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Evaluating Counseling Modality Based on Recidivism for Misdemeanor Offenders

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This is to certify that the doctoral dissertation by

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Abstract

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Illegal substance use in the United States is a growing problem, and a western state has a higher than average rate of drug offenders. Many courts, including misdemeanor courts, have limited to no budget for drug treatment programs outside of the drug court treatment programs. As such, many court-ordered drug treatment programs, when drug counseling is ordered in exchange for a reduction in charges, are outsourced to privately owned companies. The drug counseling entails a single 8-hour outsourced drug counseling course, which includes either in-person, online, or correspondence-based counseling. The purpose of this study was to investigate the effectiveness of the three modalities of the lower level drug counseling course. Effectiveness was measured by comparing recidivism rates of offenders completing each of the three modalities of the program. A second goal of the study was to investigate whether relationships exist in recidivism rates as a function of modality of program delivery, type of drug used by offenders, risk of re-offense, or an interaction between the three. Archival data (N = 395) were collected from a misdemeanor court, and the results of an ordinal logistic regression indicated a statistically significant relationship between recidivism, risk, and modalities of counseling. The modality that was most effective was the online modality of counseling, for offenders who had no risk, and reduced the potential for recidivism by 79%. The results of this study could assist the local government in determining the effectiveness of each of the three modalities of the abbreviated drug counseling program and assist in future decisions regarding development of drug counseling programs and necessary funding for those programs, providing potential for positive social change.

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Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Illegal substance use in the United States is a problem, and many states are experiencing obstacles when implementing adequate treatment for drug offenders in forensic settings (Bartol & Bartol, 2012). A western state has a higher than average rate of drug offenders (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012b). However, after taking a plea bargain, in cases which are often misdemeanors or reduced to misdemeanors for plea purposes, an offender is referred to an outsourced counseling agency to complete a single day abbreviated drug counseling course. Therefore, the purpose of this study was to examine the effectiveness of the modalities in this counseling course based on rates of recidivism. This chapter includes the background of the study, the problem and purpose statement, the theoretical framework, the nature of the study, the significance of the study, and a conclusion.

Background

Substance use disorders are estimated to cost $180 billion in the United States, with the fastest rising costs in the criminal justice system (Anglin et al., 2013). Drug courts create a general reduction in recidivism rates; however, the reductions are not consistent when compared to typical judgement of drug offenders (Anglin et al., 2013). For example, the Substance Abuse and Crime Prevention Act (SACPA) of 2000 led to a "savings of $2,317.00 per offender over the 30-month follow-up period," and most of the savings were organized in areas of decreased incarceration (Anglin et al., 2013, p. 5). Thus, the transfer of drug offenders from the correctional and incarceration system into the drug treatment system can maintain long-term savings because of the reduction in the

incarcerated population (Anglin et al., 2013). However, under SACPA offenders can elect to complete drug treatment within the community rather than while incarcerated, so offenders who are high-risk may be undertreated, which has substantially increased costs for the program (Evans et al., 2011).

Over 8 million offenders are active in the criminal justice system, and roughly 70% of this population have a substance abuse disorder (Taxman, Perdoni, & Caudy, 2013). Based on a survey of 644 correctional facilities, approximately half of the offenders were in need of some form of treatment program (Taxman et al., 2013). However, most programs within the facilities were geared toward lower-level offenders and not offenders with a moderate or high risk for re-offense (Taxman et al., 2013). Drug treatment courts have been growing in number across the United States, but limited research has been available on whether they have been effective for different subgroups of offenders (Somers, Rezansoff, & Moniruzzaman, 2013). But individuals could be prevented from offending or participating in a drug court with better research on effective drug treatment that can help identify individuals for program assignment for effective diversion (Somers et al., 2013).

Researching treatment is important, because treatment for drug offenders is often less costly than incarceration and community-based treatment has been beneficial to reducing recidivism in drug offenders (Lattimore, Krebs, Koetse, Lindquist, & Cowell, 2005).For offenders who were incarcerated, prison-based drug treatment followed by substantial aftercare within the community has been the most effective form of drug treatment as long as the appropriate assessments were conducted prior to treatment

(Welsh, Zajac, & Bucklen, 2014). However, offenders may need differing treatment options, as motivation, crime, and treatment may vary for each individual offender (Greaves, Best, Day, & Foster, 2009). Lower intensity treatment may be effective for lower-level offenders, but in some cases, treatment of the same intensity for higher-level offenders may be inadequate (Powell, Christie, Bankart, Bamber, & Unell, 2011). Thus, proper assessment and planning as well as case management and continuing care are significant for drug treatment of drug offenders (VanderWaal, Taxman, & Gurka-Ndanyi, 2008).

One way treatment has been examined if through the risk-needs-responsivity (RNR) treatment model, which indicates the "prediction of risk and classification of offenders for treatment" (Ward, Mesler, & Yates, 2006, p. 209). The model shows that offenders who pose higher risk benefit from more intensive treatment and lower risk offenders need minimal or no intervention (Ward et al., 2006, p. 209). In addition, the need principle of the model indicates that only specific factors that reduce recidivism should be used or targeted for intervention purposes, as responsivity requires that any treatment should be tailored to specific offender characteristics to form a more comprehensive form of treatment (Ward et al., 2006). Though the model does not address offender motivation or personal identity, it provides significant attention to offender risk, which results in a more comprehensive form of offender treatment (Ward et al., 2006).

In this study, I investigated the effectiveness of the three modalities of a lower level drug counseling course. The study provides additional information regarding the effectiveness of drug treatment for misdemeanor offenders and fills a gap in the literature

on misdemeanor offender recidivism rates. Implications for positive social change relate to potential modifications to the drug counseling program or potential modifications to the practice of the court system for standard drug offers. In addition, the results of this study could assist the local government in determining the effectiveness of each of the three modalities and assist in decisions regarding the development of drug counseling programs in the future and necessary funding for these programs.

Problem Statement

Drug dependency is an increasing problem in a western state. In 2011, a western state ranked 14th in the nation for the percentage of the population who were considered illicit drug users, and it ranked second in the nation for local government expenditures, per capita, for judicial and legal services (Nevada State Legislature, 2014). Further, according to SAMHSA (2012b), a western state ranked above the national average for persons 12 and older who had used an illegal substance (16.8% in a western state versus 14.7% in the United States) from 2005 through 2010. Marijuana use was also higher than the national average, at 11.2% of the population consuming marijuana, which also includes synthetic forms of marijuana (SAMHSA, 2012b), when the national average for marijuana use was 10.7%. In addition, the use of nonmedical prescription painkillers was 6.7% when the national average was 4.9% (SAMHSA, 2012b, p. 2).

To address issues with drug dependency, a western state implemented its first drug court in 1992 (McCabe, 2012). The drug court is an intensive drug treatment program and court calendar that assists individuals in group and individual counseling, which lasts between 6 months and 1 year. Drug court requirements include counseling,

urine analysis, and strict guidelines for an offender to successfully complete and graduate from the program (McCabe, 2012). Judges monitor participants weekly to ensure compliance with program requirements, and sanctions occur when an offender is not trying in recovery or when multiple relapses occur, which include jail time, extension of a suspended sentence, or additional counseling or community service being imposed (Valley, 2012). From 1992 through 2012, 5,200 individuals have graduated from the drug court program, which is approximately 260 graduates per year (McCabe, 2012). Statistics have indicated that 70% of graduates in drug court programs do not commit another crime after the conclusion of their programs (McCabe, 2012); however, there are few recidivism statistics for individuals currently or previously enrolled in the drug court program. The recidivism rate in 2014 for drug offenders within a western state's Department of Corrections was 27.76% (Legislative Counsel Bureau, 2014), but this information does not account for cases within the misdemeanor court system, as no case negotiated within this lower-court system ends in a prison sentence.

Outside of the drug court program, in the misdemeanor court no budget currently exists for drug treatment services through the court system. Fewer program options are available to individuals through the court system because of a lack of funding for treatment programs (Jackson, 2008; Ferrara, 2014), as the western state has eliminated $80 million from its budget since 2007 (Myers, 2013). Thus, most drug treatment courses are outsourced to private, court-approved, companies. According to attorneys, in many cases in the western state court ordered drug counseling is a part of any negotiated case that involved drugs, including misdemeanor citations, felony cases, cases which involved

possession of marijuana without a medical marijuana card, cocaine, heroin, methamphetamine, benzodiazepines, bath salts, synthetic drugs, and many other substances. For instance, the misdemeanor court has had approximately 300,000 total offenses filed each year that included citations, misdemeanor offenses, gross misdemeanor offenses, and felony offenses (Las Vegas Justice Court, 2014); however, information on the specific number of drug-related cases filed each year is unavailable.

Because of a lack of funding, a single 8-hour outsourced drug counseling course has been implemented in many negotiations for drug offenders, which is considered a standard offer specifically in misdemeanor court. The course consists of an in-person, online, or correspondence course which included "topics of addiction and consequences" (Legal Rehabilitation Services, 2015, para. 6). However, the abbreviated drug counseling program does not have a selection process. The district attorney handling each case has been responsible for implementing negotiations in drug cases, which occasionally involve the lower level drug counseling course but not always. There are no guidelines for who can be referred to the drug counseling course as a part of an offender's negotiations. In addition, there is no policy regarding a risk or needs assessment to be completed prior to ordering completion of the abbreviated drug counseling course. Clinical needs, or the determination of dependence versus abuse and type of treatment, have also not been addressed. Because the counseling agency did not evaluate participants for risk or need factors when enrolled in the abbreviated drug counseling course (Legal Rehabilitation Services, 2015), the specific risk-related or need-related issues of each participant could not be addressed (Friedmann, Taxman, & Henderson, 2006). The program used a one-

size fits all approach for the abbreviated counseling, which means that evidence-based practices (Friedmann et.al, 2006) may not be implemented in the counseling course.

Effective principles of drug treatment address the multiple and varying needs of the individual (SAMHSA, 2012a), and maintaining treatment for a suitable period is crucial and will vary according to the individual's clinical needs. In addition, continual assessments should be conducted to monitor progress (SAMHSA, 2012a). Because the counseling company for the abbreviated drug counseling program does not assess individuals for risk or need (Legal Rehabilitation Services, 2014), the standards of treatment do not match SAMHSA's requirements or the RNR model of substance abuse treatment. According to the RNR model, services provided should match the offender's specific risk level of reoffending, need should address specific criminogenic need, and responsivity entails providing an offender the proper treatment for level of risk and need (Washington State Department of Corrections, n.d.). Currently, there is no research available on whether the abbreviated drug counseling course, in each of its modalities, is effective at reducing recidivism. Therefore, this study was conducted to address the gap in research related to abbreviated, or short-term, drug counseling.

Purpose

The purpose of this study was to investigate the effectiveness of the three modalities of the lower level drug counseling course. Effectiveness was measured by comparing recidivism rates of offenders completing each of the three modalities of the program. A second goal of the study was to investigate whether relationships exist in

recidivism rates as a function of modality of program delivery, type of drug used by offenders, risk of re-offense, or an interaction between the three.

Research Questions

Research Question (RQ)1: Is there a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders?

H_a1: There is a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders.

H_01: There is not a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders.

RQ2: Is there a significant predictive relationship among drug type, program modality, and recidivism rates of offenders?

H_a2: There is a significant predictive relationship among drug type, program modality, and recidivism rates of offenders.

H_02: There is not a significant predictive relationship among drug type, program modality, and recidivism rates of offenders.

RQ3: Is there a significant predictive relationship between risk level and recidivism rates of offenders?

H_a3: There is a significant predictive relationship between risk level and recidivism rates of offenders.

H_03: There is not a significant predictive relationship between risk level and recidivism rates of offenders.

RQ4: Is there a significant predictive relationship between modality based on risk level and recidivism rates of offenders?

H_a4: There is a significant predictive relationship between modality based on risk level and recidivism rates of offenders.

H_04: There is not a significant predictive relationship between modality based on risk level and recidivism rates of offenders.

Theoretical Framework

The theoretical framework for this study stems from the RNR model (Welsh et al., 2014) and the need to determine risk and criminogenic need for each offender. According to research, the implementation of drug treatment services for individuals with a diagnosis of substance abuse could reduce recidivism rates (Vitacco et al., 2008). The RNR model is based on the specific risk level of each offender, with a higher risk level determining that an offender needs more intensive treatment than offenders who are of lower risk (Ward et al., 2006). Criminogenic need is based on specific characteristics of an offender such as education level and employment status (Ward et al., 2006). The responsivity portion of the RNR model focused on specific treatment tailored for each offender is essential to the reduction of recidivism and maintaining offender sobriety (Ward et al., 2006). The specific dosage of treatment is also an important aspect that outlines the minimal requirements, or hours of treatment, for offenders of differing risk levels and need (Latessa, n.d.). For example, an offender with a high risk level for re-offense and multiple needs may require 300 or more hours of treatment to see a change in behavior, but an offender with a low level of risk and minimal needs may only require

approximately 100 hours of treatment (Latessa, n.d.). The fidelity, or program integrity and quality, of these programs is also an important aspect of treatment, which includes having properly trained staff, targeting responsivity factors during treatment, monitoring participants, ensuring the program was maintained through stringent quality standards, and providing comprehensive aftercare for participants (Latessa & Lowenkamp, 2006).

The RNR model relates to the present study in several ways. First, no current information or statistics are available for the abbreviated drug counseling program and its effectiveness on drug offenders who use misdemeanor negotiations, so the RNR model provides a foundation for building questions regarding effective treatment. The RNR model also employs evidence-based practices that have been shown to provide more comprehensive treatment worldwide (Bonta & Andrews, 2014), so the abbreviated drug counseling could be evaluated within the context of the RNR model. Thus, the RNR model was the framework for identifying variables associated with effectiveness of the three modalities of the brief substance abuse counseling program used by the misdemeanor court.

Nature of the Study

The research design that was used is a quasi-experimental quantitative study (Creswell, 2013; Frankfort-Nachmias & Nachmias, 2008). Because the groups in this study were chosen for specific characteristics and were unable to be randomly assigned to named groups, a quasi-experimental design was most appropriate (Creswell, 2013). In addition, a quasi-experimental design was appropriate for ex-post facto research.

Recidivism in this study was measured by any new convictions within a 3-year period after the initial 2013 conviction. Follow-up data were collected for any subsequent convictions in 2013 through 2016. Archival data were collected from misdemeanor court records via the criminal case management system. I used a sample of cases targeted to drug offenders and drug offenses rather than random sampling techniques, as not all cases in misdemeanor court include drug offenders or offenses.

The study included an analysis of recidivism rates for cases involving marijuana, methamphetamine, heroin, cocaine, benzodiazepines, an "other" category that included cases involving synthetic drugs such as spice or bath salts, and opiates/pills. In this study, risk for re-offense was measured by the previous criminal history of each offender because of the lack of an official diagnosis of substance abuse (see Evans et al., 2011; Taxman et al., 2013). A comparison of recidivism rates within and between modalities based on specific drug use was conducted to determine whether there were interaction effects between program modalities and the type of drug used. A comparison of risk within and between program modalities and between types of drug used was also conducted to determine possible correlations in recidivism rates.

The independent variables in the study are (a) modality of program with three levels: online, correspondence, or in-person; (b) type of drug used with six levels for each drug type (marijuana, methamphetamine, heroin, cocaine, benzodiazepines, other, and opiates/pills); and (c) risk of re-offense. The dependent variable in the study is recidivism rate. I compared correlations between modalities as a function of the specific type of drug

involved in each case to determine whether there were any interactions between the type of drug used and the modality of treatment.

After the data were collected, the data were compiled into several categories: specific drug of choice, risk of re-offense, and modality of counseling. Each identification number of the offender was checked against the criminal case management system for prior convictions to determine the risk of re-offense for each offender by determining prior criminal history (Evans et al., 2011; Taxman et al., 2013) because of the lack of a formal risk assessment tool. The recidivism rates were then calculated by me using an ordinal linear regression and using Statistical Package for the Social Sciences (SPSS) software and Intellectus Statistics software.

Definitions

Conviction: The adjudication, or finding of guilt, of an individual of a specific crime under a court's jurisdiction, which does not include charges that have been expunged or reversed (Black, 1990, p. 333).

Lower level or abbreviated drug counseling: Any short-term drug counseling ordered by the misdemeanor court that spans 8 hours or less in length (Legal Rehabilitation Services, 2015).

Risk for re-offense: The likelihood that an offender will commit a new crime, resulting in conviction, after the conclusion of sanctions for a previous criminal case (National Institute of Justice, 2014).

Recidivism: The conviction of subsequent charges for an individual offender after the conclusion of sanctions or interventions for a previous conviction (National Institute of Justice, 2014).

Assumptions

It is assumed that the data collected for this study, which are considered archival data, were collected in a precise manner. It is also assumed that the files containing the data collected for this study will not accumulate additional information after the commencement or the conclusion of this study and that the files are maintained according to the misdemeanor court's standards. These assumptions are fundamental because of an inability to substantiate, or review, the specific processes used for the original data collection by the misdemeanor court. Furthermore, it is not possible to corroborate whether the files, from which data was pulled, are complete in reference to the information contained within in each file.

Scope and Delimitations

The scope of the current study was to evaluate the effectiveness of the three modalities of the lower level drug counseling course. The target population in this study was drug offenders who were actively involved in the criminal justice system in the misdemeanor court, which included all adult drug offenders over the age of 18. The target population consisted of three main groups: offenders who have completed the abbreviated drug counseling in-person, via correspondence-based courses, and online. Assignment to each group depended on the modality of counseling for each individual offender based on the target case and conviction identified from the year 2013, and the

specific drug offense charge for each offender. Recidivism was calculated from any subsequent convictions from 2013 through 2016.

To be included in this study, drug offenders must have been over the age of 18, and have been convicted with drug offenses, which include possession of controlled substance, possession of marijuana under 1 ounce, trafficking in controlled substance, sale of controlled substance, under the influence of controlled substance, and possession of dangerous drugs not to be introduced into interstate commerce. In addition, offenders must have subsequently accepted a plea negotiation that included lower level drug counseling as a component of their informal probation.

Although some offenders may have been certified as adults as juveniles under the age of 18, any individual under the age of 18 who may have been certified as an adult for criminal proceedings was excluded from the study. Furthermore, any offender who had a drug offense not in the listed criteria was also excluded from the study. Exclusion also applied to offenders who were charged with these specific offense categories but had not accepted a plea negotiation or were not ordered to complete the lower level drug counseling as a component of their informal probation.

The results of this study may to be generalizable to other similar court-ordered drug counseling programs. In addition, the results of this study may also be generalizable to other drug offenders who have participated in an abbreviated drug counseling program in accordance with their respective plea negotiations.

Limitations of the Study

There are several limitations to this study. First, the number of cases involved was high and needed to be reduced for a reliable set of data to be extracted. These cases could not be randomly assigned to groups because of the nature of the study and ex-post facto research. The information contained within ex-post facto research cannot be manipulated because the information or actions being studied have already occurred (Creswell, 2013), so no interference from me was present. Because no specific assessment of risk was used, a limitation was be placed on the assignment of risk for each offender by only using criminal convictions to determine risk levels (Evans et al., 2011; Taxman et al., 2013).

Significance

This study provides information on the effectiveness of three modalities of the lower level drug counseling course through the counseling company. In addition, because there is a lack of research on community-based outpatient programs (Pearce & Holbrook, 2002), this study helps fill the need for studies conducted on abbreviated drug counseling programs. The study is significant because it shows whether the abbreviated program is having an impact on recidivism rates in the misdemeanor court. In addition, the study indicates differential effects based on specific drug preference, risk for re-offense, and modality of counseling. The results have implications for possible modifications to the program or modifications to the practice of the court system for standard drug offers. Certain modalities may be more or less effective than others depending on specific drug preference for each case. The effectiveness of the modality of the abbreviated drug counseling program, meeting the needs of drug offenders, and reducing recidivism are all

important areas that need to be addressed to determine if abbreviated drug counseling is an appropriate form of drug counseling for drug offenders in the misdemeanor court.

Summary

Chapter 1 introduced the study and the issues that were investigated. The research questions for this study relate to the SAMHSA (2012a) standards of care, the RNR treatment model, and address whether different modalities of treatment have different levels of effectiveness in the reduction of recidivism for drug offenders who are of differing risk levels. This chapter provides a wider understanding of the issues that surround drug treatment programs within the criminal justice setting and how evaluation and implementation of programs can either hinder or support effective treatment efforts. The study is important because the results have implications for modifications to the program or the court system for standard drug offers.

Chapter 2 includes current literature involving drug treatment courts and the effectiveness of drug courts on recidivism, standards of substance abuse treatment, a more in-depth discussion of the RNR model as the theoretical foundation for the study, drug of choice and recidivism rates for drug offenders, risk level and recidivism rates, and treatment modality and recidivism rates.

Chapter 2: Literature Review

Introduction

Statistics suggest that a western state is above the national average in most areas of drug use (SAMHSA, 2012b). From 2005 to 2010, 16.8% of the population in a western state over 12 years of age had used an illicit substance (SAMHSA, 2012b), when the national average in the United States was 14.7%. Despite these statistics, there is no information on the effectiveness of abbreviated counseling programs for drug offenders in the misdemeanor court. The purpose of this study was to investigate the effectiveness of the three modalities of the lower level drug counseling, which is court-ordered for drug offenders in the misdemeanor court as part of misdemeanor negotiations for an offender's respective case. My goal was to identify offender risk using criminal history and recidivism rates for individuals in each modality of counseling.

In this chapter, the theoretical foundation of the study, the RNR model, the SAMHSA standards, the drug counseling program in the misdemeanor court, risk principles, criminogenic needs, responsivity, and program fidelity are discussed. The misdemeanor court is also discussed, including the program requirements and differing phases of the 1-year program. In addition, reviews of literature and relevant studies on drug court treatment programs in differing jurisdictions and drug treatment options for individuals of differing risk levels are examined.

Literature Search Strategy

During the literature review process, the following library databases were accessed from the Walden University website: EbscoHost, PsycINFO, PsycARTICLES,

and SAGE Premier. Peer-reviewed literature was sought as the primary source of information. Search terms used included *drug counseling, drug education, drug programs, drug offenders, drug education programs, drug treatment, recidivism, drug counseling and recidivism, Risk-Need-Responsivity (RNR) model, RNR model, R-N-R model and substance abuse, criminal defendants, forensic population drug treatment, abbreviated counseling, brief treatment, short-term drug treatment, short-term substance abuse treatment, a western state,* and *drug offenders*. Search engines used for news articles, legislative websites, and information unique to a western state included Google Chrome and Mozilla Firefox. Search terms included *misdemeanor court case statistics, the misdemeanor court, drug statistics, drug counseling, drug treatment,* misdemeanor *Drug Court, SAMHSA, National Association of Criminal Justice, National Institute of Mental Health*, and *drug statistics*. Information regarding drug education programs, as opposed to drug counseling programs, was unavailable; therefore, no studies were available for different modalities of drug education programs. In addition, a comparison of drug education versus drug treatment programs was unable to be conducted because of the lack of research available on drug education programs.

During the literature review, attempts were made to obtain the most current information, so most of the literature reviewed is within the past 5 years. However, due to the lack of research in abbreviated drug counseling, specific drug treatment targeted for drug offenders, and the RNR model to support current research on drug offenders and drug treatment, some research was obtained from earlier years, spanning from 2002 through 2015. The 13-year span of research allowed for more concise identification of

the strengths and weaknesses of the RNR model and the progression of what works in drug treatment for forensic populations. Similarly, additional sources from the same time were obtained from news articles, court, and legislative websites regarding information unique to a western state.

Currently, there is little information on the effectiveness of abbreviated drug counseling for drug offenders within the criminal justice system. Information obtained from the RNR model and the SAMHSA standards for treatment were used as supporting documentation to understand the effectiveness of abbreviated treatment options for drug offenders. The RNR model is informative not only because it provides significant detail relating to successful factors in drug treatment, but also because it provides a detailed description of risk, criminogenic need, and responsivity necessary for successful treatment (Welsh et al., 2014). The RNR model, coupled with the SAMHSA standards for treatment, was a good foundation for this study.

Theoretical Foundation: The Risk-Needs-Responsivity Model

The theoretical foundation for this study originates from the RNR model (Welsh et al., 2014) and the need for assessment of risk and criminogenic need for all offenders who enter drug treatment programs. The RNR model allows for the identification of specific criminogenic factors that may contribute to or prevent criminal recidivism, including factors like education, employment, substance use, and criminal history. With information obtained from assessments, counselors and drug treatment agencies may form a more comprehensive treatment plan for the individual offender, rather than using a

uniform method of treatment (Ward et al., 2006), which may not be the most appropriate form of treatment for all offenders.

The RNR model originated in Canada in the 1980s and was formalized as a model for the general treatment of offenders to reduce recidivism in 1990 (Bonta & Andrews, 2014). The model has been used extensively throughout Canada and is now used as a model of drug treatment around the world (Bonta & Andrews, 2014). The model is based on the assessment of three areas for individual offenders: the risk of re-offense, criminogenic need, and responsivity to treatment provided (Bonta & Andrews, 2014; Welsh et al., 2014). The model employs evidence-based practices to ensure a more comprehensive manner of treatment is provided to each individual based on the assessment results (Bonta & Andrews, 2014). For example, although some offenders may need extensive treatment, extensive treatment may not always be the best option for offenders who are not considered to be drug-dependent or offenders who are considered a low-risk to reoffend (Bonta & Andrews, 2014). Because of the differences in each offender's risk and need, assessments for each offender should be conducted prior to treatment and during treatment to ensure the most comprehensive form of treatment (Latessa, n.d.). Not assessing risk level could lead to a waste in resources, and treatment that does not fit criminogenic needs can hinder treatment (Bonta & Andrews, 2014).

The four primary criminogenic needs addressed in the RNR model are antisocial cognition, antisocial companions such as friends and family members, antisocial personality or temperament, and a history of antisocial behavior (Latessa & Lowenkamp, 2006). The primary criminogenic needs have been identified as predictors and causal

variables in any analysis of individual behaviors (Bonta & Andrews, 2014). These primary criminogenic needs are considered dynamic factors that can be changed (Latessa & Lowenkamp, 2006). Antisocial cognition includes attitudes and belief systems that support criminal activity where individuals may look down on others who abide by the law (Bonta & Andrews, 2014). Antisocial personality or temperament includes risk-taking behaviors; a lack of empathy for others, especially victims of crime; and a lack of coping skills conducive to overcoming obstacles or difficulties in life (Bonta & Andrews, 2014). A history of antisocial behavior includes isolation from others, reckless behaviors, impulsivity, and lack of contact with prosocial individuals (Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006). Antisocial companions have the same antisocial cognition as the individual in question, and may provide support and even encouragement for criminal behaviors and provide disapproval for law-abiding behaviors (Bonta & Andrews, 2014).

There are also four secondary criminogenic needs, which include difficult family or marital circumstances, lack of education and a lack of employment, a lack of prosocial recreational activities, and substance abuse issues (Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006). Family or marital issues can significantly compound problems stemming from the major needs, increasing the potential for antisocial and criminal behaviors (Bonta & Andrews, 2014). A lack of education compounds personal issues, including a lack of established coping skills, respect for authority, property, and self (Bonta & Andrews, 2014). A lack of education can also compound an individual's personal problems because of an inability to obtain or keep gainful employment or

advance in employment status within a corporation or organization, and inadequate employment can cause an individual to take measures to obtain funds to cover basic needs such as shelter, clothing, and food (Bonta & Andrews, 2014). Further, low levels of prosocial recreational activities can support an antisocial lifestyle, furthered by involvement with antisocial associates (Bonta & Andrews, 2014). Finally, drug and alcohol abuse may severely isolate an individual, causing a propensity for antisocial behaviors and association with others who are antisocial and who may have drug abuse or criminal attitudes (Bartol & Bartol, 2012; Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006).

Currently, no research exists on the application of the RNR model in areas of short-term drug counseling or short-term drug treatment programs. Previous applications of the RNR model have been used to determine an approximation of effective length of drug counseling necessary for effective treatment for individuals who have been evaluated for risk and need (Latessa, n.d.), but not in areas of abbreviated drug counseling and the relative effectiveness of counseling for individuals who have not been evaluated in any manner prior to the commencement of services (Pearce & Holbrook, 2002). However, according to SAMHSA (2012a), the specific and varying needs of each individual must be addressed in each treatment setting for treatment to be effective.

The choice to use the RNR model for the current study was based on the comprehensive nature of the model and the qualities that the RNR model brings to drug treatment—substance abuse is a criminogenic need and is directly associated with recidivism in drug offenders (Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006).

The model is a comprehensive, evidence-based model for delivery of effective treatment in the criminal justice system (Bonta & Andrews, 2014), which also provides continuous assessments throughout treatment to maintain the integrity of the program for the individual. Because no information or statistics are available for abbreviated drug counseling and its effectiveness on drug offenders who use misdemeanor negotiations, the RNR model provided a guide for evaluating effective treatment. Further, the abbreviated drug counseling could be evaluated within the context of this model because it uses evidence-based practices that have been shown to provide comprehensive treatment worldwide (Bonta & Andrews, 2014).

The RNR model served as a framework for identifying specific variables associated with effectiveness of the three modalities of the brief substance abuse counseling used by the misdemeanor court. I tested the applicability of the RNR model to the three modalities of abbreviated drug counseling in the misdemeanor court to determine the effectiveness of each modality of short-term drug counseling in the reduction of recidivism for drug offenders. The research questions for the study assist in identifying areas within abbreviated drug counseling that should be challenged for purposes of identifying the effectiveness of the counseling implemented by the misdemeanor court in misdemeanor case negotiations.

Risk-Need-Responsivity Model for Offender Assessment and Rehabilitation

The RNR model plays a significant role in the determination of what is appropriate for drug offenders in relation to treatment and the reduction of recidivism (Bonta & Andrews, 2014). The core principles of RNR include the risk principle, which

identifies risk of re-offense and services matching the risk level; the need principle, which introduces an assessment for criminogenic need such as issues with substance abuse, procriminal attitudes and support systems, education levels, and employment status; and the responsivity principle, which includes an offender's specific or general response to treatment provided (Bonta & Andrews, 2014). General responsivity includes methods used to influence behaviors for each individual (Bonta & Andrews, 2014). Specific responsivity is the accounting of specific learning characteristics and uses said characteristics in behavioral interventions for each individual offender (Bonta & Andrews, 2014). Continual assessment using the RNR model allows the administrators of treatment to understand the progress an individual is making during the treatment process and also provides information on potential modifications to treatment that may need to take place while treatment is in progress (Bonta & Andrews, 2014).

For the past two decades, the RNR model has made significant strides and contributions in the way of comprehensive treatment for individual offenders who need effective intervention (Bonta & Andrews, 2014). Several areas of the RNR model assist in enhancing treatment for offenders (Bonta & Andrews, 2014). First, the identification of individual risk for re-offense assists clinicians in providing the correct type of treatment and reduces missteps in treatment (Bonta & Andrews, 2014). Instruments used for risk assessment have performed better in predicting criminal behaviors and patterns than clinical judgment, making them necessary for reducing re-offense (Bonta & Andrews, 2014). In addition to risk, criminogenic needs are also a component of successful treatment. In the evaluation of dynamic risk factors, treatment can be tailored

to the individual so that individual needs are met (Bonta & Andrews, 2014). In addition, responsivity in treatment is necessary because of the human component for change in any treatment or behavioral change setting (Bonta & Andrews, 2014). If a single component of the treatment model is removed, the treatment has a decreased chance for success and an increased chance for re-offense for the individual offender (Bonta & Andrews, 2014). In some cases, incorrect or unsuccessful treatment for drug offenders may make the possibility of re-offense worse (Bonta & Andrews, 2014).

Andrews's Principles of Risk, Needs, and Responsivity Applied to Drug Treatment Programs

Throughout the United States, many models for drug treatment exist. Some models are based around step programs to assist individuals in obtaining specific goals in a set amount of time (Bartol & Bartol, 2012). Some models include aspects of anonymity to urge people to seek assistance without having to notify anyone of their participation in drug treatment programs, reducing the stigma of drug use (Bartol & Bartol, 2012). The RNR model of treatment is considered to be one of the most comprehensive models of drug treatment available today because of the significant amount of evaluations that are conducted throughout treatment (Prendergast et al., 2013). The RNR model's systematic evaluation system provides information on each participant's progress on a continuum (Prendergast et al., 2013). Systematic evaluations may assist in the reduction of recidivism for participants, which could enhance the quality of life for each participant and allow the participant to become a productive member of society (Prendergast et al., 2013). In addition, evidence-based practices are present within the RNR model, which

has been shown to increase levels of participation and successful completion rates (Prendergast et al., 2013).

According to previous research, Andrew's principles for the RNR model of treatment have mixed results for success. Prendergast et al. (2013) conducted a meta-analysis involving 243 studies to test RNR principles. Because of the need to independently identify drug use and criminal statistical data for risk, need, and responsivity, different hypotheses were tested for each of the Andrews's principles respectively:(a) whether higher risk individuals for post treatment outcomes for criminal activity or drug use would have a larger effect size, (b), whether addressing criminogenic needs would have a larger effect size, and (c), whether studies that delivered appropriate treatment for the respective learning styles for each client would have a larger effect size than studies in which the treatment was not appropriate (Prendergast et al., 2013).

Analysis from the Prendergast et al. (2013) study yielded extensive information. Ninety-five percent of the studies included in the analysis were dated between 1980 and 2006. In 61% of the studies, the comparison group received standard treatment, 5%received delayed treatment, 10% received no treatment or had minimal contact in treatment, and 24% received some other form of treatment for substance abuse (Prendergast et al., 2013). The most common drugs referenced in the studies were heroin, cocaine, or crack, and the median age of participants throughout the studies was 33 years (Prendergast et al., 2013). In 17% of the studies involved, all or nearly all participants were involved in the criminal justice system (Prendergast et al., 2013). Fifty-one studies involved a crime outcome, to which seven were classified as low-risk for re-

offense, 41 as higher-risk for re-offense, and three that did not provide enough information for coding purposes (Prendergast et al., 2013). Dependent variables included crime outcomes, which included any type of crime or re-offense.

The results of the meta-regression analysis between crime risk and effect size is .27, underlining that drug abuse treatment programs that treat individuals with higher-risk for crime have better crime outcomes than those that treat individuals with lower-risk for criminal activity (Prendergast et al., 2013). In reference to drug treatment programs, the number of services related to criminogenic needs had only a small association with crime outcomes (Prendergast et al., 2013). This means that additional services provided to an individual user that targeted criminogenic needs did not have a significant impact on outcomes of criminal activities for the participants after treatment was implemented. The responsivity meta-regression analysis for crime found no excessively influential studies; however, the small number of studies provided indicated a medium level of influence ($r = .33$) and supports Andrews's findings for correctional treatment programs (Prendergast et al., 2013). This indicates that responsivity is an important aspect of treatment in relation to criminal activity when administered in correctional treatment facilities and has some influence on specific recidivism rates for criminal activity post-treatment (Prendergast et al., 2013).

Of the 243 studies used for the analysis of risk of drug use, 231 studies reported measurable levels of risk for drug relapse. Fifteen studies were reported as low-risk for drug use, and 216 studies were reported as higher-risk for drug use (Prendergast et al., 2013). According to the results of those studies, "higher-risk for relapse is inversely

associated with drug use outcome in evaluations of drug abuse treatment programs" (Prendergast et al., 2013, p. 286). The unstandardized coefficient for drug risk was approximately -.002, so it was determined that the specific risk for relapse was unrelated to drug use outcomes (Prendergast et al., 2013). The meta-regression coefficient was .02 for the need principle in relation to drug use, which is indicative of little relationship between services addressing criminogenic needs and drug use (Prendergast et al., 2013). The responsivity meta-aggression analysis for drug use also found no excessively influential studies. The meta-aggression coefficient was .02, so the analysis found that responsivity does not specifically predict drug use outcomes "within studies of drug abuse treatment programs" (Prendergast et al., 2013, p. 291).

According to the Prendergast et al. (2013) study, the results are consistent with the RNR model and criminal outcome; however, the information provides little support for the principles when drug use was the outcome. There was no concrete evidence within the meta-analysis of why there was a negligible relationship between the principles and drug use outcomes (Prendergast et al., 2013). Drug dependence may encompass a different etiology and may have "different psychological and social consequences than criminal behavior" (Prendergast et al., 2013, p. 293). Because of the differences between criminal behavior and drug abuse, the RNR model may need to be adapted by clinicians to specifically target drug use (Prendergast et al., 2013) and match drug treatment with clinical needs specific to drug use and abuse. It should be noted that no attempt to identify relationships between recidivism and difference in drug of choice were identified in this study. In addition, the authors posited that treatment programs,

both in correctional settings and out, should understand that the most powerful impact for drug use and crime involves the incorporation of all three principles of the RNR model (Prendergast et al., 2013).

Prendergast et al. (2013) addressed issues with the RNR model and specific forms of treatment for individuals of differing risk and criminogenic need, and the need for treatment appropriate to the individuals specific risk level; however, their study failed to address the appropriateness or effectiveness of short-term drug treatment options. The implications of the finding that RNR principles apply to criminal outcomes, but not drug use, support the idea that all three principles are necessary for a successful reduction in re-offense (Prendergast et al., 2013). These 2013 results lend support to the selection of variables used in the current study, including risk, which is an important measure when attempting to address and calculate recidivism and re-offense rates for drug offenders. In addition, drug of choice is an important factor for re-offense, because differences in side effects and addiction severity affect each individual differently (Bonta & Andrews, 2014). Although drug of choice was not tested as part of the study by Prendergast et al. (2013), the implications of the study not testing differences in drug of choice and its relation to recidivism could be far-reaching. The importance of attempting to identify whether drug of choice has an impact on recidivism rates could mean the difference between one-size-fits-all treatment for drug offenders and more comprehensive treatment for drug offenders.

Responsivity and fidelity. Responsivity refers to the specific treatment that offenders receive, and that are most appropriate for the offender (Latessa, n.d.;

Prendergast et al., 2013). According to Prendergast et al. (2013) the responsivity principle requires ongoing evaluations of participants "to determine appropriate treatment approaches that match each offender's learning style" (p. 278). The responsivity principle is divided into two parts; general responsivity and specific responsivity (Prendergast et al., 2013). General responsivity refers to the specific approach, mostly cognitive social learning approach, which assists in the incorporation of behavioral changes for offenders in an attempt to reduce reoffending (Prendergast et al., 2013). Specific responsivity refers to identification of the specific learning type of each offender, the intrinsic or extrinsic motivation of each offender, the offender's gender, the offender's ethnicity, and the cognitive social learning approach to each individual offender's characteristics (Prendergast et al., 2013). Specific responsivity assists in obtaining the most comprehensive form of treatment for each offender in a program that incorporates the RNR model (Prendergast et al., 2013). Responsivity can enhance the individual offender's treatment if specific factors, including learning type, ethnicity, culture, and strengths and weaknesses, are incorporated into the treatment setting (Bonta & Andrews, 2014). Sometimes, additional factors, such as family, tribal elders, and close friends may also need to be taken into consideration, and even included in the treatment process, depending upon the individual offender's specific background (Bonta & Andrews, 2014). Because success in substance abuse treatment depends on many factors, it is essential for treatment providers to understand said factors, and take those factors into consideration when compiling a treatment program (Bonta & Andrews, 2014), or the program and program fidelity may suffer.

Program fidelity is the implementation of a program as originally intended, including implementing treatment steps in the correct order, providing the correct amount of treatment for each individual offender, and having properly trained staff present to implement treatment (Latessa & Lowenkamp, 2006). Failure to provide treatment as originally intended can compromise the integrity of a program, and subsequently cause the program to be less effective for the individuals who are enrolled in said program (Latessa & Lowenkamp, 2006). Latessa and Lowenkamp (2006) posited that targeting specific factors, including a lack of motivation or other individual barriers, can also influence individual program participation, therefore, strengthening the program's integrity. In addition, having "interpersonally sensitive staff, providing close monitoring of offenders' whereabouts and associates, assisting with other needs that the offender might have, ensuring the program is delivered as designed through quality assurance processes, and providing structured aftercare" (Latessa & Lowenkamp, 2006, p. 525) are all essential elements of an effective program. However, according to Latessa and Lowenkamp (2006), even with evidence-based program attributes, effectiveness of programs can falter if the program is not "competently delivered" (p. 525) to the participants.

The amount of treatment is also an issue that may be addressed by responsivity and is dependent on the offender's risk level (Latessa, n.d.). Low-risk offenders will require a much lower amount of treatment than higher-risk offenders, and Latessa (n.d.) outlined specific guidelines for risk level and appropriate treatment hours. Latessa (n.d.) posited that an individual of moderate risk to reoffend should have approximately 100

hours of treatment, and individuals who are at a high risk to reoffend should have 200 or more hours of treatment. Latessa (n.d.) pointed out that high-risk offenders would not experience behavioral change if 200 hours of treatment was not implemented. For example, if a high-risk offender receives only 100 hours of treatment, rather than the recommended 200 or more, the individual would not experience any effect from treatment services (Latessa, n.d.).

Because of this issue, the current study attempts to investigate whether relationships in outcomes are present, specifically based upon individual risk. More specifically, the issue of responsivity relates to the different modalities of treatment, the length of treatment, and ensuring that the treatment is implemented in the precise method that it was intended (Latessa, n.d.). The current program design, as it stands, treats all offenders in the same manner across the in-person, online, and correspondence courses. The current program also has no evaluation for individual risk, criminogenic need, or learning style for each individual offender. The current study accomplishes this by including a proxy for risk for each offender and outlining correlations in recidivism for each group of offenders based upon different modality of treatment.

Standards of Substance Abuse Treatment

Most private substance abuse treatment practices and facilities have implemented specific standards of care necessary for adequate and comprehensive treatment of all participants to comply with local regulations and ethical standards (Johnson, Jones-Hubbard, & Latessa, 2000). However, not all treatment providers, including some correctional facilities, contract corporations, and court mandated courses apply the same

standards in the implementation of treatment services (Johnson, Jones-Hubbard, & Latessa, 2000). Because of the stigma associated with individuals who are incarcerated, or who are in the criminal justice system, standards of care may be lacking for many reasons, including a lack of empathy or interest in the rehabilitation and treatment of offenders (Johnson, Jones-Hubbard, & Latessa, 2000). Standards of care are essential to the treatment of all participants, including drug offenders and incarcerated individuals.

In substance abuse treatment, many standards are present for best practices. SAMHSA has developed specific standards for substance abuse treatment to assist in guiding practitioners and treatment administrators (SAMHSA, 2012a). These standards of treatment include guidelines stating that all individuals requiring treatment for substance abuse should receive the same quality and thoroughness in treatment (SAMHSA, 2012a). In many cases, standards of care and intervention fall short of what is necessary for behavioral change (Johnson, Jones-Hubbard, & Latessa, 2000). The courts "cannot assume that the local treatment programs are meeting the principles of effective intervention or are consistently delivering quality treatment and services" (Johnson, Jones-Hubbard, & Latessa, 2000. p. 75). Essential components of treatment include assessment or evaluation, stabilization, and fostering patient readiness for treatment to prepare the individual to receive effective treatment services (SAMHSA, 2012a). The assessment of risk is essential to determine the specific breadth and intensity of treatment, as not all drug offenders require the same treatment services (SAMHSA, 2012c). Once risk is assessed for each individual, additional assessments need to be conducted to determine an individual's criminogenic need (Ward et al., 2006; Welsh et

al., 2014), especially in relation to substance use. This assessment of criminogenic need assists in matching appropriate treatment options to address the individual's respective substance abuse needs (Ward et al., 2006; Welsh et al., 2014).

In addition, treatment should take into consideration the cultural and ethnic backgrounds of each individual seeking treatment, and include health issues and difficult lifestyle choices that each individual may face (SAMHSA, 2012a). Cultural diversity should always be accepted and the cultural competency of staff members should be mandatory (SAMHSA, 2012a). SAMHSA states that it is "essential that care providers possess the special clinical skills necessary to provide culturally competent, comprehensive assessments" (2012a, p. 7). Appropriate training is essential for staff, and must be readily available (SAMHSA, 2012a). Standards of care and specific treatment goals should include establishing independence from substances used, fostering the development of problem-solving skills, fostering the development of coping skills, impulse control specifically geared toward curbing the urge to self-medicate, and enhancing the individual's specific motivation to change his or her behavior (County of Santa Clara, 2015). In order to maintain the trustworthiness of a substance abuse treatment program, standards must be clear and implemented in each step of treatment (SAMHSA, 2012a).

Standards of care are essential to maintain program effectiveness (SAMHSA, 2012a), no matter the specific program or treatment format. Assessment of drug offenders is a specific standard of care implemented by SAMHSA (2012a), and should be present in treatment settings to determine specific risk and need factors. Other authors

also noted that to effectively treat an individual drug user and facilitate appropriate treatment for the individual, assessments must take place (Ward et al., 2006; Welsh et al., 2014). If criminogenic need is not determined, the level of care necessary for behavioral change cannot be implemented for the individual (Welsh et al., 2014). Currently, there is no information available on the standards of care implemented by the counseling company's short-term drug counseling in the misdemeanor court. The lack of information on the standards of care and training of staff set forth by the counseling company presents extensive issues and implications for participants of the short-term drug counseling course in the misdemeanor court. Many courts assume that offender treatment programs are based on theoretically driven models and that staff members at these programs are trained in the most effective methods. However, in an assessment of programs across the country Latessa and Holsinger (1998) found that this is not the case (Johnson, Jones-Hubbard, & Latessa, 2000. p. 75).

A lack of structure, training, and standards for treatment for educational programs can result in confusion and disinterested participants (Bartol & Bartol, 2012), and could also result in a failure to address specific personal issues the individual may be experiencing (Latessa & Lowenkamp, 2006). This could possibly place the participant at risk for several issues, including alienation from future forms of drug treatment and additional criminal actions or sanctions (Latessa & Lowenkamp, 2006). Standards of treatment are in place to protect both participants and administrators. Consequently, a lack of standards of care could possibly jeopardize an individual participant's well-being, in direct conflict with the American Psychological Association's Ethical Standards and

Code of Conduct and the American Psychology-Law Society's Specialty Guidelines for Forensic Psychologists (American Psychological Association, 2010; American Psychology-Law Society, 2010). In addition, a lack of standards of care could possibly jeopardize a practitioner's professional licensure (American Psychological Association, 2010; American Psychology-Law Society, 2010). The RNR model of treatment and the SAMHSA standards of care are present as guidelines for excellence in treatment and care of individuals who need assistance. Both the RNR model of treatment and the SAMHSA standards of care assist in grounding and guiding the current study in several ways. First, the information obtained from the RNR model provides a foundational understanding of the necessary steps for successful treatment, and the research questions for the study. Second, the SAMHSA (2012a) standards of care provide guidance to the study in outlining the standards widely accepted by the mental health and treatment communities.

The research questions in this study relate to the standards of care outlined by SAMHSA (2012a) and the RNR model of treatment, questioning whether or not different modalities of abbreviated drug counseling are more or less effective for individuals of differing risk level in the reduction of recidivism rates. This raises the question of effectiveness of the current model and modalities of abbreviated drug counseling. The research questions also build on the idea that differing risk levels may potentially require different levels of treatment (Latessa & Lowenkamp, 2006).

Misdemeanor Court Lower Level Drug Counseling

No information was provided by the counseling company about the current content or model of treatment used in their abbreviated drug counseling. The content and

modality of the course may also prove to have responsivity issues. Depending on the most effective learning method for each offender, correlations may be present in the recidivism rates for each modality of the course. Some offenders may learn more efficiently in a structured, in-person setting, while others may be less distracted by others in an online or correspondence setting. In addition, no information was provided on staff members administering the course or each member's respective training.

According to attorneys, in the misdemeanor court, cases that are negotiated to misdemeanor drug charges usually include a lower level drug counseling course in the negotiations. This counseling course is intended to educate drug offenders on the debilitating results of drug use (Legal Rehabilitation Services, 2015), and is considered an education-based course only. There is no information provided on theoretical models used in the short-term drug education course, and no specific curriculum could be obtained from the counseling agency. In addition, no information could be obtained on whether or not the education course uses a relapse prevention model, or any form of specific framework. The short-term drug counseling used in many misdemeanor negotiations also uses a one-size-fits-all model, has no assessments or drug evaluations prior to entry, and consists of an eight-hour program, in person or online (Legal Rehabilitation Services, 2015). The correspondence course is completed by reading, completing, and returning a testing booklet to the counseling agency for grading. The short-term drug counseling costs $305.00 to complete in all formats (Legal Rehabilitation Services, 2015).

Because of the one-size-fits-all model, RNR principles are not being employed. Both SAMHSA (2012a) and the RNR model attempt to provide the most appropriate treatment methods for all evidence-based programs, which could include the use of multi-stage evaluations during the treatment process to assist in the determination of risk and specific need prior to, during, and after treatment. The current study observes the effectiveness of the reduction of recidivism in participants of the short-term counseling course, and evaluates the applicability of the RNR principles to the course. Specifically, based upon the RNR model, potential differential effectiveness based on specific risk levels for each offender, drug of choice, and modality of counseling were identified and investigated to determine whether or not there is support for the applicability for the RNR model in the abbreviated drug counseling program.

Currently, no other counseling occurs for misdemeanor drug cases in the misdemeanor court, other than the misdemeanor court's Drug Court program, which is an intensive program usually reserved for specific misdemeanor offenders. The referral to drug court is based solely on the discretion of the district attorney who negotiates a specific case and by the order of the Judge presiding over the criminal matter. Many individuals, including individuals with only one or two prior drug offenses, do not include drug court in negotiations. Short-term drug counseling is used in most misdemeanor drug negotiations.

Because of the lack of research available on abbreviated drug counseling courses, and the corresponding recidivism rates for program completers, information on drug court programs is being provided in the review of the literature for comparison purposes.

The information on drug courts highlights recidivism statistics for extended diversionary programs and the effectiveness of drug court models. Information on drug court models is both informative and relevant for the current study because drug court models provide a foundation of treatment within a criminal justice setting to which abbreviated diversionary programs can be compared.

Assessing the Effectiveness of Drug Courts on Recidivism

Although little research has been done on short-term drug counseling programs similar to the one in a western state, there have been many studies conducted on drug court programs. Results of drug court programs vary widely depending upon jurisdiction and requirements for the program (Latessa & Lowenkamp, 2006). Mitchell, Wilson, Eggers, and MacKenzie (2011) provided in-depth details regarding a multitude of drug courts throughout the United States. The information contained in the study conducted by Mitchell et al. (2011) is relevant because of the significant need to determine successful factors for drug treatment in the misdemeanor court. The authors provided information on what requirements were working in the drug court programs, what needed attention, and what was lacking (Mitchell et al., 2011).

> Mitchell et al. (2011) outlined recidivism statistics for 92 adult drug courts within the United States. In most programs, only non-violent offenders were permitted in order for the drug courts to obtain federal funding (Mitchell et al., 2011). Because of the rigor of the program, only approximately 48% of attendees graduated (Mitchell et al., 2011); however, the authors posited that the prior

syntheses of drug court success rates were methodologically weak, especially in drug courts where rigorous evaluations took place.

According to the authors, the long-term effects of recidivism were unclear because the majority of previous research only tracked recidivism rates for a short time after the conclusion of drug court for participants (Mitchell et al., 2011), and did not provide an extensive review of aftercare or the participants for an extended period. Because of these issues related to drug court and the methodologically weak studies, it is unclear which drug court methodologies were the most successful and which are ineffective (Mitchell et al., 2011).

Mitchell et al. (2011) conducted a meta-analysis of Drug Court programs throughout the United States that included experimental and quasi-experimental evaluations of drug courts that included a comparison group. Upon the conclusion of the study, mixed results were found. Mitchell et al. (2011) found that for adult drug courts, general recidivism was reduced from 50% to 38%. In addition, drug-related recidivism was reduced from 50% to approximately 37% and the effect was persistent over a minimum of three years (Mitchell et al., 2011). The study made it very clear that the effects of drug court were variable and could differ significantly (Mitchell et al., 2011), and that drug courts may possibly improve recidivism rates by monitoring participants for up to three years after the conclusion of the drug court program.

Differing backgrounds also provided differing re-offense rates for participants. Non-violent and low risk offenders in the drug court community were more likely to reduce general recidivism, but more violent populations may not (Mitchell et al., 2011).

The results showed that violent populations exhibited similar recidivism statistics, after completing drug court, as nonviolent populations (Mitchell et al., 2011) so this information is disputed, and also ties into several methodological issues in the study.

Methodologically, the study has several weak points including the limitations on group comparability, the exclusion of individuals which can decrease study validity, and shortened recidivism tracking periods (Mitchell et al., 2011). For a majority of drug courts, lower recidivism was present for most participants, both during the drug court program and after; however, the lower recidivism rates depended on the type of drug court that the individual was enrolled in (Mitchell et al., 2011). The authors also endorsed aftercare and follow-up care for three years after the conclusion of a drug court program to assist in reducing recidivism (Mitchell et al., 2011). The study conducted by Mitchell et al. (2011) is similar to the current study in areas of tracking recidivism rates for offenders who complete the programs included within the studies; however, the study conducted by Mitchell et al., (2011) differs from the current study in several ways. First, the abbreviated drug counseling is an eight-hour program, and drug courts and their respective treatments can span months, if not years, depending upon specific jurisdiction (Mitchell et al., 2011). Secondly, the study conducted by Mitchell et al., (2011) encompassed felonious offenders, or offenders who have taken plea agreements on felony charges, when the current study only encompasses offenders who have had charges reduced from felonies to misdemeanors by a plea agreement, or have taken a plea in a standing misdemeanor drug case.

The results of the study by Mitchell et al., (2011) are relevant to the current study because of the contrasts drawn between court-ordered drug treatment programs, the more intensive drug court programs, and the efficacy of each. Latessa (n.d.) outlined that specific risk is essential in determining the most effective length and intensity of programs for offenders, although questions still exist for programs that do not identify specific risk levels of offenders prior to program entry. Because treatment according to risk (Latessa, n.d.) is an essential aspect of success within a drug treatment program, the current study questions whether or not relationships in recidivism rates exist between offenders of differing risk level when offenders are not evaluated prior to entry into the program for risk.

Drug courts have become a national phenomenon in the United States that are growing at an exponential rate; however, success rates are still in question as issues regarding drug court effectiveness rise (Roll et al., 2005). Because models for drug court vary by jurisdiction, and the number of drug courts in the United States increases each year, difficulties have risen in attempting to identify critical elements of each program that assist in the success of participants (Roll et al., 2005). Roll et al. (2005) identified some of the critical elements necessary in a drug court program, including individual evaluations which steer participants toward success rather than failure.

In many drug court settings, the personal characteristics of individual participants and their drug of choice were not taken into consideration when evaluating specific hurdles a participant may be facing (Roll et al., 2005). As a possible result, many drug courts have less than a 50% success rate. Essentially, most drug court programs use a

one-size-fits-all approach to treatment for all participants and do not address specific issues for each individual (Roll et al., 2005). The study conducted by Roll et al. (2005) attempted to determine specific predictors of success or failure using logistic regression analysis techniques.

Drug of Choice and Recidivism Rates

Participants in the Roll et al. 2005 study included 99 individuals enrolled in a drug court program in California that lasted for one year. According to the study, 49 participants successfully completed the program and 50 participants did not. The statistical data above did not vary significantly between participants who were successful in the program versus participants who were unsuccessful (Roll et al., 2005). Approximately 38.4% of participants were employed at the inception of the drug court program (Roll et al., 2005). Methamphetamine was the drug of choice for most participants, at 65.7%, with cocaine at 14.1%, opiates at 13.1%, and marijuana and alcohol both at 3% (Roll et al., 2005). Most participants chose to smoke as a means for drug administration at 59.6%, while injection was recorded at 21.2%, inhalation or snorting at 13.1%, and oral administration at 5.1% (Roll et al., 2005).

The program lasted 52 weeks, or one year, and was implemented in four 13-week phases (Roll et al., 2005). Each phase had differing requirements for participation and attendance, with Phase 1 being the most intense, and each subsequent phase easing in intensity. Each phase included requirements for random and scheduled urinalyses, breathalyzer examinations, and both group and individual therapy. If a drug court participant was not making progress, the individual was subject to sanctions and removal

from the current phase and placement back into a previous phase (Roll et al., 2005). If a participant continued to relapse during the program, sanctions also included termination from the program (Roll et al., 2005).

The addiction severity index was used to determine risk levels for each participant in the study, but because of a lack of training on administering the addiction severity index on behalf of court staff, only questions that could be answered with a "yes" or "no" were scored (Roll et al., 2005). Upon preliminary analyses, the data obtained identified four of the 14 areas of interest as significant predictors of drug court outcomes (Roll et al., 2005). Education, intravenous needle use, drug of choice, and route of administration all were found to be directly associated with drug court outcomes (Roll et al., 2005). Employment was found to be directly associated with the successful completion of the Drug Court program. The second best predictor of successful completion was the complete absence of intravenous drug use in participants of the drug court program, and participants who had never injected illicit drugs were five and one-half times more likely to succeed (Roll et al., 2005).

The results of the study are interesting and provide a plethora of information about treatment and the variables that may contribute to the success or failure of a participant. Intravenous drug use is associated with severe substance abuse issues and is considered, for this study, to be an early indicator of possible failure in the drug court program (Roll et al., 2005). Because of the severity of the substance abuse with individuals who inject drugs, it may be necessary for those individuals to receive more intensive treatment than drug court can provide (Roll et al., 2005).

In addition, drug of choice was a significant predictor of success or failure, because of the differences in severity of drug use for each drug type (Roll et al., 2005). For example, heroin users may be less likely to complete a drug court program, especially if the individual is using an injectable form of heroin at the time of intake (Roll et al., 2005).

Methodologically, several issues were presented in the study conducted by Roll et al., (2005). The drug court sample used was predominantly individuals whose drug of choice was methamphetamine, while many other drug court studies encompassed increased participation levels from offenders who reportedly abused cocaine and heroin as their respective drugs of choice.

The current study addresses several issues which include whether or not drug of choice has a significant impact on recidivism rates for offenders who participate in a drug court program, which Roll et al. (2005) has found. Drug of choice and severity of substance use in particular, are relevant predictors for success in drug court programs and treatment settings (Roll et al., 2005).

Risk Level and Recidivism Rates

Differing risk levels may potentially require different levels of treatment (Latessa & Lowenkamp, 2006). Lindquist et al. (2009) found several differences between participants, including wide-ranging differences in income, recent drug use, contact with judicial officers, and differences in supervision between drug court participants and probationers.

Participation in treatment was not universal across drug court attendees nor probationers. This finding was concerning because treatment for drug addiction and abuse was why offenders were referred to the program (Lindquist et al., 2009). At the baseline interview, only 28% of participants reported having received any treatment in the program, and at the nine month follow-up interview, which was during full drug court participation, only 48% of participants reported receiving any substance abuse treatment (Lindquist et al., 2009).

Patra et al. (2010) provided information on 365 participants in the Toronto Drug Treatment Court who used crack, cocaine, or heroin, and had not received other drug treatment in the six months prior to admission to the program. The purpose of the study was to determine how to obtain increased retention of participants in drug court treatment programs (Patra et al., 2010).

Two main groups were included for this particular study. The first group was named the unexpected retention group, which consisted of 143 individuals who were noncompliant for the first 30 days of the program, but stayed in the program for at least three months (Patra et al., 2010). The second group, the unexpected expulsion group, consisted of 90 individuals who were compliant during the first 30 days of the program, but were expelled from the program after less than three months (Patra et al., 2010). In addition, 132 individuals were neither in unexpected retention or unexpected expulsion group, so the final count of participants "due to missing data, was reduced to 145," (Patra et al., 2010, p. 297). Unexpected retention participants were, according to the study, much more motivated to stay out of jail even though chaotic family lives and unstable

housing were dominant factors (Patra et al., 2010). Unexpected expulsion participants, in stark contrast, had stable housing and had a lack of family problems. However, these same participants were more likely than unexpected retention participants to have close family members who experienced drug problems, so therefore had a higher number of violations earlier in the program than other members of the participant group (Patra et al., 2010).

Patra et al. (2010) used a discriminant function analysis to determine specific factors which were responsible for program retention and program expulsion, and a quasi-experimental design (Patra et al., 2010). Variables included age, race, gender, convictions over a five year span, custody status at the time of application, family members who had experienced substance abuse issues, family problems the participant may have experienced, motivation to stay out of or be released from incarceration depending upon custody status, unstable employment and housing issues, and number of sanctions within the program per participant (Patra et al., 2010). The participants were mostly Black and minority participants, which accounted for 60% of the participant population (Patra et al., 2010). The authors determined that participants who stayed in the treatment program longer, but did not complete, were less likely to be housed in a stable environment than other participants (Patra et al., 2010). Unstable housing was also recognized as a significant predictor of health-related risks and criminal activities (Patra et al., 2010). Approximately 30% of participants were homeless at the time of application to drug court (Patra et al., 2010).

Patra et al. (2010) suggested that program modification to any drug court treatment program should include addressing family problems in addition to addressing personal issues in order to retain the highest amount of participants. The authors also determined that the most accurate predictors of successful completion of the treatment program were housing stability, support systems, and family problems in conjunction with personal issues (Patra et al., 2010). Patra et al. (2010) also outlined issues with termination or expulsion from the drug court program, stating that "drug court participants who were prematurely terminated or expelled from a drug treatment program are at greater risk of relapse than participants who have never had treatment, are currently in treatment, or have been released" (p. 302). Results also showed that unexpected expulsion group participants were "more than twice as likely to be incarcerated one year from the exit date of the program," (Patra et al., 2010, p. 302). The unexpected expulsion group participants also were more likely to have additional charges, such as property crimes, in addition to drug charges (Patra et al., 2010). The lack of housing stability, lack of employment, personal drug of choice, and family history of drug use are all factors that should be taken into consideration when participants are accepted into drug court treatment programs (Patra et al., 2010). In addition, specific gender-based services, employment training and assistance, and access to housing are all factors that could assist in retaining individuals in drug court treatment programs (Patra et al., 2010).

Although this study addresses specific factors related to early termination and retention of individuals in drug treatment courts, the study failed to address specific issues such as time needed for successful completion of drug court programs, or if short-

term drug treatment was an option for some offenders who were sentenced to the drug court. However, the study did address the importance of pinpointing each participant's respective drug of choice, personal, and family issues via intensive evaluations, to determine potential differences in outcomes of treatment. Drug of choice could be an indicator for differing treatment services (Patra et al., 2010), such as the need for methadone rather than a drug-free treatment program.

In a study conducted by Best et al. (2009), 110 of their study participants involved in treatment had been involved in a crime within the previous 30 days, which contributed to problem severity ratings, and increased time with the specific worker assigned to the participant's case for a short period. The authors found that increased time spent with caseworkers, and additional counseling components added for treatment purposes, significantly increased the efficacy of treatment for the drug offenders in the study (Best et al., 2009). However, the efficacy of treatment depended upon each worker 'translating' information into everyday practices (Best et al., 2009), as many forms of treatment are not delivered in a consistent manner across different forms of therapy. In addition, participants who were recorded as having more contact time with caseworkers were documented as having a lower frequency of heroin use in the prior month than participants who had less contact time (Best et al., 2009), which assisted in the reduction of problem severity ratings. However, clients with higher problem severity ratings had, on average, longer contact sessions in the last session of treatment than participants who had lower problem severity ratings (Best et al., 2009), which is inconsistent with

evidence-based treatment and "could assist in explaining the gap" (p. 685) in effective treatment and what is actually delivered in treatment settings.

According to Best et al. (2009), the lack of quality assurance for treatment of drug offenders is concerning. While the study is limited by the caseworker's personal perceptions and case notes of their own work, and the inability to address the participants' perceptions of the same information the caseworkers provided, there are some implications for the criminal justice setting (Best et al., 2009). The study suggested that evidence-based practices are not the foundation of treatment in this particular setting, which may have a significant impact on the effectiveness of treatment (Best et al., 2009). The authors found that increased risk levels warranted some additional manner of treatment, which consisted of increased contact time, although many differences on treatment timing were recorded in the study (Best et al., 2009). In addition, increased contact time, for many participants, assisted in the reduction of drug use, specifically participants whose drug of choice is heroin. This supports Latessa and Lowenkamp's (2006) argument that increased risk levels may require increased amounts of treatment.

Treatment Modality and Recidivism Rates

Many studies have been conducted over the past decade on drug courts; however, questions still remain as to specific areas of the drug court models used in the United States. Drug court participants have been studied, but there seems to be a lack of information on drug offenders' success rates in drug court programs in comparison with drug-involved offenders who were sentenced to probation rather than drug court (Lindquist, Krebs, Warner, & Lattimore, 2009). Program modality, or the type of

treatment and the way the treatment is delivered, is important for several reasons. The specific learning styles of individuals may directly impact the success or failure of an individual's treatment, and this includes in a drug court setting. In addition, the individual's personal preferences in relation to learning may also either help or hinder the individual in a treatment setting. If an individual offender is an introvert, having him or her in a group study setting may not be the best program modality for successful treatment for that individual. Similarly, if an individual has trouble with motivation in a self-study setting, the individual may need to be placed in a group-study setting or the treatment may be unsuccessful. Understanding successful and unsuccessful treatment components is a current issue within the treatment community (Latessa & Lowenkamp, 2006), and treatment modality is no exception. The modality of a program directly relates to the instant study, as modality is a variable being questioned in reference to recidivism rates in abbreviated drug counseling in the the misdemeanor court. The current modalities of said program include in-person sessions, online sessions, and correspondence courses. Lindquist et al. (2009) conducted a study which assisted in understanding what works and what seems to be lacking in drug court components; not necessarily just from program design, but also from program delivery perspectives.

Lindquist et al. (2009) interviewed 229 individuals involved in drug court programs in Florida, and 295 drug-involved offenders who were sentenced to probation in Florida. Two interviews were conducted with each participant; a baseline interview upon referral to drug court or probation, and a 9-month follow-up interview following the initial interview for the study (Lindquist et al., 2009). The drug court programs used in

this study were considered the standard model of drug court, with approximately 12 months in treatment prior to graduation, mandatory attendance at judicial hearings, multiple treatment components such as individual and group counseling, and frequent drug testing (Lindquist et al., 2009). The study by Lindquist et al. (2009) used a quasi-experimental design and all offenders who met a priori inclusion criteria, and entered community supervision from February through November 2002, were included in the study as participants. Requirements for inclusion included each participant having a drug-related charge that did not include drug trafficking, one or fewer prior prison sentences, two or fewer prior supervision terms, and each participant must have been under felony probation, or drug offender probation which is a diversionary probation for drug offenders (Lindquist et al., 2009). The variables recorded included:

> Age, gender, race/ethnicity, education, marital status, primary care responsibilities for a child, employment status, income, prior arrests, prior prison sentences, type of supervision, representation by a public or private attorney, alcohol use in the past month and past six months, and any drug use in the past month and past six months (Lindquist et al., 2009, p 175-176).

The Texas Christian University Psychosocial Functioning and Motivation Scale was used to determine problem recognition (with a range of 1-5), desire for help (with a range of 1-5), and external pressures (with a range of 1-5), and the Colorado Symptom Index was used to determine possible psychological symptomology, with a range of 0-4 (Lindquist et al., 2009). Supervision intensity was measured by evaluating answers to questions regarding supervision conditions, supervision contacts within the previous

month, and perceptions as to whether or not supervision limited activities, whether or not it was difficult to comply with supervision demands, and the likelihood of a supervision officer finding a new crime for each participant (Lindquist et al., 2009). Treatment intensity was recorded by the following measures: whether or not the participant had received drug treatment in the past six months, or since the initial interview, and whether or not the participant was currently receiving drug treatment in any modality, including residential treatment, halfway or recovery house treatment, outpatient treatment, and/or self-help (Lindquist et al., 2009). The two most common modalities were self-help groups and outpatient counseling. Unfortunately, because of the small number of study participants identifying the specific modality of treatment, the modality format of the study had to be discontinued. The participants who disclosed treatment modality were mostly drug court participants, rather than probationers (Lindquist et al., 2009).

The Lindquist et al. (2009) study identified several wide-reaching implications for drug court. First, that drug court program design was not necessarily a mirror to program delivery (Lindquist et al., 2009). Second, the lack of treatment for all participants in drug court severely diminished responsivity levels (Lindquist et al., 2009). Third, treatment modalities should be studied in an attempt to understand what specific treatment, within the drug court setting, is most effective (Lindquist et al., 2009). The Lindquist et al. (2009) study directly relates to the current study, as a need for an examination of effectiveness of treatment modalities is present. Studying treatment modalities could potentially provide information on the successful and less successful treatment options, including differing modalities, for drug counseling. This is including online, in-person,

and correspondence courses. Because abbreviated counseling effects, and the effects of differing modality options for treatment have not been studied, the Lindquist et al. (2009) study provides a support for studying different modalities of treatment to determine the most effective method for individual participants.

Bhati and Roman (2010) conducted a study using synthetic data that corresponded with live statistical data across the United States for drug offenders and criminal activity. They outlined the nature of drug addiction in the United States, and noted that 1.5 million individuals were "at risk of abuse or dependence and that treatment alone could avert several million crimes" (p. 1). They posited that extensive time in treatment could provide a decrease in recidivism rates for drug offenders, and the more time an individual spent in a treatment setting, the less likely the individual was to re-offend (Bhati & Roman, 2010). Their study consisted of 40,320 potential client profiles with differing characteristics including age, race, gender, criminal history, violent history, treatment history, current criminal status (whether the individual has an open and active case within the criminal justice system or not), alcohol issues, and geographic location. The specific question posed by the authors was which crime-reducing benefits could be implemented across the country in criminal justice settings in an attempt to reduce recidivism rates (Bhati & Roman, 2010). Different modalities of treatment were used in an attempt to estimate the amount of crime that could be prevented if appropriate treatment(s) were implemented (Bhati & Roman, 2010). Modality one consisted of a long-term residential treatment program. Modality two consisted of a short-term inpatient treatment program (Bhati & Roman, 2010). Modality three consisted of outpatient treatment with

methadone, and modality four consisted of outpatient drug-free counseling (Bhati & Roman, 2010).

A semi-parametric interpolation technique was used in an attempt to generate synthetic data that resembled evidence from different sources as closely as possible, and the weighted average of observed outcomes reflected the empirical similarity of actual case data (Bhati & Roman, 2010). The Arrestee Drug Abuse Monitoring (ADAM) program was used to estimate the number of individuals who were arrested on drug cases in urban areas (Bhati & Roman, 2010) and data on arrestee was compiled from 2000, 2001, 2002 and 2003 in 39 metropolitan areas of the United States. Self-reported and administrative data collected include: (1) demographic data on each arrestee, (2) administrative criminal justice records, (3) case disposition, including accession to a verbal consent script, (4) calendar of admissions to substance abuse and mental health treatment programs, (5) data on alcohol and drug use, abuse, and dependence, (6) drug-acquisition data covering the five most commonly used illicit drugs, (7) urine test results, and (8) for males, weights (Bhati & Roman, 2010, p. 7). Male and female arrestees were ranked in the system on how many times each individual was arrested in the previous 12 months (Bhati & Roman, 2010). Information was also compiled on each offender and whether or not the offender qualified for a substance abuse disorder or a substance dependency disorder according to the Diagnostic and Statistical Manual (DSM-IV) (Bhati & Roman, 2010). Because of the absence of randomization in this study, a quasi-experimental design was utilized in conjunction with observational data, to obtain information on treatment effects.

It was estimated that approximately 1.5 million arrestees in the United States were probably guilty, or at risk of, using drugs (Bhati & Roman, 2010) and several million crimes nationally could be averted each year by implementing treatment for individuals who were at risk of using or currently using drugs. Treating offenders with long-term residential treatment could possibly avert 9.9 million crimes. By treating offenders with short-term inpatient treatment, 3.7 million crimes could be averted, 3.3 million crimes could be averted by using outpatient treatment with methadone (or modality three), and the lowest number of crimes could be averted by treating all potential clients using outpatient drug-free counseling services (Bhati & Anderson, 2010). Bhati and Anderson (2010) provided a plethora of information regarding potential treatment and subsequent reduction in crime for a myriad of modalities, and although the data is synthetic in nature, the numbers provided an eye-opening look for treatment and recidivism statistics. However, Bhati and Anderson's research on the lowest form of treatment offered (modality four – outpatient drug-free counseling) did not include data on the length of counseling involved. However, information on the effectiveness of specific drug treatment was provided (Bhati & Anderson, 2010). The implications of the study by Bhati and Anderson (2010) support data that includes the idea that a model of drug treatment that encompasses evaluations in relation to an offender's risk level and individual needs, such as the RNR model, can prove useful in drug treatment settings to reduce recidivism. In addition, Bhati and Anderson (2010) found support for the idea that appropriate drug treatment for each individual offender could assist in not only

recovery from drug addiction and use, but also recovering from the criminal justice system.

Treatment compliance is an issue in many areas for clinicians and participants (Bartol & Bartol, 2012). Compliance and retention are both necessary for behavioral change, and without both, drug treatment programs will suffer in their effectiveness (Patra et al., 2010). Compliance can be difficult to determine early on in the treatment setting because of extrinsic factors that can directly influence an individual's participation and attention in a treatment program (Bartol & Bartol, 2012). Patra et al. (2010) outlined specific factors that may assist or hinder individuals in both compliance and retention in drug treatment programs. Some of the factors they noted as impacting effective participation include education, employment status, drug of choice, and family issues (Patra et al., 2010).

Treatment for specific drug-related issues has been found to be effective in the reduction of criminal activity (Best et al., 2009). More specifically, treatment for opiate addiction is both effective for the reduction or elimination of drug use, and the reduction of crime-related activities (Best et al., 2009). In the criminal justice system, treatment programs may have difficulty being effective if specific treatment benchmarks are not met, and Best et al. (2009) posited that "drug treatment is effective in addressing offending behavior if the intervention included delivery of individually tailored treatment packages, delivered over sufficient time, and with adequate continuity of care and support," (p. 679). The issue with drug treatment programs in criminal justice settings was not that evidence-based practices were not being met, but that the practices were not

implemented in a consistent and reliable manner, thus compromising treatment responsivity (Best et al., 2009).

Best et al. (2009) conducted a cross-sectional case review of 344 case files and 35 treatment providers regarding the level of care and the modality of intervention processes delivered during the treatment process (Best et al., 2009). The aim of the study was to determine the extent to which evidence-based practices and psychosocial interventions were implemented in criminal justice treatment services in England, including specific factors that may be linked to variability in the delivery of the interventions (Best et al., 2009). All of the cases involved in this study were active cases in the Drug Intervention Programme in the United Kingdom (Best et al, 2009). The teams involved in the Drug Intervention Programme consisted of nurses, social workers, probation officers and pharmaceutical workers from a multitude of backgrounds (Best et al., 2009). The 35 workers interviewed each had caseloads ranging between one and 21 clients, and each worker was interviewed between June 2006 and August 2006 (Best et al., 2009). The time spent interviewing each worker ranged significantly, from approximately one hour to over four hours, depending solely upon the size of each worker's specific caseload. A *pro forma* was completed on each client for every worker, which involved 10 to 20 minutes of work for each of the 344 case files audited (Best et al., 2009), and for the purposes of this study, each client was considered a unit of analysis. Information obtained for the study included reporting problematic or maladaptive behaviors, substance use, measures of problem severity, the assessment of client problems and compliance, and contact time (Best et al., 2009).

Of the 344 case files, 232 clients were male, 112 clients were female (Best et al., 2009), and 73% of clients were of a white ethnicity, 9.3% reported being mixed race, 9.3% were Asian, 6.7% were Black, and 1.7% reported being of other ethnicities. According to the data, 217 clients reported using heroin in the previous 30 days, and 66 of those participants used daily (Best et al., 2009). In addition, 146 clients reported using crack cocaine in the previous 30 days; 36 of those participants used daily, and 35 individuals reported having used intravenous drugs in the previous 30 days.

Within the program, each client was seen an average of 44.3 minutes per session, of which, interventions accounted for approximately 10 minutes per session for workers who had higher caseloads (Best et al., 2009). For workers with smaller caseloads, each client was seen for an average of 50 minutes per treatment session (Best et al., 2009). Data recorded from the *pro forma* documents included 119 participants who were seen weekly for treatment and 224 participants who were seen less than weekly (Best et al., 2009). For individuals receiving medication, less time was spent in treatment, and for individuals not receiving medication more time was spent with workers during the treatment setting (Best et al., 2009). No significant difference was recorded with respect to time spent on different interventions per treatment session, including harm reduction, relapse prevention, and motivational enhancement (Best et al., 2009).

As previously stated, treatment modality, or the type of treatment an individual receives and the way the treatment is delivered to the individual, is an important component of the treatment itself. As evidenced by previous studies, treatment modality may have a direct impact on the success or failure of treatment for drug offenders.

Although the modality portion of the study conducted by Lindquist et al., (2009) had to be discontinued because of lack of reporting, the different modalities of treatments and interventions conducted by Best et al. (2009) reported a wide variance of time spent in in-person treatment and in-person intervention with the least amount of in-person intervention time being a 10 minute span, and a maximum reported in-person intervention time of 50 minutes. In addition, individuals receiving medication as part of a treatment regimen had less time in the in-person treatment setting, while individuals without medication as part of a treatment regimen spent more time with clinicians in the in-person treatment setting (Best et al. 2009). Success and recidivism rates for individuals in the treatment program as reported by Best et al. (2009) were not provided. Although differing modalities of treatment, including intervention techniques and relapse prevention, were used, methodologies such as correspondence courses and online learning were not part of the study or specified in the study conducted by Best et al. (2009). Because of the lack of knowledge in areas of online treatment, correspondence-based treatment, and the variances that occur with in-person treatment, it is important that studies are conducted in these areas to determine the effectiveness of these types of treatment options for drug offenders.

Summary and Conclusions

The research questions in this study directly relate to the SAMHSA (2012a) standards of care, the RNR treatment model, and also inquire whether or not different modalities of treatment have different levels of effectiveness in the reduction of recidivism rates for drug offenders who are of differing risk levels in the misdemeanor

court. The literature reviewed in this chapter illustrates that, for a majority of studies performed, identification of risk and need are essential to understanding the necessary components needed for effective treatment. This raises the question of the effectiveness of the current model, and current modalities, of the counseling company's Lower-Level Drug Counseling which include in-person counseling, online counseling, and correspondence-based counseling. The research questions for this study also build upon the idea that different risk levels for each offender may potentially require different levels and intensity of treatment for individuals, which could lend support to individualized treatment plans for drug offenders (Latessa & Lowenkamp, 2006). In addition to risk levels, this chapter has outlined the importance of defining individual criminogenic needs for each offender in a treatment program, as outlined in the RNR treatment model (Welsh et al., 2014), because identifying and addressing criminogenic needs is a potential component of successful and comprehensive treatment plans. Responsivity is also directly related to the successful implementation of treatment in the type of treatment provided, how the treatment is implemented, and whether or not the treatment is provided on a consistent basis (Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006). Responsivity can also have direct consequences to the effectiveness of treatment services. The study conducted by Latessa (n.d.) reinforced the notion that longer treatment was generally accepted as more effective; however, the study did not address whether or not short-term treatment would be effective for individuals with a lower-risk for re-offense or criminal activity.

The literature reviewed in this chapter offers a wider understanding of the issues that currently surround drug treatment programs within the criminal justice setting, and how evaluation and implementation of programs can either hinder or support effective treatment efforts. This information is important to the rehabilitation community because it serves as a reference to how standards of care (SAMHSA, 2012a) and the RNR model of treatment (Bonta & Andrews, 2014; Latessa, n.d.; Latessa & Lowenkamp, 2006) can work together to enhance treatment models for drug offenders throughout the United States Criminal Justice System.

Chapter 3: Methodology

Introduction

The purpose of this study was to examine the effectiveness of the three modalities of a lower level drug counseling course that include in-person, online, and correspondence-based drug treatment. The effectiveness of each modality was measured by analyzing recidivism rates of offenders completing each of the three modalities of the program for 3 years after the conclusion of treatment. An additional goal of the study was to examine whether variations are present in recidivism rates as a function of modality of program delivery, drug of choice for each offender, risk for re-offense, or an interaction between the three. In this chapter the research design and rationale, methodology, sampling, and sampling procedures will be identified. In addition, there will be a discussion regarding threats to validity that were encountered during the study and ethical procedures.

Research Design and Rationale

I used a quantitative, quasi-experimental, archival study design (Creswell, 2013; Frankfort-Nachmias & Nachmias, 2008). Data analysis was accomplished using ordinal logistic regression. Because the groups in this study were chosen for characteristics including modality of treatment, drug of choice, and individual risk of re-offense, they were unable to be randomly assigned to groups as an experimental study, making a quasi-experimental design the most appropriate (Creswell, 2013). This research design also allowed me to compile a large amount of data over an extended period and review any potential relationships between variables in reference to the data collected (Creswell,

2013). I was also able to address each research question in relation to the information collected and the findings of the study. In addition, the use of archival data reduced the potential for ethical issues associated with the study of an offender population, which is considered a special population, and requires additional protections (Bartol & Bartol, 2012; Creswell, 2013).

Independent and Dependent Variables

The independent variables of this study include the modality of the abbreviated drug counseling, drug of choice, and risk of re-offense. The specific modalities of drug treatment that were examined were the in-person, correspondence, and online drug counseling offered by the counseling company for the misdemeanor court, or lower level drug counseling. The drugs that were included in the category for drug of choice included marijuana; heroin; cocaine; methamphetamine; benzodiazepines; an "other" category including synthetic drugs such as bath salts or spice, both of which are illegal in the state of the misdemeanor court; and opiates/pills. The risk category includes information on each offender's criminal history. Previous offenses assisted in the determination of each offender's specific risk level for re-offense, as no formal evaluation for risk could be used on archival data. The dependent variable in the study was the recidivism rates for the offender involved in the treatment program which was measured by the counting of additional criminal cases convictions within the misdemeanor court.

Some of the independent variables, including modality of treatment, and drug of choice, are categorical variables. However, the risk variable is considered a ratio variable

because there was a possibility for an offender to have no risk for re-offense (see Creswell, 2013). In addition, the dependent variable was also considered a ratio variable because of the possibility for an offender to have zero new cases incurred after the conclusion of the abbreviated counseling (see Creswell, 2013). Because the research design involved archival data, there were no time or resource constraints for the study. The information needed data to be pulled from the criminal case management system by the misdemeanor court Information Technology Department that included case numbers for offenders with specific offenses for a span of 4 years. The selected research design is consistent with research designs needed to advance knowledge in the discipline because the study fills a current gap in the literature by identifying whether the short-term drug treatment program was having an impact on recidivism rates in the misdemeanor court for misdemeanor drug offenders. I also examined whether correlations were present based on specific drug preference, risk of re-offense, and modality of treatment.

Methodology

Population

The target population in this study was drug offenders who were actively involved in the criminal justice system in the misdemeanor court. This included all adult drug offenders over the age of 18. Although some offenders may have been certified as adults under the age of 18 as juveniles, any individual under the age of 18 who may have been certified as an adult for criminal proceedings was excluded from the study. The target population consisted of three main groups: offenders who had completed the abbreviated drug counseling in-person, offenders who had completed the drug counseling via

correspondence-based courses, and offenders who had completed the drug counseling online. The target population size was unknown; however, the misdemeanor court has approximately 300,000 criminal offenses filed each year (Las Vegas Justice Court, 2014), which include citations, misdemeanor offenses, gross misdemeanor offenses, and felony offenses. Information on the specific number of drug cases filed each year was unavailable.

Sampling and Sampling Procedures

The sampling frame for this study consisted of individuals who were ordered to complete the lower level drug counseling as part of their respective informal probationary periods through the misdemeanor court, after a plea bargain was accepted by the offender, during the year 2013. Follow-up data were collected from 2014 through 2016. As previously indicated, the samples consisted of three main groups of individuals based on modality, and each modality group was sampled for equal size. A drug offender was defined as an offender, over the age of 18, who was charged with a specific drug offense, and subsequently accepted a plea negotiation in the misdemeanor court for the drug-related offense. The charges for drug-related offenses included possession of controlled substance, possession of controlled substance—marijuana—less than 1 ounce, under the influence of controlled substance, trafficking in controlled substance, sale of controlled substance, and possession of dangerous drugs not to be introduced into interstate commerce. Offenders were assigned to each group based on the original charges filed and the modality of treatment sought after the inception of the initial charge date.

The sampling strategy used in this study was nonprobability sampling because ex-post facto research was being conducted, and each case was chosen for a characteristic (Creswell, 2013). This form of sampling allowed the full use of 4 years of archival data spanning years 2013 through 2016 provided by the misdemeanor court's criminal case management system. The initial data included all offenders referred to lower level drug counseling in 2013. Follow-up data were collected from 2014 through 2016. The sample was drawn through archival data by the misdemeanor court's Information Technology Department.

Rules for inclusion were drug offenders over the age of 18. Offenders must have been cited, or arrested and charged with drug offenses, which include possession of controlled substance, possession of marijuana under 1 ounce, trafficking in controlled substance, sale of controlled substance, under the influence of controlled substance, and possession of dangerous drugs not to be introduced into interstate commerce. Offenders must have subsequently accepted a plea negotiation that includes lower level drug counseling as a component of their informal probation.

Rules for exclusion include drug offenders who were under the age of 18 but had been "certified" as an adult for criminal court proceedings. Exclusion also included drug offenders who were not charged with the specific offense categories of possession of controlled substance, possession of marijuana under 1 ounce, trafficking in controlled substance, sale of controlled substance, under the influence of controlled substance, and possession of dangerous drugs not to be introduced into interstate commerce. In addition, exclusion applied to offenders who were charged with these offense categories but were

not ordered to complete the lower level drug counseling as a component of their informal probation, or for offenders who were charged with these specific offense categories but had not accepted a plea negotiation in the misdemeanor court.

The sample size for this study was based on G* power analysis computation (see Faul, Erdfelder, Buchner, & Lang, 2009). Power, in reference to sample size, is the anticipation of the researcher rejecting the null hypothesis in an appropriate manner (Creswell, 2013). When researchers do not establish differences between the original population and the group being studied, a Type II error occurs (Creswell, 2013) which can affect accurate findings of a study. It is up to the researcher to identify a percentage rate at which missed differences in research groups are acceptable but not have the missed differences result in detrimental results to the research (Frankfort-Nachmias & Nachmias, 2008). At the same time, researchers must ensure that the study they are conducting is sufficiently powered for the information that the researcher is seeking, or chance skewing the results of the study (Frankfort-Nachmias & Nachmias, 2008). In the behavioral sciences, an acceptable power percentage for a study would be 80% (Creswell, 2013; Frankfort-Nachmias & Nachmias, 2008). Because the power standard for most behavioral science studies is 80%, this study had a power standard of 80%.

Using G* power analysis, the sample size was computed using a logistic regression with the type of power analysis being a priori; computing required sample size – given α, power, and effect size. The study has three independent variables and the dependent variable of recidivism is dichotomously coded. For the power analysis, the Pr(Y=1|X=1) H0 was set to 0.42, resulting in an odds ratio of 1.91, which is a medium

effect size. The significance level was set to $p < 0.05$, and power (1-β) was set to .80. In consideration of the three independent variables, the R^2 for the other X was set to 0.40. Based on these parameters, the total sample size required to achieve adequate statistical power was $N = 155$.

Procedures for Recruitment, Participation, and Data Collection

Archival data were collected from the misdemeanor court's criminal case management system over a 4-year period. The initial data included offenders who were referred to lower level drug counseling for 2013. The follow-up period after program completion included 2014 through 2016. I used a sample of cases that were targeted for drug offenders and drug offenses rather than using random sampling, as not all cases in the misdemeanor court include drug offenders or offenses. The case information was obtained by the Information Technology Department of the misdemeanor court and was maintained by the misdemeanor court in an automated system. Written permission was obtained through the misdemeanor court's administration for access to, and the use of, the criminal case management system to pull case information as well as a data use agreement to allow the use of the Information Technology Department for the collection of confidential case data. Case documents, including court minutes, criminal complaints, and counseling completion reports were provided to me via compact-disc for research and data collection purposes. The case numbers, located on the criminal complaint, were run through a filter in the system outlining the specific drug charges—possession of controlled substance, possession of marijuana under 1 ounce, trafficking in controlled substance, sale of controlled substance, under the influence of controlled substance, and

possession of dangerous drugs not to be introduced into interstate commerce—from 2013, and I was provided a list of case numbers, age, race, sex, and identification numbers that corresponded with the parameters of the filter request. Once the case numbers were provided, I looked up each individual case via the criminal case management system and identified and confirmed demographic information for each offender's case. The only demographic information collected for this study was the age of each individual offender at the time of referral to the lower level drug counseling, sex, and race.

Data collection. Arrest identification numbers, which are located below the offender's name on the criminal complaint, were entered into the criminal case management system search area. This action produced listings, including case numbers, of any subsequent cases resulting in convictions for each offender in the study for 2013 through 2016. Opening each case number in the criminal case management system provided additional information for view, such as court minutes, criminal complaints, counseling reports, and arrest reports. Variable information, including drug of choice, modality of treatment program, and number of additional cases was obtained from the areas outlined in the following sections.

Criminal history. Criminal history was determined by identifying convictions for each offender, prior to the index offenses from 2013. Rap sheets were unavailable for use in this study because access would need to be granted specifically for the handling and viewing of actual case files in the misdemeanor court, which it was not. Rap sheet information is also rarely uploaded into the system, so access to physical case files would

be necessary for use. Convictions were identified by entering arrest identification numbers, or case numbers, into the criminal case management system search area. This action produced listings, including case numbers, for any cases pre-dating the index 2013 cases.

Drug of choice. Information on the offender's specific drug of choice was obtained from the criminal complaint and the misdemeanor court minutes for each case. These are considered to be public record documents. Information located on other documents, such as arrest reports or temporary custody records, is considered confidential.

Modality of treatment program. Information on the offender's modality of abbreviated drug counseling was obtained from counseling reports from the counseling company, other similar counseling agencies, and the misdemeanor court minutes for each case. All counseling reports, including those from these counseling services are considered confidential. The misdemeanor court minutes are considered a public record document.

Additional cases resulting in conviction. Information on the offender's additional cases was obtained from criminal complaints and additional the misdemeanor court minutes, which are public record documents. Because this study was based on archival data and data that is considered to be both public record and some that is considered to be confidential, permission from the misdemeanor court Administration was necessary for this study. Data used from criminal complaints and court minutes, such as arrest identification numbers, criminal charges, and drug type were considered public record.

However, some data found on confidential documents such as counseling reports, arrest reports, and temporary custody records, was considered confidential. This information was obtained via the misdemeanor court Information Technology Department, and permission has been granted from the misdemeanor court administration to have this information pulled and distributed to me for this study.

Information contained within the criminal case management system can include documents and information from other justice partners such as the police department, the district attorney's office, and the counseling services offered to offenders. Although the information is collected from independent agencies for the court's use and proof of completion of requirements, the court system owns and maintains all information contained in the criminal case management system. The only permission needed for this research was from the misdemeanor court Administration, as information was collected from the court system only rather than from individual agencies. Some sources of information obtained from the criminal case management system for this study originated from a justice partner company. Each justice partner has been vetted and approved through both the felony court and the misdemeanor court for system use. Each justice partner has been individually court-approved for referrals for completion of requirements, certifications, and reliability. Documents originating from justice partners were considered to be court-approved treatment, training, and community service programs.

Protection of confidential information and participant identities. All confidential and identifying information, including identifiers such as arrest identification number and misdemeanor court case numbers were omitted from the final study. In

addition, each offender was assigned a unique study identification number upon the inception of data collection, which in no way relates to actual case or identification numbers from the misdemeanor court. Personal identifying information was not collected as data is gathered, and any personal identifying information was deidentified during the coding process. All confidential information is kept in secure areas. This includes using a BitLocker Encrypted Flash Drive, complete with complex password, which is under lock and key in a personal safe, to which only I have access. All information was used and viewed on secured, password protected, computers. At no time does any person or entity have access to review the information contained within the data set, other than myself.

Operationalization

The independent variables of this study include modality of the treatment program, type of drug used, and risk of re-offense. The dependent variable is recidivism.

Independent Variables

Modality of treatment. The variables that were examined concerning treatment modality include the Lower Level Drug Counseling in the online format, the lower level drug counseling in the in-person format, and the lower level drug counseling in the correspondence-based format. Each drug offender was coded into one of the three categories for treatment modality. No lower level drug counseling treatment resulted in a code of "0" for the participant. A "0" code resulted in exclusion from this study. In-Person treatment resulted in a code of "1" for the offender, online treatment resulted in a code of "2" for the offender, and correspondence-based treatment resulted in a code of "3" for the offender.

This variable was coded based upon the specific negotiations and resulting treatment ordered at the time of negotiations for an offender's specific case. This data was obtained from any information contained within the case file as recorded by the misdemeanor court's criminal case management system. This included court minutes, treatment reports generated by the counseling company or other counseling agencies, self-reporting measures and corresponding proof of completion, or information on treatment services from other Justice Partners that was accepted by the misdemeanor court as proof of completion of the treatment requirement. In addition, police reports, parole and probation reports, and treatment facility information contained within the case file may have also been used to determine modality of treatment for each offender.

Drug of choice. The variables that were examined in relation to drug of choice included the type of drug the offender was in possession or under the influence of upon arrest and charging documents being filed. The citation or arrest, and subsequent charging document, must have included charges of Possession of Controlled Substance, Possession of Controlled Substance – Marijuana – Less than 1 Ounce, Under the Influence of Controlled Substance, Trafficking in Controlled Substance, Sale of Controlled Substance, and Possession of Dangerous Drugs Not to be introduced into Interstate Commerce. All charges outside of these specific charges were excluded from the study. A code of "0" was identified for marijuana, a code of "1" for methamphetamine, a code of "2" for heroin, a code of "3" for cocaine, a code of "4" for benzodiazepines, a code of "5" for 'other' which included synthetic drugs such as bath salts or spice, and "6" for opiates/pills. For example, an individual who was arrested and

charged with Possession of Controlled Substance, and was in possession of Xanax, a benzodiazepine, was coded with a number of "4" for the specific drug used.

The information obtained for the categorization of drug type was obtained from a variety of sources within the case file. This included police and arrest reports, criminal citations, criminal complaints, reports from treatment facilities, parole and probation reports, detention center inmate booking information, and other Justice Partner reports.

Risk of re-offense. The variables that were examined with respect to risk of re-offense include prior offense history, specifically convictions, for each participant. An offender who has no previous convictions was coded as "0" for research purposes. An offender who has any number of previous convictions was coded as "1."

The information obtained to determine conviction numbers for each offender was collected from a variety of sources within the misdemeanor court. The sources include criminal citations, criminal complaints, police and arrest reports, declarations of arrest, pretrial information sheets, detention center inmate booking information, and other Justice Partner reports. Offender identification numbers were pulled from participant's cases and checked against the criminal case management system for prior convictions, to identify previous convictions for each participant, which was the sole basis for the categorization of risk of re-offense. Although a risk assessment was implemented beginning in 2016 for the misdemeanor court's Pretrial Services, the risk assessment was currently in trial phase, and was only currently used in four out of fourteen departments at the time this study was conducted. Therefore, not enough information was available for the risk assessment to be used as a measure for risk of re-offense in this study. Prior to

the implementation of said assessment in 2016, risk was solely determined by Judge's discretion.

Dependent Variable

Recidivism. The dependent variable, recidivism, is a ratio variable because of the inclusion of a possibility of zero recidivism. Each offender's subsequent new convictions to the conclusion of treatment were compared via an average of scores for individuals in each modality of treatment. The coding included a "0" for individuals who have zero additional cases after the conclusion of treatment. A categorization of "1" was used for individuals who have any additional cases after the conclusion of treatment.

The information obtained for the categorization of recidivism was coded based upon several sources of information contained within an offender's individual case file and the misdemeanor court's criminal case management system. These sources included criminal citations, criminal complaints, police and arrest reports, declarations of arrest, pretrial information sheets, parole and probation reports detention center inmate booking information, and other Justice Partner reports.

Demographic Information

Demographic information that was collected includes the age of each offender at the time of referral to lower level drug counseling during the year 2013, the sex of the offender, and race.

Data Analysis Plan

The software that was used for the data analysis in this study is the SPSS (IBM Corp., 2013) data system, and the Intellectus Statistics data analysis program. Prior to

entering data into the SPSS or Intellectus systems for analysis all cases were screened for factors that may affect inclusion and exclusion criteria. All cases with exclusion criteria were removed from the study pool. In addition, any identifying information for individual cases was removed, and each case was assigned a number that coincides with a data coding document for this study. The research questions that this study address are as follows:

RQ1: Is there a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders?

H_a1: There is a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders.

H_01: There is not a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders.

RQ2: Is there a significant predictive relationship among drug type, program modality, and recidivism rates of offenders?

H_a2: There is a significant predictive relationship among drug type, program modality, and recidivism rates of offenders.

H_02: There is not a significant predictive relationship among drug type, program modality, and recidivism rates of offenders.

RQ3: Is there a significant predictive relationship between risk level and recidivism rates of offenders?

H_a3: There is a significant predictive relationship between risk level and recidivism rates of offenders.

$H_0$3: There is not a significant predictive relationship between risk level and recidivism rates of offenders.

RQ4: Is there a significant predictive relationship between modality based upon risk level and recidivism rates of offenders?

H_a4: There is a significant predictive relationship between modality based upon risk level and recidivism rates of offenders.

$H_0$4: There is not a significant predictive relationship between modality based upon risk level and recidivism rates of offenders.

All the hypotheses in this study were tested using an ordinal logistic regression method which analyzed data and provided answers to the posed research questions. An ordinal logistic regression is a type of regression analysis. Ordinal logistic regression is used for the analysis of ordinal data when distance between the categories of data is unknown. Ordinal data is usually coded into Y = 0 – *c* categories. These non-standardized coefficients were explained in terms of their odds ratios.

The independent variables in the model are modality of treatment, drug of choice, and risk of re-offense. The dependent variable, coded "0" for individuals who have zero additional cases after the conclusion of treatment, and "1" for individuals who have any additional cases after the conclusion of treatment, is recidivism. The variables were assumed to follow a multinomial distribution and the cumulative link function was used in order to model the cumulative probabilities. The general model takes the form:

$$\text{Logit}\,[P(Y_i \leq j)] = \alpha_j + \beta_1 x_1 + \beta_2 x_{2\,+\,\ldots}$$

where:

α_j is the intercept and

the β_i are the weights for the explanatory variables

Peduzzi et al. (1996) recommends that for multivariable logistic models the sample size of the smallest response group be at least as large at 10(p + 1), where p is the number of predictors in the model. In this case, having 3 predictor or independent variables concluded that the minimum number of offenders needed for the current study is 40 in each group.

In order to develop support for the specification and validity of the model, preliminary assessments focused on investigating linearity in the logit for continuous model predictors, the extent of multicollinearity, and the presence of outliers or influential observations (Hancock, Mueller, & Stapleton, 2010). A summary of the results of these preliminary assessment procedures, as well as decisions for dealing with any problems was identified and is presented in the Results section.

Threats to Validity

As with any study, threats to both internal and external validity are present. In the present study, which is quasi-experimental, the external threats to validity include the representativeness of the sample (Frankfort-Nachmias, Nachmias, & DeWaard, 2015). The current study is limited because of an inability to examine all misdemeanant drug offenders for the city who have completed abbreviated drug counseling. Because of this issue, the study is not a complete representation of the target population (Frankfort-Nachmias et al., 2015). For example, the offenders in the current study are only eligible for the study based upon a specific set of drugs. Therefore any offender who has a

misdemeanor drug case outside of the specified drugs listed for this study, would not be included in the study, even if abbreviated counseling was completed. Because of this issue, the sampling in this study cannot be representative of all drug offenders in the city population, for all misdemeanor court jurisdictions.

The threat to internal validity of this study is confounding variables (Frankfort-Nachmias et al., 2015), which may be present because of the existence of incidental factors. Confounding variables potentially cause the relationship between variables to become skewed (Frankfort-Nachmias et al., 2015). Confounding variables in this study included the inability to determine modality of counseling, which could affect the outcome of the study if there was an inability to determine modality of counseling. Because the current study is a quantitative, quasi-experimental, archival study design (Creswell, 2013; Frankfort-Nachmias & Nachmias, 2008), random assignment for variables could not be conducted. Random assignment is usually present in experimental studies and would also assist in the reduction of possible confounding variables (Frankfort-Nachmias et al., 2015), which presents a threat to the internal validity of the current study.

Ethical Procedures

This study is a quantitative, quasi-experimental, archival study design (Creswell, 2013; Frankfort-Nachmias & Nachmias, 2008), that involves data that was obtained from the misdemeanor court in a western state. The use of archival data reduces the potential for ethical concerns and eliminates the requirement for obtaining individual consent from each study participant (Frankfort-Nachmias et al., 2015). Although consent from

individual offenders was not necessary for this study because of the archival design, permission was still necessary for access to the data set and criminal case management system from the misdemeanor court Administration. Written permission was obtained from the misdemeanor court Administration for both accesses to the criminal case management system and the data set the misdemeanor court. In addition, permission to conduct the study out of an abundance of caution was obtained from the office of indigent defense, as I currently work for the agency.

In addition to written permission, the study was subject to review and approval by the Institutional Review Board (IRB) at Walden University. The collection of data did not begin until the Walden University IRB approved and provided written permission for the study to commence. The Walden University IRB approval number for this study is 01-22-18-0409406.

For the protection of confidential information, and for the confidentiality of each offender, all of the identifying information collected was removed from the final study and also from the data set during collection. Each individual identifier, which included the misdemeanor court case number, offender name, and identification number, was removed during the data collection process. Each offender was assigned a number and identified through the assigned number on all data collection forms which were specifically designed for the current study. Confidential information was kept secure by using a BitLocker Encrypted Flash Drive, complete with complex password, which is under lock and key in a personal safe, to which only I have access. The information will be kept in a secure environment for a minimum of five years. In addition, any printed

information will also be kept in a locked personal safe, until the destruction age of five years has passed. After the 5-year period, all data, printed material, and data collection material will be destroyed. All information was used and viewed on secured, password protected, computers. At no time did any person or entity have access to review the information contained within the data set.

Summary

In Chapter 3, I outlined the research design and justification for the research. In addition, I discussed the research methodology, specific population of the study, and the sampling strategy used. This chapter has also provided information on specific measures necessary for access to both public and confidential data sets within the misdemeanor court's criminal case management system, as well as information on the ethical procedures implemented for the study. In addition, security measures taken to protect the confidentiality of offender information were discussed in detail, and included destruction timelines for data collected during the study. In chapter 4, additional in-depth information will be outlined regarding specifics of the study, including data collection, and the results of the data calculations.

Chapter 4: Results

Introduction

The purpose of this study was to examine the effectiveness of the three modalities of a lower level drug counseling course in a western state that include in-person, online, and correspondence-based drug treatment, as ordered by the misdemeanor court upon entering into negotiations for a criminal case. The effectiveness of each modality was measured by analyzing recidivism rates of offenders completing each of the three modalities of the program for 3 years after the conclusion of treatment. An additional goal of the study was to examine whether variations are present in recidivism rates as a function of modality of program delivery, drug of choice for each offender, risk for re-offense, or an interaction between the three.

The following research questions and hypotheses were the basis for this study:

RQ1: Is there a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders?

H_a1: There is a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders.

H_01: There is not a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders.

RQ2: Is there a significant predictive relationship among drug type, program modality, and recidivism rates of offenders?

H_a2: There is a significant predictive relationship among drug type, program modality, and recidivism rates of offenders.

$H_0$2: There is not a significant predictive relationship among drug type, program modality, and recidivism rates of offenders.

RQ3: Is there a significant predictive relationship between risk level and recidivism rates of offenders?

H_a3: There is a significant predictive relationship between risk level and recidivism rates of offenders.

$H_0$3: There is not a significant predictive relationship between risk level and recidivism rates of offenders.

RQ4: Is there a significant predictive relationship between modality based upon risk level and recidivism rates of offenders?

H_a4: There is a significant predictive relationship between modality based upon risk level and recidivism rates of offenders.

$H_0$4: There is not a significant predictive relationship between modality based upon risk level and recidivism rates of offenders.

In this chapter the data collection processes, including demographic characteristics of the sample, representativeness of the population, and the results of the ordinal linear regression analysis conducted in this study will be outlined.

Data Collection

The raw data set from archival data included 5,299 cases from 2013, which included the dates of filing from January 1, 2013 through December 31, 2013. Each set of data was separately from any other case, with approximately 10 minutes spent determining inclusion and exclusion criteria, per case. The total number of cases included

from archival data was reduced to 402 because of missing data and specific inclusion criteria, which included unknown modality of drug counseling, cases still considered active because of bench warrant status, dismissal of charges prior to negotiations, case transfer to District Court because of felony charge negotiations, imposition of jail sentence prior to program completion, and negotiations that did not include lower level drug counseling. Identification of cases was accomplished by running filters through the misdemeanor court's criminal case management system for drug offense charged, which included the charges of possession of controlled substance, possession of controlled substance—marijuana—less than 1 ounce, under the influence of controlled substance, trafficking in controlled substance, sale of controlled substance, and possession of dangerous drugs not to be introduced into interstate commerce. Filters also included an age filter for offenders 18 years or older as well as a filter for cases referred to the misdemeanor court from outlying jurisdictions and cases with an originating year other than 2013, all of which would be considered exclusion criteria if not met. Cases from the archival data set were further screened for inclusion criteria based on modality of treatment, including available proof of completion of treatment, type of drug used, if any, which included marijuana, methamphetamine, heroin, cocaine, benzodiazepines, other (bath salts or spice), and opiates/pills, as well as risk level and recidivism.

I used demographic information, which included age, race, and sex of each offender. The geographic scope of this study was limited to a single jurisdiction in a western state. As a result of the limited scope of this study, caution should be taken in the generalization of the study results to other jurisdictions.

The original case list and raw data set were provided to me on February 26, 2018 through the misdemeanor court's Information Technology Department, with permission from the misdemeanor court's Administration and the Walden University IRB. I conducted an initial analysis of case data from the dates of February 26, 2018 through May 20, 2018, which included the type of criminal charges for each offender, age, race, and gender of the offender, as well as risk and recidivism, while researching approximately 4 hours per day.

The additional case data were collected, through the criminal case management system from June 5, 2018 and June 6, 2018. Additional case data included type of drug used and modality of counseling. Documents were provided to me on June 18, 2018, which included criminal complaints, counseling reports, and proof of completion certificates for court-ordered counseling, and I began screening documents for additional inclusion and exclusion criteria on June 18, 2018. Data collection was fully completed on June 20, 2018, while researching approximately 10 hours per day.

The data collection process went as planned and no adverse events were encountered. However, several discrepancies in data collection were encountered. Discrepancies included several cases, where it was found that "fictitious pleas" had occurred. Fictitious pleas are cases that included a reduced "fictitious" drug charge in negotiations and included drug counseling as a requirement although the individual was not cited for, or arrested with, any type of narcotic drug. Because of additional screening for specific drug criteria, or a lack thereof due to fictitious pleas, the total cases was further reduced from 402 cases to 395. In addition, because of issues relating to RQs 1

and 4 and multicollinearity, a single ordinal logistic regression could not be completed for the entire study. To remedy the issue with multicollinearity, a separate ordinal logistic regression test was completed for each of the research questions.

Descriptive Statistics

The archival data for this study were obtained from the misdemeanor court. The files that were accessed for this study are maintained by the misdemeanor court and are located in the criminal case management system. All files maintained within the criminal case management system contain information on offenders, their respective case negotiations, requirements imposed, and completion of requirements. The cases obtained include cases from 2013 for individuals over the age of 18 out of the misdemeanor court's jurisdiction, who were charged with offenses including possession of controlled substance, possession of controlled substance—less than one ounce, possession of dangerous drugs not to be introduced into interstate commerce, sale of controlled substance, and trafficking in controlled substance and under the influence of controlled substance.

Table 1 presents the frequencies and percentages of the sample regarding sex, race, charged offense, drug, and modality of treatment as well as risk and recidivism. The sample was made up of 72.66% male (n = 287) and 27.34% female offenders (n = 108). The most common race of offenders was Caucasian, with 48.10% offenders, followed by Black offenders at 29.62%. The most common charged offense for the sample was possession of dangerous drugs not to be introduced into interstate commerce with 98.73% (n = 390 cases). Individual drug categories included the most common drug being

marijuana with 41.27%, followed by methamphetamine with 40.25%. Treatment modality categories experienced the most common treatment as in-person treatment, with 58.73% (*n* = 232), followed by online treatment with 38.23%, and correspondence-based treatment with 3.04%. The category for risk had 74.94% of offenders (*n* = 296 cases) with any prior cases, and 25.06% of offenders with no prior cases. It is noted that with respect to the sex of each offender, significant differences are found among male and female offenders. There is a much higher frequency of male offenders in this study than female offenders.

Table 1

Frequency Table for Nominal Variables

Variable	*n*	*%*
Sex		
Female	108	27.34
Male	287	72.66
Race		
Asian	12	3.04
Black	117	29.62
Caucasian	190	48.10
Hispanic	53	13.42
Pacific Islander	21	5.32
Unknown	2	0.51
Charge/Offense		
Possession Controlled Substance	2	0.51
Possession Controlled Substance Marijuana Less than 1 Oz	2	0.51
Possession of Dangerous Drugs not to be Introduced into Interstate Commerce	390	98.73
Sale of Controlled Substance	1	0.25
Drug		
Benzodiazepines	2	0.51
Cocaine	54	13.67
Heroin	9	2.28
Marijuana	163	41.27
Methamphetamine	159	40.25
Opiates/Pills	6	1.52
Other Bath Salts or Spice	2	0.51
Modality Treatment		
Correspondence	12	3.04
In-Person	232	58.73
Online	151	38.23
Risk		
0 Priors	99	25.06
Any Priors	296	74.94
Modality with risk		
0 priors, correspondence	3	0.76
0 priors, in person	53	13.42
0 priors, online	43	10.89
any priors, correspondence	9	2.28
any priors, in person	179	45.32
any priors, online	108	27.34

Note. Due to rounding errors, percentages may not equal 100%.

Table 2 presents the descriptive statistics for the sample with respect to the age of each offender. The average age of offenders in the sample was 38.17 years, with a minimum age of 23 a maximum age of 81 years, and a median of 36.00 years. Three outliers were present in the sample with *z*-scores greater than 3.29 corresponding to ages 76, 77, and 81. Skewness and kurtosis were also calculated in Table 2. When the skewness is greater than 2 in absolute value, the variable is considered to be asymmetrical in its mean. When the kurtosis is greater than or equal to 3, then the variable's distribution is markedly different than a normal distribution in its tendency to produce outliers (Westfall & Henning, 2013). Neither skewness nor kurtosis were found in this study.

Table 2

Summary Statistics Table for Interval and Ratio Variables

Variable	*M*	*Median*	*SD*	*n*	SE_M	Skewness	Kurtosis
Age	38.17	36.00	11.20	395	0.56	0.73	0.05

Note. '-' denotes the sample size is too small to calculate statistic.

Table 3 presents the descriptive statistics for the sample with respect to the recidivism rates for each group of offenders. Offenders who did not experience a recidivism event included 36% of female offenders and 64% of male offenders in the "no new cases" group. Offenders who did experience a recidivism event included 19% of female offenders and 81% of males in the "any new cases" group. In addition, 53% of Caucasian offenders did not reoffend, while 43% of Caucasian offenders did experience a recidivism event, which were both the majority out of each race category.

In the drug categories, 41% of offenders who were arrested with marijuana did not experience a recidivism event, followed by 40% of offenders who were arrested for methamphetamine, which were most offenders in the “no new cases” category. In contrast, 42% of offenders who were arrested with marijuana, and 41% of offenders who were arrested with methamphetamine, experienced recidivism events, which were most offenders in the “any new cases” category.

In reference to modality of treatment, 52% of individuals who completed in-person counseling did not experience a recidivism event as well as 45% who completed counseling online and 3% who completed correspondence-based counseling. In contrast, 65% of offenders who completed in-person counseling did acquire at least one new case, as well as 32% who completed online counseling, and 3% who completed correspondence-based counseling.

In the risk category, 67% of individuals who had prior cases did not experience a recidivism event as well as 33% of offenders who did not have prior cases. In contrast, 82% of offenders who had prior cases experienced a recidivism event along with 18% of offenders who had no prior cases. In comparison, offenders who did not experience a recidivism event after taking in-person counseling and having any prior cases totaled 38%, which was the majority of the “no new cases” category. In contrast, offenders who did experience a recidivism event after taking in-person counseling, and having any prior cases, totaled 53%, which was the majority for the “any new cases” category.

Table 3

Frequency Table for Nominal Variables by Recidivism

Variable	Recidivism	
	Zero New Cases	Any New Cases
Sex		
Female	70 (36%)	38 (19%)
Male	126 (64%)	161 (81%)
Race		
Asian	6 (3%)	6 (3%)
Black	48 (24%)	69 (35%)
Caucasian	104 (53%)	86 (43%)
Hispanic	23 (12%)	30 (15%)
Pacific Islander	14 (7%)	7 (4%)
Unknown	1 (1%)	1 (1%)
Charge/Offense		
Possession Controlled Substance	0 (0%)	2 (1%)
Possession Controlled Substance Marijuana Less than 1 Oz	0 (0%)	2 (1%)
Possession of Dangerous Drugs not to be Introduced into Interstate Commerce	196 (100%)	194 (97%)
Sale of Controlled Substance	0 (0%)	1 (1%)
Drug		
Benzodiazepines	2 (1%)	0 (0%)
Cocaine	26 (13%)	28 (14%)
Heroin	4 (2%)	5 (3%)
Marijuana	80 (41%)	83 (42%)
Methamphetamine	78 (40%)	81 (41%)
Opiates/Pills	5 (3%)	1 (1%)
Other Bath Salts or Spice	1 (1%)	1 (1%)
Modality Treatment		
Correspondence	6 (3%)	6 (3%)
In-Person	102 (52%)	130 (65%)
Online	88 (45%)	63 (32%)
Risk		
0 Priors	64 (33%)	35 (18%)
Any Priors	132 (67%)	164 (82%)
Modality with risk		
0 priors, correspondence	3 (2%)	0 (0%)
0 priors, in person	28 (14%)	25 (13%)
0 priors, online	33 (17%)	10 (5%)
any priors, correspondence	3 (2%)	6 (3%)
any priors, in person	74 (38%)	105 (53%)
any priors, online	55 (28%)	53 (27%)

Note. Due to rounding errors, column wise percentages may not equal 100%.

Table 4 presents the summary statistics for the sample with respect to recidivism rates for each age group of offenders. The average age of offenders in the 'no new cases' category is 39.45 (n = 196), while the average age of offenders in the 'any new cases' category is 36.90 (n =199). Skewness and kurtosis were also calculated in Table 4. Neither skewness nor kurtosis were found in this study.

Table 4

Summary Statistics Table for Age by Recidivism

Variable	*M*	*SD*	*n*	SE_M	Skewness	Kurtosis
Age						
0 New Cases	39.45	11.72	196	0.84	0.76	0.36
Any New Cases	36.90	10.54	199	0.75	0.63	-0.71

Note. '-' denotes the sample size is too small to calculate statistic.

Results

Evaluation of Statistical Assumptions

Using G* power analysis the sample size is computed using the method for a logistic regression with the type of power analysis being *A priori*: Compute required sample size – given α, power, and effect size. The study has three independent variables and the dependent variable of recidivism is dichotomously coded. For the power analysis, the Pr(Y=1|X=1) H0 was set to 0.42, resulting in an odds ratio of 1.91, which is a medium effect size. The significance level was set to $p < 0.05$, and power (1-β) was set to .80. In consideration of the three independent variables, the R^2 for the other X was set to 0.40. Based upon these parameters, the total sample size required to achieve adequate statistical power is N = 155. The study's final case numbers totaled 395 after inclusion and exclusion criteria were carefully weighed, and met, from the original 5299 cases

submitted to the researcher from the misdemeanor court. Prior to the ordinal logistic regression analysis being completed, the assumptions of the absence of multicollinearity and proportional odds were examined.

Results for Research Question 1

An ordinal logistic regression was conducted to determine if there was a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders. In this analysis, the in-person modality was most prevalent in the sample and was treated as the reference group in the regression variance inflation factors (VIFs) were calculated to detect multicollinearity between predictors. High VIFs indicate increased effects of multicollinearity in the model. VIFs greater than 5 are cause for concern, whereas VIFs of 10 should be considered the maximum upper limit (Menard, 2009). All predictors in the regression model have VIFs less than 10. Table 5 presents the VIF for each predictor in the model.

Table 5

Variance Inflation Factors for Online vs In Person and Correspondence vs In Person

Variable	VIF
Online vs in person	1.02
Correspondence vs in person	1.02

The results of the model were significant, $\chi^2(2) = 7.52$, $p = .023$, suggesting there is a significant predictive relationship between completion of the three modalities of the program and recidivism rates suggesting the observed effects of in-person counseling versus online counseling, and in-person counseling versus correspondence-based

counseling on recidivism rates, were unlikely to occur under the null hypothesis. However, a *p*-value of 0.02 taken alone does not provide sufficient evidence to claim statistical significance (Wasserstein & Lazar, 2016). McFadden's R-squared was calculated to examine the model fit, where values greater than .2 are indicative of models with excellent fit (Louviere, Hensher, & Swait, 2000). The McFadden R-squared value calculated for this model was 0.01.

Since proportional odds were assumed, a single coefficient was estimated for each predictor. The regression coefficient for in-person counseling versus online counseling was significant, $B = -0.58$, $\chi^2 = 7.44$, $p = .006$, suggesting that a one unit increase in in-person counseling versus online counseling would decrease the odds of observing a higher category of recidivism by 43.83%. This means that the online counseling was more effective at reducing recidivism than in-person counseling, by 43.83%. Therefore, the null hypothesis was rejected. Table 6 summarizes the results of the ordinal regression model.

Table 6

Ordinal Logistic Regression Results for In-Person versus Online and In-Person versus Correspondence predicting Recidivism

Predictor	*B*	*SE*	χ^2	*p*	*OR*
(Intercept)	-0.24	0.13	3.36	.067	
Online vs in person	-0.58	0.21	7.44	.006	0.56
Correspondence vs in person	-0.24	0.59	0.17	.682	0.78

Results for Research Question 2

An ordinal logistic regression was conducted to determine if there a significant predictive relationship among drug type, program modality, and recidivism rates of offenders. In this analysis, marijuana use was the most prevalent drug used and was treated as the reference group in the regression analysis. VIFs were calculated to detect multicollinearity between predictors. All predictors in the regression model have VIFs less than 10. Table 7 presents the VIF for each predictor in the model.

Table 7

Variance Inflation Factors for Meth vs Marijuana, Heroin vs Marijuana, Cocaine vs Marijuana, Opiates vs Marijuana, and Benzo Other vs Marijuana

Variable	VIF
Meth vs marijuana	1.18
Heroin vs marijuana	1.03
Cocaine vs marijuana	1.15
Opiates vs marijuana	1.02
Benzo other vs marijuana	1.01

The results of the model were not significant, $\chi^2(5) = 4.23$, $p = .517$, suggesting that there is not a significant predictive relationship between drug use and recidivism rates of offenders. Since the overall model was not significant, the individual predictors were not examined further. Therefore, the null hypothesis was not rejected. Table 8 summarizes the results of the ordinal regression model.

Table 8

Ordinal Logistic Regression Results for Meth vs Marijuana, Heroin vs Marijuana, Cocaine vs Marijuana, Opiates vs Marijuana, and Benzo Other vs Marijuana Predicting Recidivism

Predictor	*B*	*SE*	χ^2	*p*	*OR*
(Intercept)	-0.04	0.16	0.06	.814	
Meth vs marijuana	0.00	0.22	0.00	.997	1.00
Heroin vs marijuana	0.19	0.69	0.07	.787	1.20
Cocaine vs marijuana	0.04	0.31	0.01	.906	1.04
Opiates vs marijuana	-1.65	1.11	2.21	.137	0.19
Benzo other vs marijuana	-1.14	1.17	0.95	.330	0.32

Results for Research Question 3

An ordinal logistic regression was conducted to determine if there is a significant predictive relationship between risk level and recidivism rates of offenders Since there was only one predictor variable, multicollinearity does not apply, and VIFs were not calculated. The results of the model were significant, $\chi^2(1) = 12.06$, $p < .001$, suggesting there is a significant predictive relationship between risk level and recidivism rates of offenders. Since proportional odds were assumed, a single coefficient was estimated for each predictor. The regression coefficient for risk was significant, $B = 0.82$, $\chi^2 = 11.64$, $p < .001$, suggesting that a one unit increase in risk would increase the odds of observing a higher category of recidivism by 127.00%. This means that offenders who have any risk, or any prior cases for purposes of this study are 127.00%, or 2.27 times more likely to have a recidivism event. Therefore, the null hypothesis was rejected. Table 9 summarizes the results of the ordinal regression model.

Table 9

Ordinal Logistic Regression Results for Risk predicting Recidivism

Predictor	*B*	*SE*	χ^2	*p*	*OR*
(Intercept)	0.60	0.21	8.24	.004	
Risk	0.82	0.24	11.64	< .001	2.27

Results for Research Question 4

An ordinal logistic regression was conducted to determine if there is a significant predictive relationship between modality based upon risk level and recidivism rates of offenders. In this analysis, offenders who have priors and have completed the in-person counseling was compared between all other risk offenders and modalities of counseling, and this variable was treated as the reference group in the regression. VIFs were calculated to detect the presence of multicollinearity between predictors. All predictors in the regression model have VIFs less than 10. Table 10 presents the VIF for each predictor in the model.

Table 10

Variance Inflation Factors for Modality Based Upon Risk Level

Variable	VIF
Zero Priors In Person vs Any Priors In Person	1.12
Zero Priors Online vs Any Priors In Person	1.11
Zero Priors Correspondence vs Any Priors In Person	1.01
Any Priors Online vs Any Priors In Person	1.16
Any Priors Correspondence vs Any Priors In Person	1.03

The results of the model were significant, $\chi^2(5) = 23.73$, $p < .001$, suggesting that there is a significant predictive relationship between modality based upon risk level and

recidivism rates of offenders. Since proportional odds were assumed, a single coefficient was estimated for each predictor. The regression coefficient for offenders with zero priors who completed counseling online versus offenders who have any priors who completed counseling in-person was significant, $B = -1.54$, $\chi^2 = 15.54$, $p < .001$. This finding suggests that a one unit increase in offenders with zero priors who complete counseling online versus offenders who have any priors who complete counseling in-person would decrease the odds of observing a higher category of recidivism by 79.00%. Therefore, the null hypothesis was rejected. All other category pairings were found to be not statistically significant. Since the additional category pairings were not significant, the individual predictors were not examined further. Table 11 summarizes the results of the ordinal regression model.

Table 11

Ordinal Logistic Regression Results for Modality Based Upon Risk Level and Recidivism Frequency

Predictor	*B*	*SE*	χ^2	*p*	*OR*
(Intercept)	-0.35	0.15	5.31	.021	
Zero Priors In Person vs Any Priors In Person	-0.46	0.31	2.17	.140	0.63
Zero Priors Online vs Any Priors In Person	-1.54	0.39	15.54	< .001	0.21
Zero Priors Correspondence vs Any Priors In Person	-29.21	428079.36	0.00	1.000	0.00
Any Priors Online vs Any Priors In Person	-0.39	0.25	2.49	.114	0.68
Any Priors Correspondence vs Any Priors In Person	0.34	0.72	0.23	.635	1.41

Summary

This study found that most offenders were male, at 72.66%, and female offenders accounted for 27.34% of the offenders in this study, and most offenders were Caucasian, at 48.10%. In summary, all research questions were analyzed with an individual ordinal logistic regression test to eliminate issues with multicollinearity.

The answer to RQ 1 indicated that the online counseling was more effective at reducing recidivism than in-person counseling, by 43.83%; however, it did not find that there was a statistically significant correlation to state that correspondence-based counseling would reduce recidivism more than in-person counseling. For RQ 2, no statistical significance was found between type of drug and increased recidivism rates, so the null hypothesis could not be rejected. For RQ3, in contrast, there was a statistical significance between offenders who have any risk, or any prior cases for purposes of this study, and recidivism. Offenders who have any prior cases are 127.00%, or 2.27 times more likely to have a recidivism event. RQ4 was found to be not statistically significant, in part, and statistically significant, in part. The statistical significance directly relates to offenders with zero priors who complete counseling online versus offenders who have any priors who complete counseling in-person. It was found that offenders who have zero priors and complete counseling online decrease the odds of recidivism by 79.00%.

Chapter 5 provides a summary of the results of this study, a discussion of the potential implications of the study, as well as the limitations, recommendations for future and further research, and additional implications for potential impact on the community. Chapter 5 will also include potential impact for positive social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this study was to examine the effectiveness of the three modalities of the lower level drug counseling course in a western state: in-person, online, and correspondence-based drug treatment. The effectiveness of each modality was measured by comparing the recidivism rates of offenders completing each of the three drug counseling modalities 3 years after the conclusion of treatment. An additional goal of the study was to examine whether significant differences are present in recidivism rates as a function of modality of program delivery, drug of choice, or risk for re-offense. Moreover, I examined whether there was a statistically significant interaction among program delivery, drug of choice, and risk for re-offense in predicting recidivism rates. In this study, I used an ordinal logistic regression analysis to analyze archival data from the misdemeanor court with initial offenses beginning in 2013 and follow-up years spanning 2014 through 2016.

The results showed that 65% of offenders who completed in-person counseling experienced a recidivism event compared with 32% of offenders who completed the online counseling format and 3% of offenders who completed counseling via the correspondence-based course. In reference to risk, 82% of offenders who had prior cases experienced a recidivism event in contrast to 18% of offenders who had no previous criminal cases. The results also showed that online counseling was more effective at reducing recidivism than in-person counseling by 43.83%. The results indicated that there is no significant predictive relationship between drug of choice and recidivism rates for

offenders and revealed that drug offenders who have any risk for re-offense are 127% more likely to experience a recidivism event. In contrast, the ordinal logistic regression analysis showed that offenders who had no prior cases, and who completed online counseling, decreased the odds of experiencing a recidivism event by 79%. Chapter 5 provides a detailed interpretation of the study findings as well as a discussion of study implications. The limitations of the study and recommendations for further research are also presented.

Interpretation of the Findings

Some of the findings of this study have been supported by the existing literature, whereas other findings are not supported and need further research.

Interpretation of Research Question 1

Is there a significant predictive relationship between completion of the three modalities of the program and recidivism rates of offenders? The results of the study indicated that there is a significant predictive relationship between completion of the three modalities of the program and recidivism rates; however, only the difference in recidivism rates between online versus in-person counseling modalities was statistically significant. The results for RQ1 indicate that online counseling was more effective at reducing recidivism rates than in-person counseling by 43.83%. This finding aligns with a study conducted by Lindquist et al. (2009), which demonstrated that program modality is important because learning styles may impact the success or failure of an offender in a treatment program. For example, an introverted individual may excel at online learning but fail to complete a treatment program that is centered on group study. Lindquist et al.

also found that between 229 drug court participants and 295 probationers, treatment program design was not necessarily mirrored by treatment program delivery, which may also be the case with abbreviated drug counseling in the current study. However, as indicated by the results of the study, online counseling may be more closely aligned with the intended counseling program design, thereby increasing program fidelity. The increase in program fidelity may be attributed to an inability to add variation to treatment materials in the online setting, which may result in it being more effective than the in-person program at reducing the incidence of recidivism (Latessa & Lowenkamp, 2006).

Other research has supported the effectiveness of online counseling, because of the removal of "networking" opportunities for drug offenders. For example, Bartol and Bartol (2012) and Patra et al. (2010) suggested that, as the RNR model of treatment posits, drug offenders who distance themselves from family, friends, and acquaintances who use drugs are generally more successful at completion of treatment and at staying out of trouble. In online counseling treatment, opportunities for "networking" between drug offenders is substantially reduced, which reduces chances of recidivism (Patra et al., 2010). These results regarding online counseling and criminal association relate to understanding on the antisocial companion criminogenic need (Latessa, n.d.) as well as the results of the current study. Research has shown that criminal and antisocial companion associations often lead to additional criminal and drug-using behaviors (Bartol & Bartol, 2012; Patra et al., 2010). Criminal and antisocial companion associations may further rationalize criminal and drug-using behaviors, resulting in an increase in recidivism rates for offenders (Bartol & Bartol, 2012; Patra et al., 2010).

Thus, online counseling for offenders may be the most effective modality of treatment in abbreviated treatment settings, because a lack of contact with other drug offenders in the online treatment modality reduces opportunities for drug offenders to network with one another.

The current study not only adds depth to previous studies conducted on recidivism rates of drug offenders but also adds to the information presented in the previous literature by using misdemeanor cases and recidivism rates rather than only felony cases and recidivism rates, which have already been studied extensively. Furthermore, the analysis of different modalities of treatment within the current study provides an additional foundational layer from which to build future studies.

Interpretation of Research Question 2

Is there a significant predictive relationship among drug type, program modality, and recidivism rates of offenders? The results of RQ2 were not significant, indicating that there is not a significant predictive relationship between drug of choice, program modality, and recidivism rates of offenders. There was no prior research found on explicitly drug type, other than intravenous drug use and recidivism rates (see Roll et al., 2005). The closest research was conducted by Prendergast et al. (2013), who examined the relationship between drug use and recidivism rates of drug offenders. Prendergast et al.'s results are congruent with the current study regarding no statistically significant relationship between drug of choice and recidivism. However, it is possible that lack of statistical significance in the current study is a statistical artifact related to multicollinearity issues and large discrepancies in numbers within each drug category.

Issues may have arisen because some categories, namely the marijuana and methamphetamine categories, had substantially more numbers than the other categories of drugs. To determine if results would change if the lower-number drug categories were removed, a regression analysis was run strictly on the categories of methamphetamine and marijuana. The analysis, using only the large categories of marijuana and methamphetamine, was still not statistically significant.

The current study's results contrast previous research like Roll et al.'s (2005) study for several reasons. Roll et al. found that intravenous drug use, such as heroin injection, was found to be directly associated with drug court outcomes, which encompass both completion and failure to complete the treatment program and recidivism rates. Because Roll et al. (2005) focused on intravenous drug use, rather than on just heroin use or drug use, the study produced more detailed, accurate results, whereas the current study's findings may not be as precise because there was no differentiation made between the manner in which drugs were ingested (e.g., orally, inhalation, or intravenously). The current study was also limited in scope by using ex post facto data rather than participants. The current study also potentially did not have enough cases in each separate drug categories of heroin, cocaine, benzodiazepines, other (bath salts or spice), and opiates/pills, to determine statistically significant relationships between drug of choice and recidivism rates.

Because of the findings of this study and previous studies in relation to RQ2, it is important that future research focus on drug of choice and the relationships of these factors to recidivism for offenders. Future research in these areas may expand on the

information in the current and previous studies. Further research on drug of choice and recidivism can contribute to strengthening the foundation of information that is available for offender treatment and rehabilitation.

Interpretation of Research Question 3

Is there a significant predictive relationship between risk level and recidivism rates of offenders? The results of RQ3 were that there is a statistically significant predictive relationship between risk level and recidivism rates of drug offenders. The results for RQ3 indicate that drug offenders who have any risk for re-offense, or are accused of any prior cases, are 127% more likely to recidivate. In the current study, risk was measured solely by criminal history.

The results of the current study are congruent to studies that suggest increases in risk level often equate to increases in recidivism rates for criminal offenders (Bonta & Andrews, 2014; Latessa (n.d.); Latessa & Lowenkamp, 2006; Prendergast et al., 2013). According to Prendergast et al. (2013), as well as Latessa (n.d.) and Latessa and Lowenkamp (2006), systematic evaluations assist in the identification of risk and subsequently assist in the reduction of recidivism for treatment participants. Risk can be increased by aggravating factors such as lack of education, lack of employment, substance use disorders, and criminal associations (Latessa & Lowenkamp, 2006). Bonta and Andrews (2014) clarified that the identification of risk and criminogenic needs, if evaluated prior to the inception of treatment, can assist in the reduction of treatment missteps which facilitates a reduction in recidivism.

In addition to the identification of risk factors, Scott, Grella, Dennis, and Funk, (2016) expounded that risk is also increased by issues relating to gender-specific roles. Scott et al. found that women who experience economic hardship are at an increased risk and are 6 times more likely to recidivate than offenders who have stable employment and an education. Although women only made up a small population in the current study, and the current study was not focused on gender-specific issues, economic hardship is equated as a risk increase for all offenders (Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006; Latessa, n.d.; Prendergast, et al., 2013; Scott, et al., 2017). Additionally, Håkansson and Berglund (2012) supported that increases in risk equate to increases in recidivism rates by underscoring issues regarding economic hardship, homelessness, drug use, and intravenous drug use. By not providing insight into specific background issues, risk, and criminogenic need, the abbreviated drug counseling program may not address potential aggravating factors that could directly contribute to recidivism (Latessa & Lowenkamp, 2006).

Interpretation of Research Question 4

Is there a significant predictive relationship between modality based upon risk level and recidivism rates of offenders? Results of the model for RQ4 were significant, suggesting that there is a significant predictive relationship between modality based on risk level and recidivism rates. According to the results of RQ4, offenders who completed the online counseling modality and had no previous offenses were 79% less likely to obtain any new cases or experience a recidivism event than offenders who had any priors and completed the in-person counseling. All other category pairings were

found to be not statistically significant. However, it is possible that lack of statistical significance in the current study is an issue related to multicollinearity and a large discrepancy in numbers within modality cells. Issues may have arisen because some categories, namely the correspondence category, had substantially less numbers than the other two modalities.

According to the RNR model of treatment, information obtained from proper assessments can assist counseling agencies and treatment facilities in implementing a more comprehensive treatment plan for offenders, rather than using a one-size fits all model and method of treatment and can assist in the reduction of recidivism (Ward et al., 2006). However, if you remove a single 'leg' of the treatment model, the treatment has a significantly decreased chance for success, and an increased chance for recidivism (Bonta & Andrews, 2014). According to several studies, differing risk levels may require varying levels of treatment dosage in a drug treatment setting for recidivism to be affected in a positive manner (Bonta & Andrews, 2014; Latessa, n.d; Latessa & Lowenkamp, 2006).

For offenders with no previous criminal history, an online treatment course may be the single form of treatment necessary to curb future offenses, while for offenders with any kind of risk; substantially more treatment may be required to influence recidivism rates, which aligns with findings from Bonta and Andrews (2014), Latessa (n.d.), and Latessa and Lowenkamp (2006). Because of the findings of no statistical significance in pairings other than the 'no priors online versus any priors in-person' modality for the current study, it is essential that additional research in the areas of counseling modality

based upon risk level and recidivism rates of offenders be conducted. Future research in these areas could potentially expand the knowledge-base of recidivism for drug offenders related to risk.

Limitations of the Study

There were several limitations to the current study's scope. First, cases could not be randomly assigned to groups because of the nature of the study which employed an ex-post facto research design (Creswell, 2013). As no specific assessment of risk was incorporated in the study, the assignment of risk for each offender was prior criminal convictions (Evans et al., 2011; Taxman et al., 2013), which limits the study because of an inability to determine actual, empirically assessed risk levels for each offender. A number of cases had to be excluded outside of the original exclusion criteria due to an inability to categorize the modality of counseling. An additional limitation to the study may be the inaccurate recording of counseling modality by the treatment administrators on behalf of the counseling agency. These limitations may compromise the validity of the study's findings.

The study may have limited generalizability because of the specific group of individuals this study applies to, which includes misdemeanor drug offenders who have been sentenced to attend a single abbreviated drug counseling course within the geographic boundaries of the city. This is a limitation because other geographic locations may not have as high a drug offender population, such as rural areas, or may have an even have higher incidence of drug offenders such as areas with a higher per-capita population. In addition, misdemeanor offenders in other areas may not have the option to

be sentenced to abbreviated drug counseling. As a result, this study may not apply to all misdemeanor offenders who are ordered into extended drug treatment as part of misdemeanor negotiations in criminal cases, for jurisdictions outside of the city.

Recommendations

Based on the results of this study, there are several recommendations that can be made for future research and future studies on counseling modality and recidivism. Due to the small number of female offenders sampled in this study, it is recommended that future studies on recidivism be conducted with either an increased number of female offenders or solely female offenders. It is important to identify differences in female and male offender recidivism rates as the female criminal population within the United States continues to increase, and gender-based treatment is an important aspect of drug rehabilitation and recovery (Bartol & Bartol, 2012). In addition, it may be helpful to conduct research in an experimental manner, with participants or cases being assigned to random groups. Random assignment would benefit future studies because all participants of a target population have equal chance of being selected (Creswell, 2013), which could reduce sample and researcher bias. Further, it would benefit future studies to involve cases with an established assessment for risk. A risk evaluation could increase the accuracy of risk determinations in future studies and would result in additional understanding of the most effective treatment options relative to participant background.

An additional recommendation for future study would be to include other jurisdictions in studies to encompass a wider scope of individual offenders, thereby increasing the generalizability of the findings. It would be helpful to have additional

statistics for misdemeanor offenders in other urban and rural jurisdictions. It would also be preferable to conduct studies on recidivism for longer periods of time in order to determine long-term recidivism statistics on misdemeanor offenders outside of the general three-year rule (National Institute of Justice, 2014). A final recommendation would be to conduct additional research in areas of *drug use* and recidivism, *drug of choice* and recidivism, and *drug of choice* in relation to *drug use* and recidivism. Exploring a broad range of issues regarding drug offenses, drug of choice, and recidivism may assist in expanding knowledge in this area and help to clarify the relationships among criminogenic risk factors.

Implications

Previous research has shown that risk factors are significant predictors of recidivism (Bonta & Andrews, 2014; Latessa & Lowenkamp, 2006). In addition, previous research demonstrates the need for comprehensive drug treatment, and evaluations prior to treatment, that identify risk and criminogenic need (Bonta & Andrews, 2014; Latessa, n.d.) to reduce recidivism. The results of this study identified relationships among counseling modality, risk, and the effects on recidivism. Findings from this study indicate that online counseling assists in the reduction of recidivism for offenders with no risk by 79%, and that in-person counseling increased chances for recidivism for offenders who had any risk by 127%. In addition, the study indicated that online counseling, in comparison to in-person counseling, was more effective at reducing recidivism rates by 43.83%. The implications of the findings from the current study suggest that one-size-fits-all treatment may not be intensive enough for those drug

offenders who have greater than a low risk. In addition, drug offenders who have low risk for re-offense may be well suited to treatment delivered through an online counseling modality, as the online modality is sufficient to aid in reducing the risk of recidivism. More specifically, two potential reasons for online counseling being more effective in the reduction of recidivism rates for low-risk drug offenders may be the removal of potential networking options as well as the removal of distractions within the treatment setting.

The results of this study may lead to positive social change in several areas. First, the results could assist the local government in understanding the effectiveness of each of the three modalities of the abbreviated drug counseling program ordered by the court for sentencing in misdemeanor negotiations. More specifically, the results of this study may aid the misdemeanor court judges and administration in determining that online abbreviated counseling may be most beneficial for low risk first-time offenders while in-person counseling may not be beneficial for higher-risk offenders. The current study results could assist in future decisions regarding development of more comprehensive drug counseling or treatment programs. The current study results could also assist in obtaining necessary funding for drug counseling programs, by strengthening arguments for individual-centered treatment, and appropriate treatment dosage for each individual, based upon individual risk for re-offense and criminogenic needs. In addition, the results of the current study could assist in answering some outstanding questions regarding the effectiveness of abbreviated drug counseling programs for offenders who are higher-risk versus offenders who are a low-risk for re-offense.

These results may also provide insight into the needs of the criminal justice population and provide support for additional services, which may increase rates of treatment success in abbreviated drug treatment ordered through misdemeanor courts. For example, the results of the current study could assist in the amendment of court policies to include risk assessments prior to the imposition of treatment at sentencing for misdemeanor offenders. The imposition of a measure of risk for sentencing purposes may assist in the reduction of recidivism rates through the identification of appropriate treatment dosage for each offender. This information could be applied in jurisdictions outside of the city area to increase success of treatment within court-mandated programs, reducing overall recidivism of the drug offender population, and potentially reducing costs of both drug treatment and court operations.

Finally, by building upon previous research, the study was able to add to the current understanding of differences in recidivism rates for offenders with low risk, or any risk based upon risk level and type of treatment modality, for re-offense, and the effect the modalities of treatment had on recidivism rates. The results provide important and up-to-date information for researchers and clinicians across a wide range of disciplines, not only in areas of drug treatment, but also in areas of criminal psychology. Thus, the implications for positive social change related to the findings of this study encompass a wide range of areas including prevention, treatment, and improvement of the criminal justice system. For example, the results of the current study could aid in prevention by highlighting the potential benefit of individualized treatment. In addition, the current study could aid in treatment by providing a measured, jurisdictionally-

accurate study in which to base future treatment options for court-ordered counseling. The study could also provide a foundation for future research in the areas of abbreviated or short-term counseling through the criminal justice systems within the United States. As previously stated, even if the existing abbreviated program did not directly assess risk, but instead used a proxy measure similar to the current study, it may be sufficient for determining which type of offender would be most likely to benefit from an online treatment program.

Conclusion

The results of this study support the importance of further exploring the needs of the criminal justice population as it relates to drug offenders. Drug offenses are becoming more concerning as evidenced not only by the offenders entering into, and remaining within the criminal justice system, but also by the recent increase of overdose deaths across the United States. In addition, future research in the areas of gender-specific drug offenses and recidivism is necessary because of the increased number of female offenders within the criminal justice system.

As previously stated, many other studies have confirmed the results of the current study, which concludes that individual risk must be addressed in treatment settings. The current study found that offenders who have any risk are 127% more likely to recidivate when attending in-person abbreviated counseling, and that online counseling aids in the reduction of recidivism by 79% for offenders who have no risk. In addition, as a whole, online counseling reduces the chances for recidivism by 43.83% in comparison with in-person counseling.

Understanding the needs of drug offenders and implementing evaluation procedures to determine risk prior to the administration of treatment may assist the court system in not only reducing recidivism, but also may provide a foundation for positive change within the criminal justice system's processes. Both male and female offenders can benefit from comprehensive drug treatment given the right considerations, and hopefully through these services, substantially reduce their chances of becoming long-term participants in a "revolving door" criminal justice process.

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