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Substance abuse is an expensive problem facing the American public and the criminal justice field. Using secondary data analysis this study examined 1,921 participants across five substance abuse programs within California and New York jail systems. Specifically this study explored the impact of location, demographic characteristics, offense committed, and previous drug treatment on successful completion of the treatment program. Descriptive analyses were used to examine the demographic characteristics of the sample and the types of drugs used by participants in the thirty days prior to jail admission. Results from bivariate analyses indicated that location, demographic characteristics, and previous drug treatment were all significantly related to successful completion. Implications for current correctional treatment programs and future research on this topic are discussed.
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by

Bree A. Kimball
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CHAPTER 1

INTRODUCTION

Substance abuse is an expensive problem facing the American public and the criminal justice field. For example, in 2002, substance abuse cost Americans $181 billion, of which drug related crime was responsible for $107 billion (National Institute on Drug Abuse, 2005). Another reason for such high costs is the increasing number of substance dependant individuals in jails and prisons nationwide. In 2006, there were 2,245,189 inmates housed in U.S. jails and prisons (Sabol, Minton & Harrison, 2007). This equates to nearly 1 in every 136 U.S. residents residing in the correctional system (Harrison & Beck, 2005; Sabol, Minton & Harrison, 2007).

Interestingly, between 2005 and 2006 the population of incarcerated females increased at a greater rate than males (Sabol, Minton & Harrison, 2007). In 2005, women were 10% more likely to be incarcerated for drug related offenses than males (Harrison & Beck, 2005). A look at race revealed that 46.6% of African American and Hispanic inmates were incarcerated for drug offenses while Caucasians represented only 14% of those incarcerated for drug offenses (Harrison & Beck, 2005).

More than 53% of those incarcerated within state prisons in 2004 reported serving at least three prior prison sentences and 48% reported to already being on probation or parole supervision prior to their current arrest (Mumola & Karberg, 2006). Of those incarcerated in state prisons in 2004, 53% were classified as being drug dependent, using the DSM-IV standards. In that same year, 45% of those incarcerated in Federal prisons were also classified as such (Mumola & Karberg, 2006). The need for
rehabilitation and treatment with the goal of decreasing recidivism has become apparent from the continued rearrest rates throughout the United States. One study has shown that the amount of time within treatment and successful completion of treatment programs was found to have a significant impact on reducing recidivism by almost 50% (Wexler, Melnick & Cao, 2004). While the present study does not look at recidivism rates specifically, by examining the various treatment communities across the nation, researchers can determine what aspects of such programs are beneficial in the recovery and rehabilitation of those addicted to drugs and alcohol.

Statement of the Problem

In the U.S., drug and alcohol treatment within prisons began with the establishment of the Porter Narcotic Farm Act of 1929, which led to the implementation of the first two “narcotic farms” (to later become Public Health Service Hospitals); one in Lexington, KY and the other in Fort Worth, TX (Inciardi & Martin, 1993). These farms were first established as work release farms which housed only drug offenders as an alternative for prison sentencing. They were designed to treat the physical, social, mental, emotional and vocational facets of addiction (Martin, Butzin, Saum & Inciardi, 1999). Those who participated in the Lexington and Fort Worth farms, however, were found to have disappointing results after completing the programs (Martin, Butzin, Saum & Inciardi, 1999). These rehabilitative failures led to the belief that more research needed to be completed on what would make a successful program. Such
research has continued in order to develop new and innovative ways to address substance abuse, especially among incarcerated populations.

Beginning in the early 1980’s with the Reagan administration’s “zero tolerance” policy toward drugs (Lyman & Potter, 2003), mandatory minimum sentencing drug control policy was revitalized and harsher punishments began to be handed down for crimes committed involving drugs and alcohol. From 1985 through 1996 there was a yearly increase of 7.8% in the prison population. This has been heavily attributed to “zero tolerance” and mandatory sentencing policies (Pelissier, Wallace, O’Neil, Gaes, Camp, Rhodes, & Saylor, 2001). At that time, Lyman and Potter (2003) estimated that one in four incarcerated individuals within the federal prisons were convicted of drug related offenses. By 1995 that amounted to 388,000 adults within the U.S. prison system (Lyman & Potter, 2003). Many of the 388,000 individuals incarcerated in 1995 were first-time offenders forced to serve out their mandatory minimum sentence before being able to petition for release (Lyman & Potter, 2003).

State prisons and local jails have seen similar increases. During 1995, there was a 1,070% increase in convictions involving drug related offenses (Lyman & Potter, 2003, p. 337). These convictions have increased incarcerated populations at the local, state, and federal level.

Incarceration increases based on drug related convictions have led prison and jail administrators to attempt to find a way to rehabilitate those offenders so that once released they can reintegrate successfully and not reoffend due to addiction. Prisons and jail administrators have worked with treatment specialists to create and implement
treatment communities for addicted offenders with the hope that those who participate will not find themselves back in prison because of drug related charges. As generally prisons are allowed only 5% of the yearly state institutional budget to be spent on treatment programs, significant challenges arise when attempting to implement such programs (Mosher & Phillips, 2006).

According to Mosher and Phillips (2006), in 1997 only 11% of the prison population received any kind of treatment within state and Federal facilities. As successful completion of treatment programs has been found to be effective in decreasing recidivism and diminishing addictive behaviors from further use (Pelissier et al., 2001; Burdon, Dang, Prendergast, Messina & Farabee, 2007), there is a need for more treatment oriented programs.

Disappointing recidivism rates and success rates from the above discussed “farms” in the early part of the 20th century led the criminal justice system to seek alternatives in treating substance abuse. For the last 70 years, correctional systems have attempted to develop and implement treatment programs that will successfully rehabilitate incarcerated offenders. While some programs have seen success as measured by program completion which decreased recidivism and drug use, others have not been so successful in program completion and reduced rates of reoffending.

Various drug treatment programs exist within correctional systems nationwide. Each of these programs have goals of education, reducing substance use and ultimately having participants complete the program. The types of programs may include, residential living programs, group therapy such as Alcoholics Anonymous and Narcotics
Anonymous, or, in some systems, there is no treatment at all. The types of programs offered and the desire for an incarcerated person to end their addiction can make all the difference in the rate of recidivism among drug offenders.

The Present Study

California and New York have two of the larger city jail systems in the nation with their main jails in Los Angeles and New York City housing all offender types (Sabol, Minton & Harrison, 2007). Within the U.S., New York and California also have the largest publicly funded substance abuse treatment centers, both within and outside of the correctional systems (Jacobson, Robinson & Bluthenal, 2007; New York State Office of Alcoholism and Substance Abuse Services, 2005; California Department of Alcohol and Drug Programs, 2005). Each year both states spend millions of dollars in an effort to provide residents with treatment, intervention and prevention programs.

The California Department of Alcohol and Drug Programs spent $4.8 million during fiscal year 2003 directed specifically to treatment programs within the Department of Corrections’ prisons and jails. In 2001 those same programs received only $2.95 million in state funding (California Department of Alcohol and Drug Programs, 2005). While their funding has decreased, the California Department of Alcohol and Drug Programs is also working towards creating a continuum of care for those within the Department of Corrections’ facilities to respond to the chronic nature of drug and alcohol addiction.
The Office of Alcoholism and Substance Abuse Services in New York monitors multiple treatment options including private- and state-run facilities, Federal programs, mental health services and programs for only alcohol or only drug abuse problems (New York State Office of Alcoholism and Substance Abuse Services, 2005; National Survey of Substance Abuse Treatment Services, 2002). New York, although a significantly smaller state geographically than California, still managed to spend $3.57 million dollars in treatment services during fiscal year 2003, toward both private and public treatment facilities (New York State Office of Alcoholism and Substance Abuse Services, 2005).

The New York and California correctional systems provide the largest funding and variety of treatment options to drug offenders (California Department of Alcohol and Drug Programs, 2005; New York State Office of Alcoholism and Substance Abuse Services, 2005). Therefore, residents of these states have multiple opportunities to receive treatment. Studying the programs within these states is beneficial in determining whether there is any applicable information that can be utilized by other states in the implementation of successful substance abuse treatment among incarcerated populations.

The present study examines three programs within the California Department of Corrections (Jail Education and Treatment (JET), Deciding, Educating, Understanding, Counseling and Evaluation (DEUCE), and Rebuilding, Educating, Awareness, Counseling and Hope (REACH)) and two programs within New York Department of Correctional Services (Substance Abuse Intervention Division (SAID) and New Beginnings). The present study aims to determine whether a relationship exists between the state the
program was offered and successful program completion. The present study also examines which individuals are more successful based on demographic variables including gender, race, ethnicity, education, and marital status. The research questions posed by the present study include:

1. Are there significant differences in program success (as measured by successful completion of the program by offenders) between California and New York?
2. Are there significant differences in program success by demographic characteristics of offenders (sex, race, age, education, marital status, and employment status)?
3. Are there significant differences in program success by previous drug use and previous drug treatment as reported by offenders?
4. Are there significant differences in program success by type of offense for which the participating offenders are incarcerated?

Conclusion

Substance dependent individuals currently represent a large part of the current U.S. incarcerated population. It is imperative that effective treatment programs be implemented to decrease the chance that a drug related offender will recidivate once released back into the community. The present study examined the successful completion of participants across five programs currently being implemented in jails and prisons in California and New York as to who participates and who is successful.

Chapter 2 includes a review of the literature examining the available research on both drug related offenders and substance abuse treatment programs. Theories which attempt to explain substance abuse and the characteristics of drug related offenders are explored. Further, literature examining the demographic characteristics and criminal
histories of those offenders who have participated in correctional substance abuse
treatment will is examined.

Chapter 3 presents the methodology used for the present study. Information
regarding the population under study as well as detailed information concerning the five
programs reviewed in the course of this study are also examined. Secondary analysis
of data originally collected for a U.S. Department of Justice study entitled *Evaluation of
Drug Treatment in Local Corrections* (Tunis, Austin, Morris, Hardyman and Bolyard,
1996) will be utilized to answer the above listed research questions.

Finally, Chapter 4 will reveal the analyses and results of the present study. Both
univariate and bivariate analyses are utilized to answer the research questions. Chapter
5 discusses the results of the analyses as they relate to policy and program
implementation for correctional systems. Further, a review of what impact the analyses
may suggest for current treatment communities with jails, state and Federal prison
systems are given. Suggestions for future research on drug treatment among
correctional populations are to be explored.

Although the ideal scenario would be for preventive intervention to be successful
and treatment measures to be unnecessary, the evidence of millions of dollars spent,
continued drug use and continued cycle of prison entry and exit has shown otherwise.
Every year millions of individuals participate in a variety of treatment programs both
within the criminal justice system and the community. This has proven there to be a
need for further research on the topic of what constitutes effective and successful
treatment. Based on information gathered, it is hoped that the findings of this study
will prove useful for the determination of successful drug treatment within correctional systems.
CHAPTER 2
LITERATURE REVIEW

The use and abuse of mood altering substances has existed for centuries and the abuse of various illicit and licit substances continues to progress even today. Substances used have become quicker acting, teen appealing and more deadly than ever before. The newly introduced “Cheese,” a mix of black tar heroin and Tylenol PM, and the newly designed “Strawberry Quick,” a strawberry flavored form of methamphetamine, show that drug dealers are attempting to appeal to younger users. With substance abuse beginning at younger ages and substances used becoming more addictive, the need for effective treatment is becoming more and more apparent. Understanding the terminology is an important start to understanding the problem and the needed characteristics of treatment.

Defining Terms

Using the American Psychological Association’s (APA) Dictionary of Psychology (2007) to define terminology provides consistency among the past research to be reviewed and the present study. The APA defines a substance as “a drug of abuse, a medication, or a toxin that is capable of producing harmful effects when ingested or otherwise taken into the body” (VandenBos, 2007, 905). It is important to note here that the terms “substance” and “drug” are used interchangeably throughout this work. This definition encompasses all potential drugs involved with substance abuse including, but not limited to, alcohol, cannabis, cocaine, inhalants and prescription medications.
such as pain killers and sedatives. The APA defines substance abuse as “a pattern of substance use manifested by recurrent significant adverse consequences related to the repeated ingestion of a substance, which may be a drug of abuse or a medicinal drug” (VandenBos, 2007, 905). Finally, the APA defines substance dependence as “a cluster of cognitive, behavioral and physiological symptoms indicating substance-related problems...there is a pattern of repeated substance ingestion resulting in tolerance, withdrawal symptoms and if use is suspended an uncontrollable drive continue use” (VandenBos, 2007, 905).

While it is important to understand the terminology of addiction, it is also important to understand the reasons why individuals begin using and abusing substances in the first place. Many theorists have attempted to explain this phenomenon. The next section reviews a few of the most utilized theories to explain substance abuse.

Theoretical Perspectives on Substance Abuse

There are many theories as to why an individual begins and continues to be involved with substance abuse. Substance use and abuse is an individual behavior with different causes depending on the user. Therefore, there is not one theory that explains all substance abuse. Due to this, the following provides an overview of different applicable theories. While none of these theories can directly explain all substance abuse, they are a good start in understanding why an individual becomes involved with drug use.
Biological Perspective

Theories that propose that there are biological factors which impact the likelihood of becoming involved with substance abuse have been studied through genetics, physiological predispositions and neurochemical factors related to abusing drugs and alcohol (Levinthal, 2006). These biological studies have shown there is a dependency inclination within certain individuals which leads one to being more inclined than others to become addicted to substances which alter the mind and body.

Physiological theorists have examined how drugs are metabolized within the body. It has been found that within a chronic drug user's body, their metabolism has adjusted to having the drug therefore, “normalizing” their bodies to need the drugs (Levinthal, 2006, 62). An example of physiologically maintaining a drug user is methadone maintenance which provides heroin addicts with a chemical which the body recognizes and metabolizes similarly to heroin giving the body the feeling that heroin is still being ingested (Levinthal, 2006).

The influence of genetic characteristics has been shown through various studies to play a role in individuals becoming involved with substance abuse. Twin studies, in which one or both of the twins are adopted into a different family from which they were born, have examined the “nature vs. nurture” debate as to whether substance use and abuse is inherent or environmental. Studies have shown there to be genetic connections between children and biological parents in regards to smoking or drinking alcohol (Dick & Rose, 2002; Dick, Agrawal, Wang, Hinrichs, Bertelsen, Bucholz, et al., 2007). Further, studies have shown that traits causing behavior difficulties have been passed down
from antisocial biological fathers to their children (Jaffee, Moffitt, Caspi & Taylor, 2003; Dick, et al., 2007; Fowler, Shelton, Lifford, Rice, McBride, Nikolov et al., 2007). While some studies have found a genetic connection, other studies have not. For example, in the twin studies discussed above, there were instances where one twin became addicted but the other did not (Dick & Rose, 2002; Fowler, Shelton, Lifford, Rice, McBride, Nikolov et al., 2007). This may suggest the role of environment in influencing behavior, specifically substance abuse.

Neurochemical changes occur when the dopamine in the brain is affected by drug use. The dopamine changes occurring within the brain are based on the drug of choice being used. Rewarding effects can result from all types of drugs from psychoactive drugs to depressant drugs. Various animal testing has concluded that dopamine changes within the brain are one of the reasons that individuals become addicted to various substances (Levinthal, 2006).

**Deterrence Theory**

Deterrence theory is based on the thought that all individuals have free will to choose which types of behaviors they will engage. It is thought that individuals make a rational choice to participate in substance use and that the state can deter them by consequences of fines or time in jail or prison. It is hypothesized that when making the decision to use drugs, individuals will refer to Jeremy Bentham’s pleasure/pain ratio to decide their course of action (Williams & McShane, 2004), that is based on the negative consequences of substance use, individuals will choose not to partake in that behavior.
However, with regard to drug use, deterrence was not always an effective explanation since deterrence was based on swift punishment after an incident. Not all drug users are caught immediately after their use or immediately after the crime committed to pay for drug expenses. Some substance users are never caught. Therefore, they are less likely to be deterred from future use.

Differential Association Theory

Differential association theory operates on the basis that crime occurs when definitions favorable to crime outweigh those unfavorable to crime. Differential association theorists propose that criminal behavior is learned through group interactions which teach proper techniques of deviant behavior (Williams & McShane, 2004; Levinthal, 2005). Edwin Sutherland suggested that all aspects of deviant behavior are learned through interactions or communications with others involved where the techniques and the “definitions,” values, motives, drives of such behavior are learned (Williams & McShane, 2004 p. 85). Differential association operates when there is an excessive amount of definitions favoring criminal/deviant behavior rather than societal accepted definitions and behaviors (Akers & Sellers, 2004). Differential association affects an individual’s decision as to which behaviors they are going to participate in and which definitions they will subscribe to, either the deviant or the non-deviant (Sutherland & Cressey, 1970; Akers & Sellers, 2004). When the choice is made to participate in drug use, individuals are taught the proper techniques and definitions
involved with the drug of choice. Truly accepting and involving the deviant definitions into their everyday lives leads to the development of individuals becoming abusers.

Social Learning Theory

Social learning theory, a continuation of Sutherland’s differential association theory focuses on learning how to act based on reinforcers received as a response to any given behavior (Akers & Sellers, 2004). Social learning theory focuses on the balance of positive or negative possible and potential outcomes from the behavior which impact the continued frequency of that behavior (Williams & McShane, 2004). Positive reinforcers could include gaining approval of peers, financial gains or even the increase in one’s own self worth. Negative reinforcers could include anything that results in an unfavorable outcome for the individual such as arrest, family problems or avoidance of peers. The reinforcers can be either social or non-social. For example, with drug use, reinforcers could be physical such as the side effects of the drug ingested being either positive or negative upon first use (Akers & Sellers, 2004; Williams & McShane, 2004). These reinforcers are critical in determining whether an individual continues to use a drug and eventually become addicted so they no longer care about the consequences of their actions.

Anomie Theory

Anomie theories describe “feelings of frustration and alienation that exist among individuals who see themselves as not being able to meet the demands of society”
(Levinthal, 2005 p. 67). Robert Merton suggested that anomie explains the “structural components of deviant behaviors” by examining the “behavior emergence and patterns of criminal preference” (Merton, 1938; Williams & McShane, 2004, p. 99). The demands of American society include cultural goals of economic success and the methods with which to reach that economic success. There are five classifications into which people fall when attempting to obtain these cultural goals. Conformity is when an individual accepts both the goals and conventional or legitimate methods to achieve the goals. Innovation is where the goals are accepted but the methods used to obtain the goals are not legitimate. Ritualism is where individuals reject the cultural goals but continue to work in legitimate ways. Retreatism is where both societal goals and legitimate methods to obtain those goals are rejected, in effect giving up. There is much debate about individuals who fall into the retreatist category being the most likely individuals to become a substance abuser. It could be said that individuals who use and abuse substances are more likely to drop out of society or that individuals who have already dropped out of society will begin to use drugs to help cope with the issues that led to them drop out. The last classification is rebellion in which an individual rejects both the societal goals and legitimate means to achieve those goals, but works to change both the goals and means with something more favorable (Merton, 1938; Levinthal, 2005).

As discussed in this section, theorists have taken various approaches toward explaining substance abuse, but no one theory explains it completely. Looking at the variety of theories is vital to explaining how far there is to go in order for one to fully understand substance use and abuse. While understanding why individuals become
involved with substance abuse is not the topic of this current study, it is important in understanding the internal workings of those involved with this illegal element and what it takes to assist or treat such individuals. While these theories are beneficial in explaining why individuals become involved in drug use, gathering information as to demographic characteristics such as gender, race and living environment and offense characteristics will also be influential in examining how to best treat the substance abuser.

Demographic Characteristics of Substance Abusers

*Gender*

With the enactment of zero tolerance and mandatory sentencing policies there has been an increase in magnitude of the prison population that has not previously been seen. Of those arrested across the nation, at least 54% are males and 42% are females; of those individuals, 80% had used one or more drugs within the month prior to arrest (Snell & Morton, 1994; Lo & Stephens, 2000). Within a six year period between 1986 and 1991 there was an 828% increase of African American women in prison, jail, or on probation and parole (Lyman & Potter, 2003). The increase of incarcerated female populations was a shift from what previously had been witnessed as the make up of correctional populations. In the past, women arrested for drug related offenses were much more likely to accept a plea bargain offered to them because they did not want to receive a harsher conviction and sentence from the judge.
or jury (Lyman & Potter, 2003). This increase in the acceptance of plea bargains has served to increase the number of women in prisons.

The changes taking place in prisons across the U.S. have had a significant impact on women’s lives. As men enter correctional facilities the women whom they are involved in relationships with must learn to provide for themselves and their families, oftentimes with no outside income. This leads many women to turn to substance abuse either to make a profit or to escape from their problems (Langan & Pelissier, 2001).

While both males and females use drugs and alcohol, Karberg and James (2005) found that women in jails were 34% more likely than males to be under the influence of drugs at the time of their offense. Males, however, were more likely to use or abuse alcohol leading to violent behavior (Friedman, 1998). Regarding lifetime use, women are more likely than males to have an addiction to cocaine or heroin (Lo & Stephen, 2000; Hanion, O’Grady, Bennett-Sears & Callaman, 2005).

Women have a tendency to be more in touch with their emotions than males (Fendrich, Hubbell & Lurigio, 2006). Therefore, the reasons why women become involved with drug use generally differ from those of males. Because women are more likely than males to seek treatment, developing gender-specific treatment is important (Karberg & James, 2005; Pelissier & Jones, 2005). Treatment programs need to take into account that women have been shown to succeed more in a nurturing, empowered and non-confrontational environment where treatment includes parenting skills, skill building, medical care, education assistance and relationship issues counseling (Abbott, 1994; Clark, 2001; Pelissier & Jones, 2005).
Confrontation and discipline mixed with the educational components and skills training are predominantly male treatment components (Reed, 1985; Pelissier & Jones, 2005). Mosher and Phillips (2006), in their study of the New Horizons Program, found that treating the addict as though they had a bio-psychological disease was effective in treating women addicts more so than men. The bio-psychological aspects that they focused on included pro-social cognitive retraining, peer encouragement, behavior modification, problem solving and skills training (Mosher & Phillip, 2006; Fendrich, Hubbell & Lurigio, 2006). Treating women individually and utilizing peer influence has worked well in changing their behavior.

It has been stated by Lo and Stephen (2000), that females are in great need of treatment within correctional facilities, yet they found the programs currently offered to be lacking in peer influence and pro-social retraining. While female arrests are increasing, those who receive treatment have been found to be more than 50% to 60% less likely to recidivate than their male counterparts (Burdon, Dang, Prendergast, Messina & Farabee, 2007).

Gender differences and experiences are having a significant impact on the magnitude of the prison population. As prison populations increase so does the costs of housing and treating inmates. While gender differences were first explored, the following subsection will examine racial differences in regards to drug abuse and treatment.
Race

From arrest to conviction, racial disproportionality has been an issue facing the U.S. criminal justice system for decades. African American and Hispanic individuals are being incarcerated at higher rates than what they actually represent in the free community (Lieber, 2002). African Americans comprise 53% of the national prison population while only making up 14% of the U.S. population (Weitzer, 1996; Henderson, Cullen, Carol & Feinberg, 2000). As this is the case, it is important to understand racial differences as they pertain to substance abuse to ensure that treatments being offered work for everyone.

Treatment programs within jails, state and Federal prisons are open to all who qualify as having a substance dependency or abuse problem. In their study of jails, Karberg and James (2002) found that Caucasian inmates were twice as likely as their Hispanic counterparts to participate in treatment (Karberg & James, 2005). It was also found that Caucasian inmates were 78% more likely than African American inmates and 59% more likely than Hispanic inmates to have higher levels of substance dependence or abuse. Further, while Caucasian females made up 43% of the jail population in 2002 they represented 48% of those in treatment programs (Karberg & James, 2005).

Lo and Stephens (2000) found African Americans to be the least likely to be opiate dependent and more likely to be dependent on cocaine. Further, while Caucasians are more likely to use powder cocaine, African Americans have been found to be more likely to use crack cocaine (Lyman & Potter, 2003). In 1994, 88% of crack cocaine defendants were African American while 73% of powder cocaine defendants
Crack cocaine carries a Federal mandatory sentence for possession of five years for five grams, while powder cocaine carries a Federal mandatory sentence for possession of five years for 5,000 grams (Weitzer, 1996; Lyman & Potter, 2003). While even the U.S. Sentencing Commission has found there to be no pharmacological difference between powder cocaine and crack cocaine, the difference in mandatory minimum sentencing guidelines could explain why there is such racial disproportionality within prisons and jails, at least among drug offenders (Lyman & Potter, 2003, p.338).

In their study of substance abuse treatment completion, Jacobson, Robinson and Bluthenthal (2007), found that Hispanic patients were more likely to complete an outpatient treatment program. Within the residential treatment setting, African Americans are 15.4% more likely than their Caucasian counterparts to terminate the program prematurely (Jacobson, Robinson & Bluthenthal, 2007). Jacobson, Robinson and Bluthenthal suggest that the significant drop out rate among African Americans may be due to reluctance towards treatment due to higher rates of homelessness, fewer years of education, drugs of choice and high unemployment rates among their communities. African American participants, however, were more likely to be first-time treatment participants as compared to the Caucasian or Hispanic participants (Jacobson, Robinson & Bluthenthal, 2007). While racial disparity among prison populations nationwide is an ongoing issue, treatment programs should be a place where everyone, regardless of race, can feel comfortable discussing their problems and find answers.
Treatment program administrators need to consider multiple aspects in the development of their curriculum including gender and race. There are, however, even more issues to consider. For treatment to be successful, age should also be considered when implementing treatment strategies. Treatment programs in adult prisons should not be the same as those offered in juvenile facilities. While some programs may work for adult participants, that same program may not work for adolescents. Ensuring that curriculum is age appropriate is imperative for treatment to be successful. While programs that have been developed within prisons are geared towards adults, they do incorporate the participant's use histories including the issues faced by the individual participants as adolescents.

*Age*

While juveniles are not the population under study for the present research, it is important to discuss how age at first arrest impacts future incarceration. In 1997, it was found that juveniles represented 14% of drug related arrests and that treatment programs whether completed successfully or not were found to ineffective in decreasing recidivism among that population (Katiyannis, Zhang, Barrett & Flaska, 2004). Drug offenders who are younger at first commitment were more likely to recidivate continuously into adulthood (Dean, Brame & Piquero, 1996; Archwamety & Katsiyannis, 1998; Katiyannis, Zhang, Barrett & Flaska, 2004). Age at first arrest has not only been seen as a predictor for future drug related offending, but also a predictor of future serious offending (Dean, Brame & Piquero, 1996; Archwamety & Katsiyannis, 1998;
Katiyannis, Zhang, Barrett & Flaska, 2004). Therefore, age at first arrest needs to be taken into account for effective treatment, as those who are older and held in custody longer are more successful than those who are younger, for treatment to stem violent recidivism (Trulson, Marquart, Mullings & Caeti, 2005).

Lo and Stephen (2000) found that of those arrested in 1998, middle-aged persons (26-40) represented the largest subgroup within correctional facilities with serious drug/alcohol abuse problems. It was also found that those in the 18-25 age category were more likely to use marijuana, while those aged 26-40 favored cocaine. It has been found that older participants participating in prison substance abuse treatment were less likely to recidivate for drug related offenses upon release (Martin, Butizin, Saum & Inciardi, 1999; Pellisier et al., 2001). A comparison of 19 programs within the California Department of Corrections and Rehabilitation found that individuals with low dependency severity were less likely to recidivate than individuals with high dependency severity. Dependency severity was measured by the following characteristics: age, gender, living arrangements before prison, mental illness, lifetime in prison, time in prison and time within aftercare (Burdon, Dant, Prendergast, Messina & Farabee, 2007). Another perspective on why those who are older are less likely to recidivate is that those who were once heavily involved in the drug culture have now aged out. The older generation is seen now as “mature” and no longer able to fit into the fast-paced drug culture lifestyle (Levy & Anderson, 2005). Further, when released from prison, the older individuals find themselves often living in completely different environments than
that from which they entered prison. These new environments may be instrumental in keeping these older released individuals from returning to their old habits.

**Other Demographic Characteristics**

Numerous studies have gathered additional information regarding demographic characteristics (marital status, education and employment) of substance abusers, however, very few of these studies examine these characteristics in relation to treatment program completion, recidivism, or decreased substance use. The current study does take into consideration what relationship, if any, the above mentioned characteristics have with successful treatment program completion.

Of the studies that did explore marital status, the majority of respondents were unmarried (Hanion, O’Grady, Bennett-Sears & Callaman, 2005; Messina, Burdon, Hagopian & Prendergast, 2006). However, Kubiak, Young, Siefert and Stewart (2004) stated that while individuals are not married, they could be involved in a “significant relationship” instead of being married (Hanion, O’Grady, Bennett-Sears & Callaman, 2005). This should be taken into consideration for future studies examining demographic characteristics of respondents, especially as the number of people currently living in unmarried households is increasing (Hanion, O’Grady, Bennett-Sears & Callaman, 2005).

Literature examining education levels of substance abusers has found that most respondents had completed high school and perhaps one year of college (Walters & Whitaker, 1992; Schumacher, Usdan, Milby, Wallace & McNamara, 2000; Kubiak,
Young, Seifert & Stewart, 2004). As for employment status, respondents were likely to be unemployed prior to incarceration (Hanion, O’Grady, Bennett-Sears & Callaman, 2005). A few studies noted that women were more likely than males to be unemployed and that both males and females were labor workers when employed (Hanion, O’Grady, Bennett-Sears & Callaman, 2005; Kubiak, Young, Seifert & Stewart, 2004; Pelissier & Jones, 2005). Mumola and Karberg (2006) found that 56.4% and 55.6% within state prisons and federal prisons respectively were employed at least one month prior to admission, however, Mumola and Karberg (2006) were not exploring employment status as it relates to substance abuse treatment, recidivism or decreased substance abuse (Hanion, O’Grady, Bennett-Sears & Callaman, 2005).

Living Environment Prior to Incarceration

Living environments frequently play a role in how a person becomes involved with illegal activities. Whether an individual is single, married, living with family members or homeless impacts their criminal involvement including substance abuse. Of those entering prison in the Lo and Stephen (2000) study, 65% were found to have never been married, separated, divorced or widowed. Of those individuals who were married or had children, most were found to be living separate from their children regardless of marital status to the other parent at the time of their arrest.

Those inmates who have low dependency severity prior to incarceration and lived alone were more likely to return to prison than those who lived with friends, family or relatives (Burdon, Dang, Prendergast, Messina & Farabee, 2007). Further, the lack
of housing may interfere with a participant’s ability to take part in outpatient treatment (Jacobson, Robinson & Bluthenah, 2007). Karberg and James (2005) found that jailed inmates who had either a substance dependence or abuse problem were two times more likely to have been homeless prior to the recent offense that landed them in jail. Homelessness was found to be two times more prevalent in males than females (Royse, Leukfield, Logan, Dennis, Wechsberg, Hoffman, Cotter & Inciardi, 2000). It was also found that women who were homeless used more heroin and crack cocaine but drank significantly less alcohol than the male homeless population (Royse et al., 2000).

**Offense Types**

It is well known that substance use has a disinhibiting effect on an individual’s normal behavior. This disinhibition results from “pharmacological effects” in the body which lead to individuals responding differently than they would without the substances in their system (Friedman, 1998). The types of offenses committed while under the influence of substances, either drugs or alcohol, vary from mild offenses to serious offenses. Mild offenses include petty theft to finance drug purchases and serious violent offenses such as assault and murder (Friedman, 1998). Interestingly, there are no significant gender differences among those who commit violent offenses while under the influence (Friedman, 1998). Further, many incidents of domestic violence have involved substance use or abuse on behalf of the abuser or both the abuser and the victim (Friedman, 1998; Wilson-Cohn, Strauss & Falkin, 2002).
In the Burdon et al. (2007) study, 87.3% of participants in outpatient programs and 50.3% of participants in residential treatment programs were found to be felons, or had been convicted of a felony. The most frequent crimes committed by drug and alcohol users were property crimes (29-70%) and drug-related crimes (55.7%) (Karberg & James, 2005; Burdon et al., 2007). Released offenders in outpatient programs were more likely to have committed a violent offense (15.9%) than those within a residential program (Burdon et al., 2007). The remainder of those within outpatient and residential treatment programs consisted of those the court had found to be “civil addicts,” or individuals who have a substance abuse problem (Burdon et al., 2007).

*Past Drug Use*

Interestingly, it has been found that the use of marijuana has increased 80% since 1991, while the use of all other drugs has remained fairly stable (Mumola, 1999). Lo and Stephen (2000) interviewed 200 incoming prisoners into the Ohio Department of Alcohol and Drug Addiction Services four out of five inmate respondents to Lo and Stephen (2000) had tried marijuana. This is problematic as inmates with only previous marijuana use prior to receiving treatment were found to be the most likely to use again regardless of the type of treatment received (Pelissier et al., 2001). Within the jail system, marijuana was the leading drug of choice followed by cocaine, heroin and amphetamines (Karberg & James, 2005). In the month prior to arrest, marijuana and
Cocaine were the two most commonly used drugs by offenders (Mumola, 1999; Pelissier et al., 2001; Karberg & James, 2005; Mumola & Kerberg, 2006).

Correctional substance abuse treatment programs face numerous problems. Inciardi, Lockwood and Quinlan (1993) found those in prison were still able to obtain their drugs of choice on a weekly basis from visitors, prison guards or other inmates. With drugs so readily available within prison, prisoners are not able to fully separate themselves from drug use making treatment more difficult if not impossible. Prison administrators and correctional staff must work to keep drugs from getting inside the prison walls. Further, treatment program administrators have to overcome this problem as well. In some facilities this problem is overcome by separating treatment participants from the general population (Pendergast, Hall, Wexler, Melnick & Cao, 2004).

Lo and Stephen (2000) found through interviews 120 individuals out of 200, had tried cocaine at least once prior to entering the correctional system; whereas only 11.5% of those interviewed had used opiates in the year before coming to jail. Further, of those interviewed, 15% had tried other illegal drugs including sedatives, PCP, LSD and amphetamines (Lo & Stephen, 2000). As can be seen from the above discussions of treatment participant characteristics, program development should take into consideration gender, age, race, education, employment status, living arrangement, past drug use and offense type in order to effectively treat participants. As programs are created, the length of the program will also be an issue to confront as jails may be able to offer only short-term treatment while prisons may be able to offer long-term
residential programs. The next section will discuss the various types of programs offered within U.S. jails, state prisons, and Federal prisons examining the various characteristics and success rates of such programs.

**Previous Drug Treatment**

In developing treatment programs, it should be taken into consideration that participants may have already attempted treatment. Mumola and Karberg (2006) found that in 2004 the Federal prison population had a 7% increase in participation in substance abuse treatment programs. Program types were similar in state and federal prisons including the following components: residential treatment, counseling by professionals, detoxification programs or self-help groups (Mumola & Karberg, 2006). Within state prisons, in 2004 over 250,000 individuals took part in substance abuse programs (Mumola & Karberg, 2006). This indicates that several individuals are currently receiving treatment in correctional substance abuse programs. What is not known is how many of these individuals had previously attempted treatment.

Butzin, Martin and Inciardi (2002) found that those who completed in-prison treatment programs with no aftercare program were similar to those who received no treatment at all. It was suggested that if individuals participate in programs, regardless of completion, they are likely to gain information about substance abuse and recovery (Martin, Butzin, Saum & Inciardi, 1999; Butzin, Martin & Inciardi, 2002). Interestingly it was found that those who completed treatment were likely to be back under correctional supervision within 626 days while those who did not receive treatment
would return within 618 days (Prendergast, Hall, Wexler, Melnick & Cao, 2004). There are mixed reviews of program participation versus completion in decreasing recidivism (Martin, Butzin, Saum & Inciardi, 1999; Butzin, Martin & Inciardi, 2002; Prendergast, Hall, Wexler, Melnick & Cao, 2004).

While the above discussed studies which reviewed participation rates among correctional populations and how participation impacts recidivism. As noted by Butzin, Martin & Inciardi (2002) there has been very little research which reviewed how past treatment impacts later treatment. This present study will examine this relationship to determine if past treatment impacts participants completing the treatment programs under review.

**Treatment Programs**

*Voluntary or Coerced Programs*

Treatment programs are as numerous and diverse as those who are participating. Treatment participation can be either forced or voluntary. Forced participation is frequently the result of a court order. Forced treatment may take place within a correctional facility or outside if the person is given conditional probation. Voluntary involvement occurs when an individual chooses to take part in prison treatment programs. There are concerns about the differences in program effectiveness between forced and voluntary participation. Shearer and Ogan (2002) examined voluntary versus forced participation and program effectiveness. They found that those who volunteered had more beneficial results than those who were forced
into treatment offered in correctional facilities. It was brought to their attention that any participation could be construed as forced when individuals are required through courts, parole boards or correctional institutions to complete a treatment program (Shearer & Ogan, 2002). While the present study cannot take into consideration whether the voluntary or coerced nature of correctional treatment has an impact on successful completion as this information is unknown about the sample participants, it is certainly a topic that needs further attention as participants may only be taking part to lessen their sentence not necessarily to truly recover from their addiction.

Types of Programs Offered

The number of people entering jails, state prisons and Federal prisons, annually for drug related charges is on the rise (Welsh & Zajac, 2004; Karberg & James, 2005). Forty percent of correctional facilities nationwide offer some sort of substance abuse programs (Welsh & Zajac, 2004). Such programs range from drug education with daily participation, residential programs centered on drug rehabilitation, Twelve-step programs such as Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) with one hour daily sessions, to programs that only offer counseling at the group and individual levels (Inciardi, Lockwood & Quinlan, 1993; Martin, Buzin, Saum & Inciardi, 1999; Pelssier et al., 2001; Prendergast, Hall, Wexler, Melnick & Cao, 2004; Mosher & Phillip, 2006).

Throughout the years there have been multiple studies completed examining treatment through therapeutic communities (Martin, Butzin, Saum & Inciardi, 1999;
Pelssier et al., 2001; Welsh and Zajac, 2004; Pendergast, Hall, Wexler, Melnick & Cao, 2004). Welsh and Zajac (2004) explored whether there was consistency between programs offered in correctional facilities. By examining the differences between existing programs they sought to determine which programs were successful and which were not. Welsh and Zajac (2004) examined 118 correctional programs within the Pennsylvania Department of Corrections which included 83 different facilities that operate state correctional institutions, boot camps, therapeutic communities, outpatient treatment programs, educational programs and drug and alcohol treatment units. Ultimately, they found that those who received the most intensive treatment were the most successful. They also suggested that the facilities within which the programs were located needed to have standardized assessment procedures so as to measure success and overall effectiveness of treatment (Inciardi, Lockwood & Quinlan, 1993; Welsh & Zajac, 2004).

_Treatment Communities with Aftercare Programs_

Pelissier et al. (2001) found cognitive behavioral residential programs to be successful when they focused on changing the attitudes, beliefs, thoughts, feelings and identities related to substance use. Other programs found to be successful completely separated those in treatment from the greater prison population. It was found to be beneficial to allow those within residential treatment programs to live in an environment focused on building trust and changing negative behaviors (Inciardi, Lockwood & Quinlan, 1993). Martin, Butzin, Saum and Inciardi (1999), however, found in-prison
treatment programs by themselves to be ineffective. They also found that taking part in an aftercare program once released was crucial in maintaining sobriety. Pelissier et al. (2001) also found that those who received both in-prison treatment and post-release treatment were most successful. There are numerous programs throughout the U.S. that have both in-prison and aftercare programs, two of which are California’s Amity and Vista programs and Delaware’s Key and Crest programs.

Amity therapeutic community based in California has been extensively researched by Prendergast, Hall, Wexler, Melnick and Cao (2004). Amity runs therapeutic communities within California prisons and offers clients an additional opportunity for care through Vista, their aftercare program. An examination of the Amity program revealed that those who received both treatment within the prison and treatment after release were less likely to return to prison within the two years following their release than those who received no treatment. Those who received both the in-prison treatment and took part in the Vista aftercare program were seen to have lost treatment effects during the three years following release but it was found that among participants three to five years following release there was improvement in treatment effects (Prendergast, Hall, Wexler, Melnick & Cao, 2004). It was also found that those who completed both the in-prison treatment program and the Vista aftercare program had better employment outcomes than those who only completed the in-prison treatment program, or no treatment program.

The goal of Delaware’s Key and Crest programs is to produce “lasting life-style changes living a drug free life” (Nielsen, Scarpitti & Inciardi, 1996, p. 350). The Key
program encompasses the in-prison based treatment. The Crest program is a work-release program for inmates. An examination of the Key program revealed no significant differences between those who did not and those who did participate in the treatment program. When the Key program was used in conjunction with the Crest program, participants were more successful in remaining crime and drug free once released (Nielsen, Scarpitti & Inciardi, 1996; Martin, Buzin, Saum & Inciardi, 1999).

In their study Burdon et al. (2007) found that those with lower dependency severity, who spent more than 90 days in aftercare treatment, had a 60% increase in recidivism than those who spent less than 90 days in their first aftercare program. Regardless of the severity of their dependency, participants benefited from outpatient and residential aftercare programs (Burdon et al., 2007). In Delaware specifically, one out of three individuals who participated in aftercare were likely to be arrest free. Those who completed only in-prison treatment were twice as likely to have new arrests (Martin, Butzin, Saum & Inciardi, 1999). Martin, Butzin, Saum and Inciardi (1999), found that participants remained arrest and drug free when they had participated in both treatment communities within prison and outpatient treatment when released.

**Jail Programs**

In 1992, only 6.7% of people housed in U.S. jails were participating in a drug treatment program and only 28% of all jails offered such programs (Lipton, 1995). Since 1998, the population of individuals in jail for drug related offenses has increased by 15,000 inmates (Wilson, 2000). Jails that housed more than 250 inmates were likely
to offer some treatment program in addition to a detoxification unit (Wilson, 2000). Of the increased number of substance abusers being admitted to jails for drug related offenses, only 20% had participated in a substance abuse treatment program as of 1998 (Wilson, 2000). In 2002, that number had increased to 63% (Karber & James, 2005). Inmates who were considered to be dependent on drugs or alcohol were more likely than those who abused drugs and alcohol to participate in treatment programs. In this study, however, individuals were participating outside of the jail as ordered by probation or courts (Karber & James, 2005).

Taxman and Bouffard (2001) conducted a study within jails of therapeutic communities to determine which programs were effective. Six different communities were observed for the study and the researchers noted many differences between the programs. Key problems within the programs included a lack of focus on client motivation, activities not promoting community involvement and a lack of planning in regards to treatment classes. Taxman and Bouffard (2001) indicated that if a more structured program was developed with specific activities and planning, there would be better outcomes for the participants of those programs.

No Treatment

While the above mentioned research examined individuals involved in drug treatment it is also important to mention that many substance abusers do not have the opportunity or choose not to participate. Receiving no treatment while incarcerated followed by no treatment upon release results in no change within the offender.
Substance abusers who do not participate in counseling, NA or AA meetings, or education groups have an increased rate of relapse as compared to those who received treatment (Nielsen, Scarpitti & Inciardi, 1996; Martin, Butzin, Saum & Inciardi, 1999; Prendergast, Hall, Wexler, Melnick & Cao, 2004; Burdon et al., 2007). Successful completion of prison treatment programs, drug and alcohol education programs and even attendance at NA or AA meetings, has proven to decrease recidivism and reduce, if not eliminate, drug use. Therefore, it would seem that treatment is in fact a cost effective program for correctional facilities to invest in.

Conclusion

This chapter presented a review of the current literature examining the demographic factors which play a role in how effective treatment has been found to be among various populations. Program characteristics were also discussed in terms of their effectiveness. It has been found that there are differences between demographic characteristics and program types regarding success as measured by participants being drug free and crime free after treatment. The present study further examines the impacts of demographic characteristics of participants and program type by exploring five programs across California and New York. The following chapter discusses the methodology utilized to answer the present study's research questions.
CHAPTER 3

METHODS

Introduction

As the literature has shown, substance abuse has been and continues to be a problem facing the criminal justice field. Individuals with a substance abuse problem vary in gender, age, ethnicity, marital status and living environment so determining the best methods of treatment have proven challenging over the years. Further, the offenses committed while under the influence of drugs or alcohol range from property crimes to violent crimes against persons. There are various types of treatment programs that are available to substance abusers some of which include residential programs, education classes and Alcoholic Anonymous (AA) or Narcotics Anonymous (NA) meetings. These all provide components of care which can be translated to other opportunities to stop using drugs and alcohol.

The research questions involved in this study are below and include the resulting hypotheses which are tested in this study:

Q1. Are there significant differences in program success (as measured by successful completion of the program by offenders) between California and New York?

H1. Findings of previous studies in the literature suggest that more structured programs are the most successful, so there should be significant differences between California and New York as California’s three programs are more structured programs.

Q2. Are there significant differences in program success by demographic characteristics of offenders (sex, race, age, education, marital status, employment status, and living arrangements prior to jail admission)?

H2. Demographic differences should be significant factors in successful completion of programs.
Q3. Are there significant differences in program success by previous drug use and previous drug treatment as reported by offenders?

H3. Previous drug use mixed with previous treatment experiences impacts participants’ chances of being successful.

Q4. Are there significant differences in program success by type of offense for which the participating offenders are incarcerated?

H4. The findings of previous research indicate that those who commit drug-offenses and property offenses are more likely to succeed in treatment than those who commit violent crimes.

Methods of Collection

Data were obtained through the Inter-University Consortium for Political and Social Research (ICPSR) where multiple data sets from studies involving substance abuse, treatment, and treatment success rates across the United States were available. The data set chosen and downloaded for this study was originally conducted by Tunis, Austin, Morris, Hardyman and Bolyard (1998) who collected the data while examining treatment programs within five correctional facilities in California and New York. The original research team determined that a 12-month cut-off date was the acceptable time table for each participant. The researchers collected demographic data on participants including information on marital status, age, gender, pre-incarceration living arrangements, history of drug use, offense committed as well as past treatment received. Data were collected through interviews of participants as treatment started and again when exiting from the treatment program. When able, the researchers interviewed treatment staff regarding clients, examined client files and reviewed criminal records for three years prior to jail admission (Tunis, Austin, Morris, Hardyman
& Bolyard, 1995). While the Tunis, Austin, Morris, Hardyman and Bolyard (1998) study reviewed the characteristics and variables in relationship to each program directly, this study seeks to gain information regarding demographic characteristics of jail participants and completion rates at the state level.

Each site was originally selected for the treatment programs offered, geographical location and the jail’s willingness to allow research. The programs were diverse in setting, history, offenders, services offered and the length of stay within the jail. The original study consisted of 8,285 individuals, all of whom were voluntary participants who received no incentives to participate from researchers; incentives, however, may have been offered to participants by probation/parole officers and courts. Two programs were examined in New York jails, Substance Abuse Intervention Division (SAID) and New Beginnings while three programs were examined in California, Jail Education and Treatment (JET), Deciding, Educating, Understanding, Counseling and Evaluation (DUECE) and Rebuilding, Educating, Awareness, Counseling and Hope (REACH). The following sections examine each program individually.

Program Information

*JET, Santa Clara County, California*

Located in Elmwood Correctional Facility, the JET program is a residential drug and alcohol program. The JET unit was a self-contained program within Elmwood, separating participants from the general population. While not the only drug and alcohol treatment program within Elmwood, JET was the only specialized drug and
alcohol treatment unit. However, other programs (Alcoholics Anonymous and Narcotics Anonymous) were also offered within the jail to allow for greater inmate participation.

Entry into the JET program was based on referrals from courts, probation and parole with goals of reducing recidivism and substance abuse within Santa Clara County. After a referral was received, individuals had the opportunity to agree to participate or not with the JET program. The JET program was designed as a 90 day program for sentenced inmates. However, the reality was that participants were often parole violators or those heading to state prisons.

JET is a four phase program which mainly consisted of one-month time frames per phase, with phase four participants (those with time left on their sentence) acting as peer influences for the remainder of their sentences. This program is less confrontational than other treatment programs with no 24-hour treatment counselors on site. Services offered through JET included counseling, parenting groups, group work, job training and Twelve-Step groups as the basis for providing a foundation for treatment. Aftercare upon completion of JET was not mandatory for probation or parole but JET often encouraged continued supervision officers to seek aftercare for participants (Tunis, Austin, Morris, Hardyman & Bolyard, 1995).

**DEUCE, Contra Costa County, California**

The curriculum based DEUCE program is located in Contra Costa County, and was originally designed for drunk drivers with multiple offenses, but was expanded to include offenders who had any substance abuse issues. Participation in DEUCE is
completely voluntary and available to any inmates residing in lower security Contra Costa County jails. Further, DEUCE is available to both males and females. Contra Costa medium and low security jails require that inmates either participate in work or programs or be returned to higher security jails, so DEUCE is an appealing option for inmates.

DEUCE is a three phase program with an occasional fourth phase, as those prior to release continue to receive care. Phase one consists of three hour daily instructional sessions which include topics covering: addiction cycles, the recovery process and an introduction to Twelve-Step programs. Phase two classes continue on a structured curriculum which teaches participants about codependency, healthy relationships and includes increased group counseling sessions. Phase three finalizes individual relapse prevention plans, parenting skills, job skills and independent studies. DEUCE operates on an open based system which allows participants to come into and exit the program as their sentencing dates dictate. DEUCE has no formal aftercare program but staff always recommend to participants to continue with treatment after leaving (Tunis, Austin, Morris, Hardyman & Bolyard, 1995).

**REACH, Los Angeles, California**

Operated within one of the largest jail systems in the nation, Los Angeles County REACH participants were both males and females who were housed in low to medium security jails and that lived apart from other inmates. REACH participants volunteered
for a program that would lower the chance of recidivism through dealing with behavioral problems by determining roots causes to an individual’s addiction.

The structure of REACH arose out of the DEUCE treatment program; however, there are no special incentives to participants such as reduced sentence length. Eligibility requirements for REACH participants consisted of having at least a 30 day sentence in order to complete the first phase of the program. If an individual left before treatment was completed and then was rearrested they were allowed back into the REACH program only after an interview with one of the REACH instructors was conducted. Aftercare was handled by staff who counseled participants on which programs would be beneficial for their continued sobriety after leaving the jail (Tunis, Austin, Morris, Hardyman & Bolyard, 1995).

SAID, New York City Department of Corrections

Rikers Island in New York is the location of the SAID program, which provides residential programs to more than 12,000 inmates annually. Inmates are eligible to participate by two different means, either by recruitment or they ask staff to be allowed to participate in SAID. The curriculum for the program is varied and diverse and geared towards substance abuse, job training, conflict management and physical exercise. The SAID program does not require a minimum stay which is different from previous programs. In order to counter problems with participants leaving early, packets were distributed upon entry providing information on out- and in-patient programs available in their areas of residence (Tunis, Austin, Morris, Hardyman & Bolyard, 1995).
New Beginnings, Westchester County, New York

Operated under the guidance of Westchester County Medical Center's Correctional Health Services, New Beginnings is housed at Westchester County Penitentiary, and consists of a more structured program being medically developed. New Beginnings participants must apply to be taken into the program. The qualifications for admittance include a specific sentence length, an age requirement, acknowledgment of having a substance abuse problem, a willingness to participate in all program activities and the ability to receive necessary security clearance.

The program is based on developing daily living skills that do not involve using substances to function. These daily skills are enhanced through learning in Twelve-Step meetings, individual and group counseling, drugs and alcohol education as well as life skills training which can include GED and job training. Aftercare is an important component with New Beginnings. As the goal of the program is to prepare participants for long-term treatment, all participants automatically receive 30 days of outpatient treatment upon release (Tunis, Austin, Morris, Hardyman & Bolyard, 1995).

Variable Coding

The data set examined for the present study consisted originally of 8,285 treatment participants between California and New York. After reviewing the data the decision was made to filter out all individuals who were part of the control group, and those who were either released from the jails prior to completing the program or were transferred other facilities before completing the program. as these cases were not an
accurate reflection of those who actually completed the programs successfully or not. This reduced the present study's sample size to 1,921, eliminating many problems with data not being accessible or being unknown.

The data set utilized for the present study was obtained from ICPSR and includes multiple variables to be coded and utilized for analysis. The Coding of Variables chart (Appendix B) presents the variables to be used and the coding structure. The dependent variable for each research question is program success as measured by program exit type. The independent variables included for analysis are: (1) state; (2) program type; (3) gender; (4) race; (5) age; (6) education (7) marital status; (8) employment status; (9) previous drug use; (10) previous drug treatment; and (11) type of offense.

*Bivariate Analysis*

Bivariate analyses were utilized to examine two variables concurrently to discover whether a relationship exists between them (Babbie, Halley, & Zaino, 2003). The variables included in these bivariate analyses were dichotomized, except for age which was utilized as a metric variable for the purposes of bivariate analysis. The dichotomized variables include gender (0=male; 1=female), race (0=non-minority; 1=minority), location (0=California; 1=New York), employment status (0=employed; 1=not employed), living environment prior to admission (0=homeless; 1=homeowner/living with relatives), offenses type (0=non-violent offenses; 1=violent offenses), and previous drug treatment (0=treatment; 1=no treatment). These
dichotomized variables will all be analyzed in relation to the program success variable which has also been dichotomized (0=not successful; 1=successful completion).

Plan of Analysis

The data downloaded from ICPSR was entered into the computer program Statistical Package for the Social Sciences (SPSS). Using SPSS, univariate, or descriptive analyses are undertaken to examine each variable individually. Following the univariate analyses, bivariate analyses are utilized to determine whether significant relationships exist between the variables under study. These bivariate analyses determine whether our research hypotheses are correct. Pearson chi-square statistics and an independent samples t-test are utilized to reveal whether significant relationships exist between the variables under study. The following chapter presents the findings and discusses the limitations of these analyses. Chapter 5 further discusses the findings in terms of suggestions for policy and program implementation as well as suggestions for future research on this topic.
CHAPTER 4
ANALYSIS

Introduction

This chapter presents the univariate and bivariate statistical analyses utilized to answer the present study's research questions. This chapter begins with a review of the demographic characteristics of the sample. As mentioned in Chapter 3, the sample consists of drug treatment participants from five correctional programs offered in California and New York.

Following the descriptive analyses of the sample, bivariate statistics, specifically Pearson's chi-square and an independent samples t-test, are utilized to examine significant relationships existing between the variables under study. When possible, for variables with less than 5% missing, mean imputation are utilized to replace the missing values (Mertler & Vannatta, 2005).

Demographic Characteristics of Sample

The present study's sample consists of 1,921 treatment participants among five programs within California and New York jails. It is important to note that those individuals included in the original data set that had been either transferred to another facility or exited the correctional system prior to completion were excluded from the present study’s sample. Those individuals kept for analysis had either completed a program successfully or did not complete due to reasons of their own volition (i.e., were terminated for not following guidelines or voluntarily quit).
As for gender, the sample was 67.1% male and 32.9% female. The average age of participants in the sample was 31.8 years. The majority of participants (45.0%) were African American, while Caucasians comprised 27.3% and Hispanics 23.5%. Race was unknown for the remaining 4.2% of the sample. Table 1 presents the gender and racial characteristics of the sample by state.

Table 1

**Gender and Race of Correctional Treatment Participants by State**

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>California (n=980)</th>
<th>New York (n=941)</th>
<th>Total (n=1,921)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>526</td>
<td>53.7</td>
<td>763</td>
</tr>
<tr>
<td>Female</td>
<td>454</td>
<td>46.3</td>
<td>178</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>396</td>
<td>40.4</td>
<td>128</td>
</tr>
<tr>
<td>African American</td>
<td>271</td>
<td>27.7</td>
<td>593</td>
</tr>
<tr>
<td>Hispanic</td>
<td>239</td>
<td>24.4</td>
<td>213</td>
</tr>
<tr>
<td>Other</td>
<td>74</td>
<td>7.6</td>
<td>7</td>
</tr>
</tbody>
</table>

California programs (REACH, DEUCE and JET) consisted of 980 participants within three jail substance abuse programs making up 51% of the total sample. In New York, there were 941 participants between the SAID and New Beginnings programs comprising 49.0% of the total sample. Of the California participants, 40.4% were Caucasian, 27.7% were African American, 24.4% were Hispanic, and 7.6% represented various races not otherwise mentioned. Of the New York participants 13.6% were Caucasian, 63.0% were African American, and 22.6% were Hispanic.
Those individuals participating in correctional treatment in California and New York represented a variety of education levels. Of California participants, 49.3% had not completed high school or a GED program, while 39.3% of the New York participants had not completed high school or a GED program. High School graduates represented 34.5% of the California participants and 43.0% of the New York participants. Individuals who had completed some college course comprised 14.3% of the California participants and 13.0% of the New York participants.

As for marital status, 51.3% of the California participants and 62.6% of the New York participants had never been married. Those who were married/common law married comprised 12.7% of the California participants and 26.4% of the New York participants. Those individuals who were married at one time but not currently comprised 35.5% of the California participants and 9.8% of the New York participants. Table 2 presents the educational and marital characteristics of the sample broken down by state in which they participated in treatment.

In addition to education level, living environment prior to jail admission and employment status are two other variables which were examined as they relate to an individual's success in completing a correctional substance abuse treatment program. Among the participants in California, 29.2% were homeless, 30.8% were living with relatives and 34.4% were either renting or owned a home at the time of their admission into the California jail system. As for employment, 9.0% of the California participants were employed full-time, 6.7 were employed part-time, and 84.3% were not employed. New York programs did not collect information regarding employment status or living
environments prior to jail admission. Due to this, those two variables were unable to be analyzed in a bivariate sense for the present study.

Table 2

*Education and Marital Status Characteristics for Participants by State*

<table>
<thead>
<tr>
<th>Demographic</th>
<th>California (n=980)</th>
<th>New York (n=941)</th>
<th>Percentage Total (N=1,921)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not H.S. grad, No GED</td>
<td>483</td>
<td>49.3</td>
<td>370</td>
</tr>
<tr>
<td>H.S. Grad/GED</td>
<td>338</td>
<td>34.5</td>
<td>405</td>
</tr>
<tr>
<td>Some College</td>
<td>140</td>
<td>14.3</td>
<td>122</td>
</tr>
<tr>
<td>Unknown</td>
<td>19</td>
<td>1.9</td>
<td>44</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>503</td>
<td>51.3</td>
<td>589</td>
</tr>
<tr>
<td>Married/Common Law</td>
<td>124</td>
<td>12.7</td>
<td>248</td>
</tr>
<tr>
<td>Divorced/Separated/Widowed</td>
<td>348</td>
<td>35.5</td>
<td>92</td>
</tr>
<tr>
<td>Unknown</td>
<td>5</td>
<td>0.5</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 3

*Living Environment and Employment Status for California Participants*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>California (n=980)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Living Environment</td>
<td></td>
</tr>
<tr>
<td>Homeless</td>
<td>286</td>
</tr>
<tr>
<td>Living with Relatives</td>
<td>302</td>
</tr>
<tr>
<td>Renting/ Homeowner</td>
<td>337</td>
</tr>
<tr>
<td>Unknown</td>
<td>55</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
</tr>
<tr>
<td>Full Time</td>
<td>88</td>
</tr>
<tr>
<td>Part Time</td>
<td>66</td>
</tr>
<tr>
<td>Not Working</td>
<td>826</td>
</tr>
<tr>
<td>No Access to Data</td>
<td>0</td>
</tr>
</tbody>
</table>
Offenses committed by program participants included crimes against person, crimes against property, drug offenses, and crimes other than these which were represented by an “other” category. Crimes against persons include offenses such as murder, assault, rape, and armed robbery. Those in jail for crimes against persons accounted for 12.4% of the California participants and 14.8% of the New York participants. Property offenses included crimes such as burglary, forgery, stolen property and vandalism. Those in jail for property crimes accounted for 25.3% in California and 44.0% in New York. Drug offenses included crimes such as selling controlled substances, possession of controlled substances, being under the influence of narcotics, and driving while under the influence. As for drug offenses, 45.1% of participants in California and 22.5% in New York were in jail for such crimes. The remaining offenses were grouped together under the “other” category which included crimes such as interfering with law enforcement, disorderly conduct, and probation violations among other offenses. Those in jail for crimes under the “other” category comprised 17.1% of California participants and 18.7% of New York participants.

Table 4

Offenses Committed at Jail Admission, by State

<table>
<thead>
<tr>
<th>Offense</th>
<th>California (n=980)</th>
<th>New York (n=941)</th>
<th>% Total (N=1,921)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Person</td>
<td>122</td>
<td>12.4</td>
<td>139</td>
</tr>
<tr>
<td>Property</td>
<td>248</td>
<td>25.3</td>
<td>414</td>
</tr>
<tr>
<td>Drug</td>
<td>442</td>
<td>45.1</td>
<td>212</td>
</tr>
<tr>
<td>Other</td>
<td>168</td>
<td>17.1</td>
<td>176</td>
</tr>
</tbody>
</table>
Analysis of Research Questions

Bivariate analyses is utilized to examine two variables concurrently to discover whether a relationship exists between them (Babbie, Halley, & Zaino, 2003). The variables discussed above were dichotomized for bivariate analysis, except for age which are utilized as a metric variable for the purposes of bivariate analysis. The dichotomized variables include location (0=California; 1=New York), gender (0=male; 1=female), race (0=non-minority; 1=minority), education (0= non-high school completion; 1= high school completion), marital status (0=not married; 1=married), offense type (0=non-violent offenses; 1=violent offenses), and previous drug treatment (0=treatment; 1=no treatment). These dichotomized variables are analyzed in relation to the program success variable which has also been dichotomized (0=not successful; 1=successful completion).

Research Question 1

The first research question examined whether there is a relationship between program success and state in which the program was offered. A review of the programs in each state was first conducted to explore the differences between programs. Further, a review of previous research led to the hypothesis that individuals participating in California’s (JET, DEUCE and REACH) more structured programs would be more successful than those in the New York programs. The New Beginnings program in New York was highly structured from a medical standpoint, however, the California programs
overall provided more structure, routine, vocational training and opportunities to continue learning throughout the day for participants.

A Pearson’s chi-square analysis was utilized to examine differences between successful and unsuccessful completion by state. Table 5 presents the findings from the chi-square analysis. Results revealed statistically significant differences regarding program completion by state ($\chi^2=37.74, 1 \ df, \ p<.001$). While 44.9% of California participants successfully completed the program, 55.1% of New York participants successfully completed. The results indicated that New York program participants were in fact more successful in completing the drug treatment programs than those participants in California.

Table 5

*Bivariate Analysis of Program Completion by State*

<table>
<thead>
<tr>
<th>Program completion (n=1108)</th>
<th>Non-completion (n=813)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
</tr>
<tr>
<td><strong>State of Program Location</strong></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>497</td>
</tr>
<tr>
<td>New York</td>
<td>611</td>
</tr>
</tbody>
</table>

$\chi^2* p<.001$

*Research Question 2*

The second research question examined the relationships between demographic characteristics and program success among offenders. It was hypothesized that
demographic variables including age, gender, marital status, education level, race, offense committed, previous drug use and previous drug treatment received will be significantly related to program success. The variable age (metric) is analyzed utilizing an independent samples t-test while the other variables were analyzed using Pearson chi-square analyses. As noted above, the variables employment status and living arrangement prior to jail admission could not be analyzed bivariately due to the fact that the program administrators in New York did not collect this information from their participants.

An independent samples t-test is utilized to examine whether there was a significant relationship between the variables age and program completion. Table 6 presents the results of the independent samples t-test. Findings indicate that there is a significant relationship between age and those who completed successfully ($M=30.82$) and those who were unsuccessful ($M=31.97$). Interestingly, those individuals who completed successfully were younger than those who did not complete the drug treatment programs. One reason for this might be that older offenders, especially substance abusers, are more set in their ways and less likely to avail themselves to change.

Table 6

*Independent Samples t-Test Results for Age and Successful Completion*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>$F$</th>
<th>Sig.</th>
<th>$t$</th>
<th>$df$</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful Completion</td>
<td>1085</td>
<td>30.82</td>
<td>7.452</td>
<td>.366</td>
<td>.545</td>
<td>-3.240</td>
<td>1896</td>
<td>.001</td>
</tr>
<tr>
<td>Unsuccessful Completion</td>
<td>813</td>
<td>31.97</td>
<td>7.963</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7 presents the findings from the bivariate analyses of the variables gender and race and program completion. Pearson’s chi-square analysis found that gender was significantly related ($\chi^2=30.808$, 1 df, $p<.001$) to program completion. Males were more likely to complete treatment than females. Pearson’s chi-square analysis for race indicated a significant relationship ($\chi^2=141.041$, 1 df, $p<.001$) between race and program completion. Minority offenders were more likely to complete treatment than Non-minority offenders.

Table 7

*Bivariate Analysis of Racial Characteristics/Gender*

<table>
<thead>
<tr>
<th></th>
<th>Program Completion (n=1108)</th>
<th>Non-completion (n=813)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>687</td>
<td>35.8*</td>
</tr>
<tr>
<td>Female</td>
<td>421</td>
<td>21.9</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Minority</td>
<td>186</td>
<td>9.7</td>
</tr>
<tr>
<td>Minority</td>
<td>907</td>
<td>47.2*</td>
</tr>
</tbody>
</table>

$\chi^2 * p<.001$

Bivariate analyses also revealed significant relationships between program success and education as well as program success and marital status. Table 8 presents the findings from the bivariate analyses of these two variables and program completion. Pearson’s chi-square analysis found that marital status was significantly related ($\chi^2=19.270$, 1 df, $p<.001$) to program completion. Those who were not married were more likely to complete treatment. Pearson’s chi-square analysis for education also indicated a significant relationship ($\chi^2=36.502$, 1 df, $p<.001$) between education and
program completion. Those who had not finished high school were more likely to complete treatment than those who had graduated from high school.

Table 8

*Bivariate Analysis of Marital Status and Education Levels by Program Completion*

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Program completion (n=1108)</th>
<th>Non-completion (n=813)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Not Married</td>
<td>931</td>
<td>48.5*</td>
</tr>
<tr>
<td>Married</td>
<td>177</td>
<td>9.2</td>
</tr>
<tr>
<td>Education Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-high school graduate</td>
<td>557</td>
<td>29.0*</td>
</tr>
<tr>
<td>High school graduate</td>
<td>551</td>
<td>28.7</td>
</tr>
</tbody>
</table>

$\chi^2* p<.001$

In sum, bivariate analyses revealed significant relationships between the demographic variables age, gender, race, marital status, education level, and the variable program completion. Interestingly, the overall findings suggest that Minority males in their early thirties, who were not married, and had not graduated from high school were most likely to successfully complete the correctional drug treatment programs.

*Research Question 3*

The third research question examined the differences in program success by previous drug use and previous drug treatment. It was hypothesized that previous treatment experiences would have an impact on the success of treatment participants, since past treatment participants had a baseline of knowledge to continue to learn and
The relationship between past drug treatment and program completion was explored utilizing a Pearson chi-square analysis. Previous treatment included a variety of treatment programs and options for participants to have participated in such as outpatient counseling, detoxification, residential treatment or other jail/prison programs. As mentioned above, this variable was dichotomized into (0= previous treatment; 1= no previous treatment). Table 9 presents the Pearson’s chi-square findings for the variables prior treatment and program completion. Findings revealed that there was a significant relationship ($\chi^2=52.471$, 1 df, $p<.001$) between past drug treatment and program completion. Those individuals who had not previously participated in a drug treatment program were more likely to successfully complete the program.

Table 9

*Bivariate Analysis of Program Completion with Previous Drug Treatment*

<table>
<thead>
<tr>
<th></th>
<th>Program completion (n=1108)</th>
<th>Non-completion (n=813)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Previous Drug Treatment</td>
<td>499</td>
<td>26.0</td>
</tr>
<tr>
<td>No Previous Drug Treatment</td>
<td>609</td>
<td>31.7*</td>
</tr>
</tbody>
</table>

$\chi^2$, *$p<.001$

The data obtained from participants regarding previous drug use in the 30 days prior to jail admission included some drugs worthy of noting. Past drug use was measured by a separate variable representing each drug of abuse, bivariate analyses
became too complex and these variables were therefore analyzed using descriptive, univariate analyses. Table 10 presents these univariate findings.

When examining past alcohol use, it was found that a majority (68.7%) of the sample had noted use before jail admission. This finding makes sense as alcohol is legal, affordable, and available. Another interesting finding was that 76.1% of the entire sample noted past cocaine/crack cocaine use. This is interesting because it indicates that more participants acknowledged more cocaine use than alcohol use within the 30 days prior to jail admission. Consistent with previous literature was that more individuals noted using marijuana than all other drugs except alcohol and cocaine. While 49.2% of the hallucinogen variable was missing, 2.9% of the sample did note hallucinogen use in the 30 days prior to treatment.

As Table 10 shows, participants noted using a variety of substances. This can pose problems for drug treatment especially when tailoring treatment to individual drugs of abuse as different drugs have varying withdrawal effects and addictive potential. This issue will be further discussed in Chapter 5.

Table 10

*Previous Drug Use during the 30 days Prior to Jail Admission (N = 1,912)*

<table>
<thead>
<tr>
<th>Drug Used</th>
<th>%Yes</th>
<th>%No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crack/ Cocaine</td>
<td>76.1</td>
<td>23.9</td>
</tr>
<tr>
<td>Alcohol</td>
<td>68.7</td>
<td>31.3</td>
</tr>
<tr>
<td>Marijuana</td>
<td>43.8</td>
<td>56.2</td>
</tr>
<tr>
<td>Heroin</td>
<td>34.6</td>
<td>65.4</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 10 (continued).

<table>
<thead>
<tr>
<th>Drug Used</th>
<th>%Yes</th>
<th>%No</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCP</td>
<td>8.6</td>
<td>91.4</td>
</tr>
<tr>
<td>Methadone</td>
<td>8.5</td>
<td>91.5</td>
</tr>
<tr>
<td>Other drugs</td>
<td>8.5</td>
<td>91.5</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>7.2</td>
<td>92.8</td>
</tr>
<tr>
<td>Prescription Drugs</td>
<td>6.5</td>
<td>93.5</td>
</tr>
<tr>
<td>Tranquilizers</td>
<td>5.6</td>
<td>94.4</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>5.5</td>
<td>94.5</td>
</tr>
<tr>
<td>Inhalants</td>
<td>2.3</td>
<td>97.7</td>
</tr>
<tr>
<td>Depressants</td>
<td>1.5</td>
<td>98.5</td>
</tr>
<tr>
<td>Ice (Methamphetamine)</td>
<td>0.7</td>
<td>99.3</td>
</tr>
</tbody>
</table>

Research Question 4

The fourth and final research question examined whether there was a relationship between type of offense and program completion. The hypothesized results were that non-violent offenders would be more successful in program completion, especially drug offenders as they are being treated for the problem that got them into trouble in the first place. Table 11 presents the findings from the Pearson’s chi-square analysis for the fourth research question. Bivariate analysis, however, revealed no significant relationship ($\chi^2=.048$, 1 df, p, n.s.) between type of offense and program completion. Of the non-violent offenders, 30.1% successfully completed and 27.6% of the violent offenders completed. It could be that while violent offenders were not necessarily arrested for drug offenses, their addiction or drug use may be what
drove them to be violent and commit the offense for which they were in fact arrested. Therefore, if problems with substance abuse preceded their offense, they would benefit from successful completion just as much as the non-violent drug offenders.

Table 11

_Bivariate Analysis for Program Completion and Offense_

<table>
<thead>
<tr>
<th></th>
<th>Program Completion (n=1108)</th>
<th>Non-completion (n=813)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent Offenses</td>
<td>530</td>
<td>393</td>
</tr>
<tr>
<td></td>
<td>27.6%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Non-Violent Offenses</td>
<td>578</td>
<td>420</td>
</tr>
<tr>
<td></td>
<td>30.1%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

Study Limitations

Secondary data analysis while a useful method of data analysis does pose some limitations that should be noted. The first drawback of utilizing secondary data is that the data was not collected based on the needs of the present study. Therefore, the information available could limit the questions that can be answered using the data. For example, one problem encountered by the present study was that New York did not collect information regarding employment status and living arrangement prior to jail admission. Because this data was not available, bivariate analyses could not be utilized and such information can only be explored using the California participants.

Another limitation of the data set used for the present study is its age. The data used was collected in 1998. Therefore, the data is almost ten years old. This could hinder the usefulness of the information as far as being relevant to making decisions
regarding those currently in jail treatment programs as the aged data may no longer be an accurate reflection concerning the demographic characteristics of individuals who are completing treatment in 2007. Therefore, findings from the present study are only generalizable to populations demographically similar to those included in the data. Further, some of the treatment programs originally under study have since ended and are no longer available. While those particular programs cannot be suggested to continue, programs with similar characteristics can certainly be suggested for further use in correctional drug treatment.

Another limitation of the present study is that it is unknown on an individual case basis whether participants were forced by judge order or as part of their sentence to take part in drug treatment while in jail. With that said, it is unknown whether participation in the treatment program was truly voluntary. Therefore, differences between voluntary and coerced treatment cannot be explored with this data.

As recidivism is always a concern for criminal justice administrators, it would be interesting to know whether the treatment programs under study had an impact on recidivism of participants. Unfortunately, the data utilized for the present study only collected information about program completion and not recidivism. Therefore an examination of recidivism could not be undertaken.

While aftercare has been shown to be an important part of reducing recidivism once an offender re-enters the community, the data used for the present study lacked information regarding aftercare. Further, an aftercare component was not formally offered in four out of the five programs (Prendergast, Hall, Wexler, Melnick & Cao,
2004). Therefore, the impact of aftercare could not be incorporated into the present study’s analysis.

Despite these limitations, analyses did reveal significant relationships between the variables under study. This study should therefore be utilized as a stepping stone in understanding what factors impact successful completion of correctional drug treatment programs. Chapter 5 will discuss in further detail what these findings indicate for correctional authorities and future researchers interested in this topic.

Conclusion

This chapter presented an in-depth look at offenders who participated in substance abuse treatment programs in jails across California and New York. The sample was found to be diverse in demographic characteristics. Many significant relationships were found between the variables under study and Table 12 summarizes these findings in terms of the posed hypotheses. Age, gender, race, marital status, and education level were all significantly related to program completion. Also, past drug treatment was found to be significantly related to program completion. The variable offense, however, was not significantly related to program completion. While previous drug use by type of drug used was not analyzed in a bivariate sense, there were interesting descriptive findings to be noted, specifically that past cocaine/crack cocaine use was the most prevalent among the sample, even more so that marijuana and alcohol. The next chapter will discuss what implications these findings have for correctional substance abuse treatment.
### Summary of Findings, Research Questions and Corresponding Hypotheses

<table>
<thead>
<tr>
<th>Research Questions and Corresponding Hypotheses</th>
<th>Support Found</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q1.</strong> Are there significant differences in program success (as measured by successful completion of the program by offenders) between California and New York?</td>
<td>H1. The structured programs offered within California Department of Corrections jails (JET, DEUCE and REACH) would be more successful than New York programs.</td>
</tr>
<tr>
<td><strong>Q2.</strong> Are there significant differences in program success by demographic characteristics of offenders (sex, race, age, education, marital status, and employment status)?</td>
<td>H2. Demographic differences should be significant factors in successful completion of programs.</td>
</tr>
<tr>
<td><strong>Q3.</strong> Are there significant differences in program success by previous drug use and previous drug treatment as reported by offenders?</td>
<td>H3. Previous drug use mixed with previous treatment experiences impacts participants’ chances of being successful.</td>
</tr>
<tr>
<td><strong>Q4.</strong> Are there significant differences in program success by type of offense for which the participating offenders are incarcerated?</td>
<td>H4. The findings of previous research indicate that those who commit non-violent offenses are more likely to succeed in treatment.</td>
</tr>
</tbody>
</table>
CHAPTER 5
DISCUSSION AND CONCLUSION

This present study examined 1,921 participants across five treatment programs in two different states, New York and California. The treatment programs each handled treatment on individual basis while having participants complete certain requirements in order to successfully complete the program. This study reviewed the demographic characteristics age, gender, marital status, and education levels associated with those who successfully completed the correctional substance abuse program in which they were involved. Previous drug use and previous drug treatment were also examined as to how they impact successful completion by participants.

There are currently gaps in the literature concerning the influence of demographic characteristics, previous drug treatment and drug use in relation to jail substance abuse treatment programs. While this study is not an exhaustive study, it is a start in examining the characteristics associated with those who complete jail treatment programs successfully. The following sections are intended to further discuss the gaps in literature, results from the current study and suggestions for future research on this topic.

Explanation of Findings

The present study’s sample consisted of 1,921 treatment participants among five programs within California and New York jails. The sample population was 67.1% male and 32.9% female with an average age of 31.8 years. As for race, 45.0% of the
participants were African American, while Caucasians comprised 27.3% and Hispanics 23.5%.

The majority of the sample (56.9%) had never been married and 19.4% were either legally married or in a common law marriage. Those who were divorced, separated or widowed comprised 22.9% of the sample. Education levels among the sample varied with those not completing high school or obtaining a GED comprising 44.4% of the sample. High school graduates, including those with a GED, comprised of 38.7% of the sample and those with some college comprised 13.6% of the sample.

Bivariate analyses, specifically Pearson’s chi-square and independent samples t-tests, are utilized to examine significant relationships between the variables under study. Analysis revealed significant differences in completion rates between California and New York. New York participants were more likely to successfully complete their program than California participants. This was the case even though New York had fewer participants. While analysis revealed a significant difference between the states in relation to program completion, it is difficult to say exactly to what that difference was attributed. As each program was unique, New Beginnings program in New York was medically based, which may have been more significant in successful completion. As will be discussed later, future research could examine individual programs and the differences in program content as it relates to successful completion.

The bivariate analyses of demographic characteristics and program completion also produced some significant results. The variable age, analyzed utilizing an independent samples t-test, was found to be significantly related to successful program
completion. Interestingly, younger individuals were more likely to successfully complete their program. Perhaps this success of younger individuals is due to older participants being resistant to change, accustomed to the lifestyle which they have spent years participating. Comparing the recidivism rates of these two groups would have been interesting, however, without that information the present study could not examine whether age had an impact on recidivism.

Bivariate analyses were also conducted with the variables gender, race, marital status and education as they relate to successful completion. It was found through Pearson chi-square analysis that men were more likely to complete treatment successfully than women. The success of men in this study could be based on a few variables. For example, treatment programs may not have been geared toward different genders and males comprised a higher percentage of the sample than females. As for race, minority participants were significantly more likely to successfully complete the drug treatment programs. This is an interesting finding as previous literature noted that minority offenders may be reluctant towards treatment due to higher rates of homelessness, fewer years of education, drugs of choice and high unemployment rates among their communities (Jacobson, Robinson & Bluthenthal, 2007). Perhaps this success is the result that the largest portion of participants being minorities which increases the likelihood of completion.

Further analyses revealed that the variables marital status and education are also significantly related to program completion. Interestingly, unmarried individuals who had not completed high school or the equivalent were more likely to complete the
treatment programs. This is interesting as one would think those with higher social capital (i.e., a family and career) would be more likely to put their efforts into getting sober and out of jail. Unmarried participants yet again comprised the majority of the population, which could be another indicator of why never married individuals were more successful. Without having detailed information perhaps those who graduated high school and attended some college were bored with the treatment program curriculum and therefore not interested in treatment. Unfortunately, bivariate analyses could not be conducted using the variables employment status and living arrangement prior to jail admission as New York did not collect this information about its participants.

Bivariate analysis of the variables previous drug treatment and successful completion revealed another interesting significant relationship. It was determined that those individuals who had not previously been in treatment were more successful in completing their program. Previous treatment included a variety of treatment programs such as outpatient counseling, detoxification, residential treatment or other jail/prison programs. This is interesting and may show that once a person relapses from an initial treatment experience, they are less likely to successfully complete later treatment.

Descriptive analyses are utilized to examine the variables measuring the types of drugs used. Of the sample, a majority reported using alcohol (68.7%) and marijuana (56.2%). A surprising finding was that 76.1% of the sample reported using cocaine/crack cocaine in the past. It is important for treatment administrators to understand the different types of drugs used by participants including their effects and
addictive potential as these could impact the development of programs and program curriculum.

The variable type of offense for which participants were convicted was also analyzed as to its relationship to program completion. It was hypothesized that non-violent offenders would be more likely to successfully complete the treatment program as many of the non-violent offenders were drug offenders. This, however, was not the case. Results from bivariate analysis did not reveal a significant relationship between these two variables. While this was the case, a similar percentage of non-violent (27.6%) and violent offenders (30.1%) did successfully complete treatment. While violent offenders’ primary offense may not have been for drug offenses, addiction or drug use may have driven them toward their violent offense which caused the arrest. Successful completion for violent offenders could be based on substance abuse preceding the violence therefore they would benefit more from completion, if not more than non-violent drug offenders. Violent offenders may also be just as likely to successfully complete treatment as they may have longer sentences, more time spent in jail and a greater willingness to complete correctional treatment programs, especially to increase chances for early release.

Program Implications

In order to be continually successful, treatment programs need to be aware of current and accurate information about treatment types, individual substance abusers, and types of substances abused. Knowing what works and what does not work
concerning drug treatment will serve to benefit program participants as well as ensure that programs run successfully and efficiently. The present study’s analyses revealed some interesting findings that may be useful for treatment administrators and academic researchers to further investigate.

Treatment programs, when in the development stages, need to take into account demographic characteristics of those who are going to be participating within their programs. For example, programs may need to incorporate gender responsive treatment as differences have been found between male and female substance abusers. Treatment programs also need to account for differences the ages and racial make-up of their participants. By customizing programs to those who are going to be participating, treatment administrators have the ability to better reach individual participants. Awareness of education levels reached by participants will further enable program designers to customize programs at the appropriate level so participants will be better able to understand and participate in their recovery. Finally, programs that provide vocational skills will also enable participants to exit the correctional system with new skills in order to find employment once released from jail. Providing vocational skills alongside drug treatment will not only enhance the individual participant’s life skills but could also increase successful completion as participants may be encouraged by their new skills and more able to see that they do not have to rely on drugs to survive outside the correctional system.
Drug Use

As can be seen in the present study’s analysis, there are a variety of drugs that are used prior to entering jail. Oftentimes substance abusers will partake in polydrug use (Lyman & Potter, 2003) where they use multiple drugs at one time. For example, individuals may use a stimulant such as cocaine during the day and then a depressant such as alcohol at night. Treatment programs need to take into account participants’ past drug use and how the drugs taken interact with each other. While a large part of treatment should relate to why individuals began using drugs in the first place, treatment programs should also be in-part based on the effects and addictive potential of the specific drugs used. For example, an abuser of alcohol is going to be different than an abuser of methamphetamine or an abuser of heroin and these differences should be taken into consideration. While, depending on the level of abuse, twelve-step programs such as Alcoholics Anonymous may help an alcoholic recover as they learn to function without drinking alcohol as part of their daily lives, whereas a heroin or methamphetamine abuser is going to have a more difficult detoxification period and may need to spend longer in recovery. Overall, the needs of each individual should be met even through group treatment.

In order to treat each person individually an in-depth interview is needed to understand why individuals began using drugs, what drugs they have used in the past, as well as the most recent drugs and the combination of drugs that have been used. With this information, treatment administrators will be able to customize the programs to their current participants. While individualizing treatment allows participants to
receive more attention to their individual problems, it is recognized that correctional
administrators and treatment administrators working within correctional systems are
limited on funding, time and staff availability. With that said, literature has shown drug
treatment to be an important step in reducing recidivism and therefore available
resources should be geared to successful treatment opportunities within the correctional
system. While this section has examined the findings in relation to practice by
treatment and correctional administrators, the next section will explore topics that
should be considered by future researchers interested in substance abuse and
treatment, especially among correctional populations.

Future Research

A debate concerning the effectiveness of drug treatment, especially among
correctional populations, has been ongoing and will most likely continue for years to
come. While it may sometimes seem impossible to address the growing number of
addicts both in society and among correctional populations, we cannot let the
sometimes overwhelming nature of the problem deter successful treatment attempts.

The present study reviewed successful completion of treatment programs within
California and New York jails. While the present study did provide some interesting
findings it also left many questions unanswered which future research in this area could
address. It would be beneficial for future researchers to collect and analyze detailed
information regarding demographic characteristics of treatment participants as well as
their motivations for participating in treatment and their previous drug use. Collecting
full and accurate demographic information from current programs across the nation will give the public a better idea of who in the community is most likely to abuse substances. An interesting variable that should be included in future analyses would be employment status, or another measure might be socio-economic status. This may reveal the role that economics play, if any, in substance abuse. Also, especially for correctional treatment populations, future studies should look more into the voluntary nature of drug treatment, specifically whether individuals were court ordered or if they were only participating in order to “look better” when they were possibly evaluated for early release. Further, detailed information regarding past drug use, not only 30 days prior to jail admission, but during a participant’s lifetime would be beneficial in understanding how the types of drugs used impact treatment success.

While recidivism is an important factor within criminal justice, the current study did not have available data on whether the participants in the sample recidivated. Being able to look at successful completion in relationship to recidivism would be a good way to determine the long-term impact of drug treatment, especially looking at whether drug offenders recidivate with further drug-related activity. Studies that examine recidivism in relation to correctional drug treatment completion are therefore highly suggested for future researchers interested in this topic.

Finally, as for the category non-completion, the present study included those individuals who were either terminated or who voluntarily exited, or quit, the program. Future research on the reasons why participants are terminated could lead to beneficial information regarding how programs can increase their success rate by controlling for
factors that may increase participant termination or the drop-out rate. While termination for rule violations is an understandable consequence, perhaps knowing what gets an individual terminated would be beneficial towards figuring out how program administrators can work with participants who are serious about recovery to get them back on track in their respective program.

Overall, substance abuse is a significant problem facing all communities within the U.S., especially correctional populations. Finding successful ways to treat substance abuse and related problems will only be done through repeated trial and research on what works and what does not work. Future researchers have many avenues to explore related to this topic including those discussed above.

Conclusion

This study examined the demographic characteristics, past drug use, previous drug treatment experiences and types of offenses of 1,921 individuals who participated in correctional substance abuse programs while serving time in either a California or New York jail system. The sample was found to be diverse in demographic characteristics. While this study was limited, many interesting significant relationships were found among the variables under study. The demographic characteristics, age, gender, race, education and marital status were each significantly related to the variable program completion. Further, the variable past drug treatment was significantly related to program completion. While this study revealed interesting findings concerning these variables, there are many topics which future researchers should
explore. Also, treatment professionals can use the findings of the present study as well as the findings of future studies to improve correctional drug treatment. It is important to ensure that drug treatment programs are as successful as possible so that resources are not wasted. Therefore, having up to date information concerning drugs and the abuse of drugs is imperative in addressing the problems related to substance abuse and assisting abusers in their recovery.
APPENDIX A

IRB APPROVAL
August 2, 2007

Bree Kimball
Department of Criminal Justice
University of North Texas

RE: Human Subjects Application No. 07-281

Dear Ms. Kimball:

In accordance with 45 CFR Part 46 Section 46.101, your study titled “Getting Sober While Incarcerated: An Exploratory Analysis of Correctional Substance Abuse Treatment Programs” has been determined to qualify for an exemption from further review by the UNT Institutional Review Board (IRB).

No changes may be made to your study’s procedures or forms without prior written approval from the UNT IRB. Please contact Shelia Bourns, Research Compliance Administrator, ext. 3940, if you wish to make any such changes.

Sincerely,

Scott Simpkins, Ph.D.
Chair
Institutional Review Board

SS: sb
APPENDIX B

CODING OF VARIABLES
<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable:</td>
<td>Exit Type</td>
</tr>
<tr>
<td></td>
<td>1 = Successful Graduate</td>
</tr>
<tr>
<td></td>
<td>2 = Exit Jail prior to completion</td>
</tr>
<tr>
<td></td>
<td>3 = Terminated</td>
</tr>
<tr>
<td>State</td>
<td>1 = California</td>
</tr>
<tr>
<td></td>
<td>2 = New York</td>
</tr>
<tr>
<td>Offense</td>
<td>1 = Person</td>
</tr>
<tr>
<td></td>
<td>2 = Property</td>
</tr>
<tr>
<td></td>
<td>3 = Drug</td>
</tr>
<tr>
<td></td>
<td>4 = Other</td>
</tr>
<tr>
<td>Sex</td>
<td>1 = Male</td>
</tr>
<tr>
<td></td>
<td>2 = Female</td>
</tr>
<tr>
<td>Race</td>
<td>1 = Caucasian</td>
</tr>
<tr>
<td></td>
<td>2 = African American</td>
</tr>
<tr>
<td></td>
<td>3 = Hispanic</td>
</tr>
<tr>
<td></td>
<td>4 = Other</td>
</tr>
<tr>
<td>Age</td>
<td>1 = 0-19</td>
</tr>
<tr>
<td></td>
<td>2 = 20-29</td>
</tr>
<tr>
<td></td>
<td>3 = 30-39</td>
</tr>
<tr>
<td></td>
<td>4 =40-49</td>
</tr>
<tr>
<td></td>
<td>5 =50-59</td>
</tr>
<tr>
<td></td>
<td>6 = 60-69</td>
</tr>
<tr>
<td></td>
<td>7 = 70 and more</td>
</tr>
<tr>
<td>Education</td>
<td>1 = Not H.S. grad, No GED</td>
</tr>
<tr>
<td></td>
<td>2 = H.S. Grad/GED</td>
</tr>
<tr>
<td></td>
<td>3 = Some College</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1 = Never Married</td>
</tr>
<tr>
<td></td>
<td>2 = Married/ Common Law</td>
</tr>
<tr>
<td></td>
<td>3 = Divorced/ Separated/ Widowed</td>
</tr>
<tr>
<td>Employment Status</td>
<td>1 = Full Time</td>
</tr>
<tr>
<td></td>
<td>2 = Part Time</td>
</tr>
<tr>
<td></td>
<td>3= Not Working</td>
</tr>
<tr>
<td></td>
<td>4 = No Access to Data</td>
</tr>
<tr>
<td>Living Environment</td>
<td>1 = Homeless</td>
</tr>
<tr>
<td></td>
<td>2 = Homeowner/Living with Relatives</td>
</tr>
<tr>
<td>Previous Drug</td>
<td>1 = Yes</td>
</tr>
<tr>
<td>Treatment</td>
<td>2 = No</td>
</tr>
</tbody>
</table>
*Note: The variables measuring drug use were each coded (0=No; 1=Yes). There was an individual variable for each type of drug including:

- Crack/Cocaine
- Alcohol
- Marijuana
- Heroin
- PCP
- Methadone
- Amphetamine
- Prescription Drugs
- Tranquilizers
- Barbiturates
- Hallucinogens
- Inhalants
- Depressants
- Methamphetamine
- Other drugs
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