P.O. Box 726 • Monroe, MI 48161-0726

APPENDIX B

Adverse Childhood Experience (ACE) Questionnaire

Name: _____ Date: _____

This Questionnaire will be asking you some questions about events that happened during your childhood; specifically, the first 18 years of your life. The information you provide by answering these questions will allow us to better understand problems that may have occurred early in your life and allow us to explore how those problems may be impacting the challenges you are experiencing today. This can be very helpful in the success of your treatment.

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household often: Swear at you, insult you, put you down, or humiliate you? Or Act in a way that made you afraid that you might be physically hurt? Yes No If Yes, enter 1 _____

2. Did a parent or other adult in the household often: Push, grab, slap, or throw something at you? Or Ever hit you so hard that you had marks or were injured? Yes No If Yes, enter 1 _____

3. Did an adult or person at least 5 years older than you ever: Touch or fondle you or have you touch their body in a sexual way? Or Attempt or actually have oral, anal, or vaginal intercourse with you? Yes No If Yes, enter 1 _____

4. Did you often feel that: No one in your family loved you or thought you were important or special? Or Adverse Childhood Experience (ACE) Questionnaire 2 Your family didn't look out for each other, feel close to each other, or support each other? Yes No If Yes, enter 1 _____

5. Did you often feel that: You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? Or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it? Yes No If Yes, enter 1 _____

6. Were your parents ever separated or divorced? Yes No If Yes, enter 1 _____

7. Were any of your parents or other adult caregivers: Often pushed, grabbed, slapped, or had something thrown at them? Or Sometimes or often kicked, bitten, hit with a fist, or hit with something hard? Or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife? Yes No If Yes, enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs? Yes No If Yes, enter 1 _____

9. Was a household member depressed or mentally ill, or did a household member attempt suicide? Yes No If Yes, enter 1 _____

10.Did a household member go to prison? Yes No If Yes, enter 1 _____

ACE SCORE (Total "Yes" Answers): _____

APPENDIX C

LOCUS WORKSHEET VERSION 2000

Rater Name_____ Date_____

Please check the applicable ratings within each dimension and record the score in the lower right- hand corner. Total your score and determine the recommended level of care.

I. Risk of Harm

1. Minimal Risk of Harm
2. Low Risk of Harm
3. Moderate Risk of Harm
4. Serious Risk of Harm
5. Extreme Risk of Harm

Score _____

II. Functional Status

1. Minimal Impairment
2. Mild Impairment
3. Moderate Impairment
4. Serious Impairment
5. Severe Impairment

Score _____

III. Co-Morbidity VI. Engagement

1. No Co-Morbidity
2. Minor Co-Morbidity
3. Significant Co-Morbidity
4. Major Co-Morbidity
5. Severe Co-Morbidity

Score _____

IV-A. Recovery Environment - Level of Stress

1. Low Stress Environment
2. Mildly Stressful Environment
3. Moderately Stressful Environment
4. Highly Stressful Environment
5. Extremely Stressful Environment

Score _____

IV-B. Recovery Environment - Level of Support

1. Highly Supportive Environment
2. Supportive Environment
3. Limited Support in Environment
4. Minimal Support Environment
5. No Support in Environment

Score _____

VI. Engagement

1. Optimal Engagement
2. Positive Engagement
3. Limited Engagement
4. Minimal Engagement
5. Unengaged

Score _____

V. Treatment and Recovery History

1. Full Response to Treatment & Recovery
2. Significant Response to Treatment & Recovery
3. Moderate Response to Treatment & Recovery
4. Poor Response to Treatment & Recovery
5. Negligible Response to Treatment

Score _____

Composite Score _____

Level 1 = 10-13
Level II = 14 - 16
Level III = 17 - 19
Level IV = 20 - 22
Level V = 23 –27
Level VI = 28 or more