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## The effects of negative childhood experiences on the severity of mental and substance abuse disorders and recidivism

Christie Lynn Gabriel

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THE EFFECTS OF NEGATIVE CHILDHOOD EXPERIENCES ON THE  
SEVERITY OF MENTAL AND SUBSTANCE ABUSE  
DISORDERS AND RECIDIVISM

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A Thesis  
Presented to the  
Faculty of  
California State University,  
San Bernardino

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts  
in  
Interdisciplinary Studies:  
Criminal Justice and Psychology

---

by  
Christie Lynn Gabriel  
December 2009

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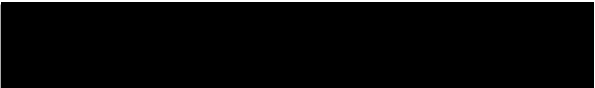
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by  
Christie Lynn Gabriel  
December 2009

Approved by:

  
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## ABSTRACT

Overcrowded prisons are a growing problem in the United States. Currently, California prisons are over capacity by 85%. Substance abuse increases the likelihood of criminality, for half of state prisoners admitted to being under the influence of drugs or alcohol at the time of their offense(s). Also, reducing the amount of individuals who are arrested and convicted for drug related offenses could ameliorate much of this overpopulation problem. In 2007, 29% of California's newly convicted felons were serving sentences for non-trafficking, drug related offenses. A large portion of these individuals, once incarcerated, is also diagnosed with a mental illness. These folks are referred to as dually diagnosed offenders and are a sizable population in the United States' correctional system. An examination of these individuals' lives before they became criminals reveals that a poor family environment precedes their problems with substance abuse, psychopathology, and the law. By researching dually diagnosed inmates who were participating in a 90-day in-custody treatment program, this study focuses on how negative family and school experiences become major contributors to adult mental and substance abuse disorders

and criminality. The results of this study reveal that educational attainment is the single most significant factor in crime prevention, where subjects who had higher levels of educational attainment and school attendance as youths had lower levels of recidivism as adults. Additionally, levels of substance abuse correlate positively with mental and social instability and criminality. With regards to these findings, policy implications are also discussed.

## ACKNOWLEDGEMENTS

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CHAPTER ONE  
DUALY DIAGNOSED OFFENDERS,  
A GROWING PROBLEM

Statement of the Problem

It is widely known that throughout the United States, jail and prison populations have increased drastically over the past 40 years. This problem is costing tax payers an average of \$49,000 per inmate per year (Department of Corrections [DOC], 2009). In California alone, jail populations have increased by over 245% from 1989 - 1999 (Board of Corrections [BOC], 1999). Much of this population increase is due to drug related arrests. Throughout the United States, the percentage of prisoners serving sentences for drug-related offenses has more than tripled from 1980 - 1993 (Brochu, Guyon, & Desjardins, 1998). From 1997 to 2007, an average of 29% of California's male and female inmates were serving sentences for drug-related offenses (DOC, 2003). Twenty-nine percent of new felon admissions in 2007 continue to be drug-related (California Department of Corrections and Rehabilitation [CDCR], 2007).

Drug consumption is also a motivating factor and disinhibitor for criminal behavior. The Bureau of Justice

Statistics [BJS] (1999) reported that in 1997, 17% of state and federal prisoners in the United States committed their current offense to obtain money for drugs or alcohol; 52% of state and 34% of federal prisoners admitted to using alcohol or drugs at the time of their offense. These numbers remain consistent five years. Additionally, an alarming 71% of all convicted jail inmates were diagnosed with a substance abuse or dependence disorder (BJS, 2005). These statistics indicate a chronic problem of drug abuse throughout the United States and its contribution to criminality.

Another closely related problem is the comorbidity rate of psychiatric disorders among offenders with a substance abuse disorder. One study shows that from a jail population being treated only for substance abuse, 55% also had one or more mental disorder(s) (Swartz & Lurigio, 1999). Since the closing of many of the country's state mental hospitals throughout the 1970's - 1990's, mentally ill populations have been forced to fend for themselves without any form of treatment; many self-medicate themselves with alcohol and illicit drugs, which merely exacerbates their symptoms. Many of these people's problems are overlooked until they are arrested, usually for petty

crimes; however, most correctional facilities are ill equipped to provide adequate treatment for mentally ill offenders (Steadman & Veysey, 1997).

It was not until a class action lawsuit filed in 1990 by mentally ill inmates against California corrections and mental health officials, that public objection of their maltreatment was heard (Sagar, 2009). This case was dismissed until 1995, in *Coleman v. Wilson*, 912 F.Supp. 1282 (E.D. Cal. 1995), a federal judge deemed California's treatment of mentally ill inmates unconstitutional, and ordered "that new policies and protocols be developed" (Sagar, 2009, p.1). A Special Master assigned to the case sought various changes between 1998 and 2006 that included "mental health staffing, training, suicide prevention, outpatient beds, transfers of inmates to places that would better serve their mental health needs, and other measures" (Sagar, 2009, p.2).

With this newly acknowledged prison population, the number of inmates requiring mental health beds had increased 250% between the years 1996 and 2004 (BOC, 2004). Individuals with severe mental disorders such as schizophrenia and bipolar disorder (both accompanied by symptoms of psychosis) comprise a large portion of mentally

ill offenders (Clark, Ricketts, & McHugo, 1999). In 1998, prisons throughout the United States housed approximately 284,000 people with mental illnesses, which was four times the amount of people housed in state mental hospitals (National Alliance for the Mentally Ill [NAMI], 2003).

Mental illness can be extremely debilitating, even fatal. The National Institute of Mental Health [NIMH] (2001) reported that mental illness accounts for approximately 15% of disease-related disability and death in the United States. "This is more than the disease burden caused by all cancers" (NIMH, 2001, p.1). In the year 2000, approximately 777,000 California non-institutionalized adults reported having a mental disability that required the state to provide financial assistance (The Regents of the University of California, 2003). Due to the nature of many mental disorders, the mentally ill population is at a greater risk for arrest and incarceration than the general population. Alcohol or drug abuse greatly increases the likelihood of criminal involvement among the mentally ill, and unfortunately, this dually diagnosed population appears to be a significant portion of the prison and jail populations (Clark et al., 1999; Abram & Teplin, 1991).

The California Board of Corrections (2000) acknowledged and addressed this growing problem by creating a Mentally Ill Offender Crime Reduction Grant (MIOCRG), which was distributed throughout 15 different counties to develop and implement treatment programs for these populations. Treatment for these folks is an expensive endeavor given the duration of their illnesses, and in many cases, is being administered too late. For, many of these individuals have been suffering 20 - 30 years, and have already endured much physical, psychological, and socio-economic damage. A prevention model that focuses on the causes of mental illness and substance abuse would be more economical and offer greater success rates than treatment after major damage has already been done. Thus, this paper aims to identify major contributors of mental and substance abuse disorders.

#### Etiology of Mental Illness and Substance Abuse Disorders

Over the past few decades, the nature versus nurture theories of mental and substance abuse disorders have been scrutinized. Decades of twin and adoption studies have made it clear that mental and substance abuse disorders have a

definite genetic component (Nicol & Erlenmeyer-Kimling, 1986). For example, Bertelsen, Harvald & Hauge (1977) found that concordance rates for bipolar disorder among monozygotic twins were 74%, whereas it was only 17% with dizygotic twins. Similarly, Torgersen (1983) found concordance rates for anxiety disorders to be 41% among monozygotic twins and only 4% among dizygotic twins.

Another finding concerning mental illness is the increased risk factor of an offspring developing a disorder if one or both parents are mentally ill. In psychotic disorders for example, Adams, Hare & Munk (1993) found that 30% of adults with schizophrenia or a related schizopsychotic disorder had one parent with schizophrenia, and 55% of them had two parents with schizophrenia.

Substance abuse disorders, particularly alcoholism, also show a strong genetic component: monozygotic twins had a concordance rate of 70%, compared to dizygotic twins' concordance rate of 33%. In a study where alcohol dependent male adoptees were living in a non-substance using home, it was found that 22% of them had an alcoholic father, 26% had an alcoholic mother, and 33% had parents



who were both alcoholics (Cloninger, 1983).<sup>1</sup> These statistics make it clear that genetics play an important role in psychopathology. Other research shows that in addition to genetics, one's environment is also a major contributory factor.

Twin and adoption studies have led behavior geneticists to conclude that one's genetics and environment play equal roles in the development of mental and substance abuse disorders (Rowe & Elam, 1987; Cloninger, 1983). Exactly how the interaction of these two factors creates pathology has been the more intriguing inquiry. Numerous studies have discovered that psychopathology is not merely an inherited trait triggered by negative environmental stimuli. Rather, the development of psychopathology is brought on by long term exposure to maladaptive family functioning, frequently preceded by the presence of a mentally ill or substance abusing parent (Johnson, Cohen, Kasen, & Smailes, 2001; Dobkin, Tremblay & Sacchitelle, 1997; Herbert, 1997; Olin & Mednick, 1996; Smart & Chibucos, 1990; Kumpfer & DeMarsh; 1985). The diathesis-

---

<sup>1</sup> These rates of inheritance may be similar with other drugs, but research in this area is lacking; partially due to common polysubstance use when illicit drugs are involved, thus, the problem of confounding of variables presents itself.

stress model, which has been used to explain both mental and substance abuse disorders, asserts these findings; psychopathology results from a combination of one's genetics and early learning experiences (Dobkin et al., 1997; Herbert, 1997).

Another well-established psychological theory, the biopsychosocial theory, also argues that biological, psychological, physical, and social influences all interact together to form one's personality, normal or pathological (Olin & Mednick, 1996). Certain crime theories also concur that negative familial relations greatly contribute to delinquency.<sup>2</sup> For the purposes of this study however, focus is on the development of mental and substance abuse disorders, rather than delinquency and thus, the psychological models of mental illness and addiction create the major premise of this paper.

In sum, an individual's inherited predisposition for a mental or substance abuse disorder, as well as adverse familial conditions, are both contributory factors in the development of mental and substance abuse disorders. The identification of specific environmental stimuli that

---

<sup>2</sup> The General Strain Theory focuses on how negative relationships, particularly those in the home and at school, can lead to delinquency (Agnew, Brezina, Wright, & Cullen, 2002; Agnew, 1999).

contribute to mental and substance abuse disorders may lead to the development of effective prevention models for psychopathology. Thus, the next chapter will discuss various negative childhood factors that are significant contributors to substance abuse and mental illness.

CHAPTER TWO  
THE EFFECTS OF CHILDHOOD ADVERSITY  
ON THE DEVELOPMENT OF MENTAL AND  
SUBSTANCE ABUSE DISORDERS

Various studies investigating dually diagnosed populations have determined that one's environment is key in the development of a mental or substance abuse disorder. The manner in which an individual interprets, responds to, and stores negative past experiences will determine how greatly these adversities will affect psychopathology development (Alverson, Alverson, & Drake, 2000). Although it cannot be proven that childhood adversities are the direct cause of psychopathology, researchers agree that there are certain childhood experiences that increase a person's risk to develop mental or substance abuse disorders. The experiences to be discussed include familial and school adversities. The negative familial experience to be explored is poor family environment, which includes poor parent-child relations, single-parent homes, and maltreatment. A child's negative home environment frequently transfers to his or her school environment. Thus, low school achievement and involvement, common

precursors to substance abuse, will be examined. It has also been found that children who are exposed to these familial and school adversities often come from parents who have a mental or substance abuse disorder themselves. Therefore, a history of parental psychopathology will be intermingled with the environmental topics previously mentioned.

#### Family Environment

According to biopsychosocial theory, various factors can negatively influence a child's personality development: Examples include poor prenatal-environment, attachment problems, and poor family functioning, all within the first few years of life (National Institute of Health, [NIH], 2001). Alverson et al. (2000) found that certain family environments predispose an individual for a life course of mental illness and substance abuse. Therefore, the types of variables that need to be tracked in order to develop a prevention model for psychopathology will be found in the family history of someone who has already been dually diagnosed.

An obvious contributory factor of a child's personality development is the type of relationship he or

she has with his or her parents. A child who is held, read to, played with, listened to, and adored, will most likely develop a healthy attachment, unlike the child who is ignored, yelled at, burdensome, and disliked (NIH, 2001). Poor attachment can create numerous problems: biochemical, behavioral, emotional, physical, and moral. Thus, early child-parent relations are key in personality development and greatly affect the type of person a child will become; however, examination of adolescent-parent relations is also important in examining the onset of delinquent behavior, substance use, and mental illness. Various research has found that poor parent-child relationships, single-parent homes, maltreatment, overall negative family environments, and school failure, are the major contributors of adolescent delinquency and substance abuse (Agnew et al., 2002; Stuart, Simon, Conger, & Scaramella, 2002; Wright & Cullen, 2001; Swadi, 1999; DeWit, 1998).

#### Parent-Child Relations

The quality of a parent-child relationship may appear to be a subjective concept. Smart and Chibucos (1990), however, conducted a study that measured two essential components of relationships, cohesion and adaptability. Their results revealed that adolescents who felt their

family had extreme (either very high or low) cohesion and adaptability showed increased substance abuse, whereas families with balanced cohesion and adaptability produced an inverse relationship to adolescent substance use, regardless of outside influences.

What do researchers mean when they refer to extreme cohesion and adaptability? These characteristics are not only typical in dysfunctional families; they are the rule rather than the exception in families where one or both parents are chemically dependent or mentally ill (Johnson et al., 2001; Olin & Mednick, 1996; Whipple, Fitzgerald, & Zucker, 1995). Cohesion refers to the amount of time parents are involved with their children, if they love one another, and are able to rely on each other for support (Smart & Chibucos, 1990). One of the major differences between normally functioning and poorly functioning families is their level of cohesion. In families with low or no cohesion, such as families with a chemically dependent parent, quality family time is lacking or absent altogether. For example, planned and structured activities such as team sports, planned and unstructured activities such as picnics, unplanned and structured activities such as board games, and unplanned and unstructured activities

such as informal talks, all occur at a significantly lower rate than in normally functioning families (Kumpfer & DeMarsh, 1985). Research shows that "lack of quality time together is indicative of poor parent-child relationships which has been found to correlate with adolescent drug abuse" (Kumpfer & DeMarsh, 1985, p.72). These 'low cohesion' families are also at risk for producing children with schizophrenia and personality disorders (Smart & Chibucos, 1990). Conversely, families that are too high on cohesion smother their children and thus, do not allow them to form their own personal identities. These 'high cohesion' families tend to increase the risk for adolescent substance use (Smart & Chibucos, 1990).

Adaptability refers to a family's ability to change its power structure, family roles, and rules, in response to any types of internal or external stress (Smart & Chibucos, 1990). Levels of adaptability can range from rigid (very low) to chaotic (very high). Examples of rigid households are those run in an overly strict, authoritarian fashion. Chaotic households lack organization, rules, consistent discipline, and child supervision (Kumpfer & DeMarsh, 1985). Healthy levels are in-between those described above, and are termed 'structured' (low to



moderate) and 'flexible' (moderate to high). These levels of family adaptability teach children democratic forms of decision making and problem solving, which are essential skills to have during stressful times. Individuals who lack these types of skills have great difficulty dealing with stress and tend to use drugs or anger as methods of coping (Smart & Chibucos, 1990; Kumpfer & DeMarsh, 1985).

In sum, research shows that poor parent-child relations play an essential role in the development of delinquency, mental illness and substance abuse (Agnew et al., 2002; Stuart et al., 2002; Wright & Cullen, 2001; De Coster & Heimer, 2001; Johnson et al., 2001; Olin & Mednick, 1996).

#### Single-Parent Homes

The previous discussion on parent-child relations refers to relationships within a traditional two-parent household. Children who are exposed to family stressors, such as divorce, especially when raised by only one parent, are at an increased risk for delinquency, mental illness, and substance abuse (Church, Wharton, & Taylor, 2009; Fergusson, Horwood, & Lynskey, 1994). More specifically, adolescents who were raised in single-parent families were more likely to have a substance abuse problem than

adolescents raised in a two-parent family (Smart & Chibucos, 1990).

Research on single-parent families tends to focus on those that were preceded by separation or divorce, rather than those where the child never knew one of his or her parents. Thus, it is difficult to determine whether the increase in problem behavior is due to lack of supervision by the one working parent, or emotional difficulties because of the parental separation. Nonetheless, it seems logical to conclude that marital disruption can begin a sequence of other problems for the single parent, such as financial hardship, parenting challenges and emotional stress, which may all be contributing factors to delinquent adolescent behavior. Rebillion's (2002) research findings concur by showing that marital conflict was significantly related to adolescent psychopathology and delinquency. Additionally, families that included stepparents "...tended to be the most delinquent..." (Rebillion, 2002, p.106).

There is some debate; however, on whether it is more damaging to be raised in the absence of the mother or the father. Research emphasizes the importance of secure maternal attachment, such as that done by Kumpfer & DeMarsh (1986), which argues that the mother's absence is more

detrimental to a child. Other research, however, shows that adolescents who are raised without their fathers are more likely to display problem behaviors (Tarter, Schultz, Kirisci, & Dunn, 2001; DeMicheli & Formigoni, 2001). Either way, children from single-parent homes, which are also more likely to lack supervision, stability, and financial security, are at greater risk for mental illness, substance abuse, and delinquency.

### Abuse and Neglect

There is a large amount of documentation stating that <sup>abuse</sup> childhood and adolescent maltreatment <sup>abuse:</sup> (physical, sexual, or emotional abuse, or neglect) greatly increases problem behavior in childhood and adolescence, which includes school difficulties, delinquency, substance abuse, and mental illness (McCluskey, Krohn, Lizotte, & Rodriguez, 2002; Kelley, Thornberry & Smith, 1997; Eckenrode, Laird, & Doris, 1993). Even more unfortunate is that this problem behavior often continues into adulthood. A study assessing types of childhood maltreatment among an adult population with personality disorders and chemical dependency revealed some disturbing results. Approximately 80% of this population had a history of child abuse or neglect (Bernstein, Stein, & Handelsman, 1998).

Put it all together

delinquent behaviors  
drug users.  
people w/ delinquent behaviors  
seen as drug users

A longitudinal study that tracked individuals from birth to 21 years of age found that exposure to childhood sexual and physical abuse led to an increased risk for depression, anxiety, conduct disorders, and substance abuse. Individuals from abusive families were however, also exposed to family dysfunction, parental psychopathology, and thus, impaired parenting, which are likely to be contributing factors of mental illness (Fergusson & Horwood, 2001).

Another study assessed maltreatment and illicit drug use among school dropouts and a comparison group, all between 12 - 18 years of age. Of the entire sample, 37% were school dropouts and 29% reported being abused, the majority being dropouts. Most of the individuals that reported being abused also had parents who were divorced and substance abusers, in comparison to those who had not been abused. Victims of abuse reported using drugs an average of 65% more than the individuals who were not abused. The physically abused victims also had a significantly lower grade point average than those who were either not abused or were sexually victimized (Perez, 2000).

Other studies also identify low grade point averages among maltreated children, but do not specify which types of abuse the students were subjected to (Kelley et al., 1997). It is plausible that lower academic achievement among physically abused youth may be in part, due to brain damage from the abuse; however, other issues such as learning disabilities, emotional distress, and low parental involvement may also be contributing factors. Eckenrode, Laird, & Doris (1993), found that among maltreated children, neglected children performed the worst academically; whereas, physically abused children had the most behavior problems. [These results clearly indicate how being a victim of any type of child abuse can lead to school failure, substance abuse, and mental illness.]

Much research has shown how adverse family environments, whether they consist of parental psychopathology, poor parent-child relations, single-parent homes, or child abuse, lead to behavior problems, delinquency, substance abuse, and mental illness. One dually diagnosed individual describes the longevity of his psychopathology: "I've probably been sick for longer than I know. My father was a schizophrenic and an alcoholic and abused my mother. She was about to leave home when my

father died of cancer" (Alverson et al., 2000, p.565). This excerpt demonstrates how convoluted the adversities within severely dysfunctional families are. The following section demonstrates how maladaptive family functioning predisposes children to poor school readiness, achievement, and possible school failure. The dynamics involved also put the child at risk for early substance use and abuse.

#### School Achievement and Substance Abuse

Many studies reveal a relationship between poor school achievement and substance abuse; however, the order in which they occur has been debated. Research that only measures these two variables merely shows a correlation between drug addiction and rates of school failure (Obot & Anthony, 1999). More detailed studies that also examine poor family functioning, resulting in substance abusing adolescents, conclude that early difficulties in school precede substance abuse (McCluskey et al., 2002; DeMicheli & Formigoni, 2001; Kumpfer & DeMarsh, 1986). "The use of alcohol and drugs in early adolescence can impair cognitive development and functioning and, as a result, lead to poor school performance and dropout" (McCluskey et al., 2002, p.922).

There may be a number of reasons that a child may have difficulty in school. Most of them, however, begin in the home. It is the parents' responsibility to prepare a child for school: cognitively, emotionally, psychologically, and intellectually. Children who are raised in extremely dysfunctional families are often unprepared to cope with the demands that even a kindergartner may encounter. For example, a typical household with poor family management contains poor communication, unpredictable schedules, inconsistent discipline, few rules, inadequate child supervision, and overall disorganization; this puts a kindergartner at a disadvantage from the first day of class (Kumpfer & DeMarsh, 1986). He or she has difficulty following classroom rules, taking instruction from the teacher, and interacting appropriately with other children. In turn, the child's inappropriate behavior, poor adaptability, social, and language skills, are often poked fun of by schoolmates. As the years pass, academic neglect also becomes common in these types of dysfunctional families that rarely make school and homework a priority. This child eventually becomes known as an outcast by the other children. The inability to make friends contributes to the child's already low self-esteem and social

withdrawal, which are strong predictors of substance abuse, putting the child at increased risk for school failure and dropping out (Kumpfer & DeMarsh, 1986; Olin & Mednick, 1996; DeMicheli & Formigoni, 2002).

Another characteristic commonly found in single-parent homes and families with substance abusing parents is frequent moves. A child already encountering difficulties from a poor home life is put at an even greater disadvantage when having to change schools frequently because of moving (DeWit, 1998; DeCoster & Heimer, 2001). Forming new friendships can be extremely difficult, particularly in the adolescent years when cliques tend to dominate the social and sports scenes; outsiders are not readily accepted. This may be one reason why these youth are "...significantly more likely than nonmovers to begin using illicit drugs at an early age" (DeWit, 1998, P.627). Another study shows that chronic drug users (defined as individuals who use illicit drugs weekly or more) reported having moved more frequently than nondrug users, as well as having lower educational attainment than nondrug users (French, McGeary, Chitwood, McCoy, Inciardi, & McBride, 2000).



Thus, a clear relationship between poor family functioning, which includes low school achievement, frequent moving, and early substance use, has been established. The following paragraph discusses how early substance use leads to substance abuse and dependence.

#### Patterns of Substance Abuse

Adolescent substance abuse is strongly related to adult substance abuse, and the earlier the initiation of use, the greater the risk of developing chemical dependency as an adult. For example, one study found that individuals who began using alcohol before 15 years of age were four times more likely to develop alcohol dependence as adults than individuals who began drinking at 20 years of age or older (Grant & Dawson, 1997). Armstrong and Costello (2002) discuss how children and adolescents who begin using any substance at an early age transition from use to abuse or dependence by the age of 16. Another study found that severely dependent adults began using alcohol or other drugs at a very early age (approximately 9 years old) (DeMicheli & Formigoni, 2002). Obviously, individuals who are chemically dependent use drugs more frequently than those who are not dependent on drugs. French et al. (2000) found that chronic drug users (chemically dependent) have

significantly higher rates of criminality (property and predatory crime) than recreational drug users and nondrug users. These findings indicate how early drug use increases the risk of becoming a chemically dependent adult, which may also lead to increased criminal behavior.

### Treatment Implications

Many studies indicate that in most cases, symptoms of adolescent psychiatric disorders, such as conduct disorder and oppositional defiant disorder, which are preceded by adverse childhood experiences, are present before the onset of substance use. After use transforms into abuse, fully developed mental disorders emerge, which are commonly followed by chemical dependence (Johnson et al., 2001; Armstrong & Costello, 2002). This is how dual diagnoses typically develop.

Numerous studies have found that dually diagnosed populations are extremely difficult to treat. They require intensive services, which most of these individuals are unable to endure. In programs that aim to treat this population, attrition rates are extremely high without proper integration of services. Additionally, the programs' high levels of intensive treatment over short periods of

time have proven to be unsuccessful. The patients who remain in these programs generally show initial improvement in psychiatric symptoms, housing stability, substance abstinence, and decreased hospitalizations, but their progress usually declines when the program ends and their monitoring has ceased (Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998).

Comprehensive integrated treatment programs, which, unlike the type of treatment programs previously discussed, include motivational tactics, assertive outreach methods, and duration of at least one year; these programs show much more promising results. Most of these programs have had a zero rate of attrition. The patients in these programs have also demonstrated decreased psychiatric symptoms, hospitalizations, incarceration, increased psychosocial stability, and overall quality of life (Drake, et al., 1998).

Bell et al. (1996) discusses the psychosocial process of treatment used in both chemically dependent and mentally ill populations, which emphasizes progress in emotional, cognitive, and relationship areas. "In this theory of the therapeutic process, more treatment is better because more treatment produces greater psychosocial progress, and

psychosocial progress produces better drug use outcomes" (Bell et al., 1996, p.598). In this type of treatment, patients participating in long-term therapy showed a greater decrease in substance use and criminality, and improved psychological functioning, than patients who underwent short-term therapy. Patients who received the greatest amount of treatment in terms of days in the program showed an increase in emotional well being, cognitive functioning, and relationship improvement, compared to clients who received less treatment (Bell et al., 1996).

These studies indicate that comprehensive, long-term treatment followed by aftercare that includes a stable housing environment reduces substance use, symptoms associated with mental illness, and criminality. The longer one is in treatment, the more time he or she has to build new coping strategies and other skills. Thus, the more treatment one receives, the better his or her chances are at recovery.

## CHAPTER THREE

### HYPOTHESES

#### School Experiences

- 1a. There is a positive correlation between school exposure, based on school attendance, and educational attainment (highest grade completed).
- 1b. Clients who report being abused and/or neglected as children have lower school exposure than clients whom were not abused and/or neglected.
- 1c. There is a negative correlation between negative familial experiences and level of school success (measured by highest grade completed).
- 1d. Clients who have a low level of academic achievement (measured by highest grade completed) will have a higher rate of recidivism.

#### Familial Experiences

- 2a. There is a positive correlation between negative familial experiences and the severity of one's mental and substance abuse disorder.

- 2b. Clients who had negative relations with both parents have an earlier onset of drug use than those who had a positive relationship with at least one parent.
- 2c. Clients who are exposed to both genetic and environmental risk factors are at greater risk of developing a more severe mental illness than those clients who were not exposed to both genetic and environmental risk factors.

#### Substance Use

- 3a. Clients that do not maintain abstinence have more difficulty stabilizing their psychiatric symptoms than clients who remain abstinent.
- 3b. Clients that do not maintain abstinence have a higher number of new bookings and convictions than clients that do maintain abstinence.
- 3c. Frequency of substance use, along with the number of days in treatment and crisis intervention will determine the number of new bookings and convictions.

## Mental Illness

- 4a. For clients whose disorders are not identified as severe, the number of days in treatment is positively correlated with the stability of mental illness.
- 4b. For clients whose disorders are not identified as severe, the number of days in treatment is negatively correlated with the number of new bookings and convictions.

## Combined Predictive Model

- 5a. Clients who have experienced more negative school and familial factors are more severely drug dependent and mentally ill than those who experienced less negative and familial factors.
- 5b. There is a positive correlation between substance dependency and recidivism (measured by number of new bookings and convictions).

These hypotheses were to have been further analyzed in the theoretical model shown in Figure 1. However, this model was changed slightly after the completion of the data collection. This will be discussed further in the Results section.

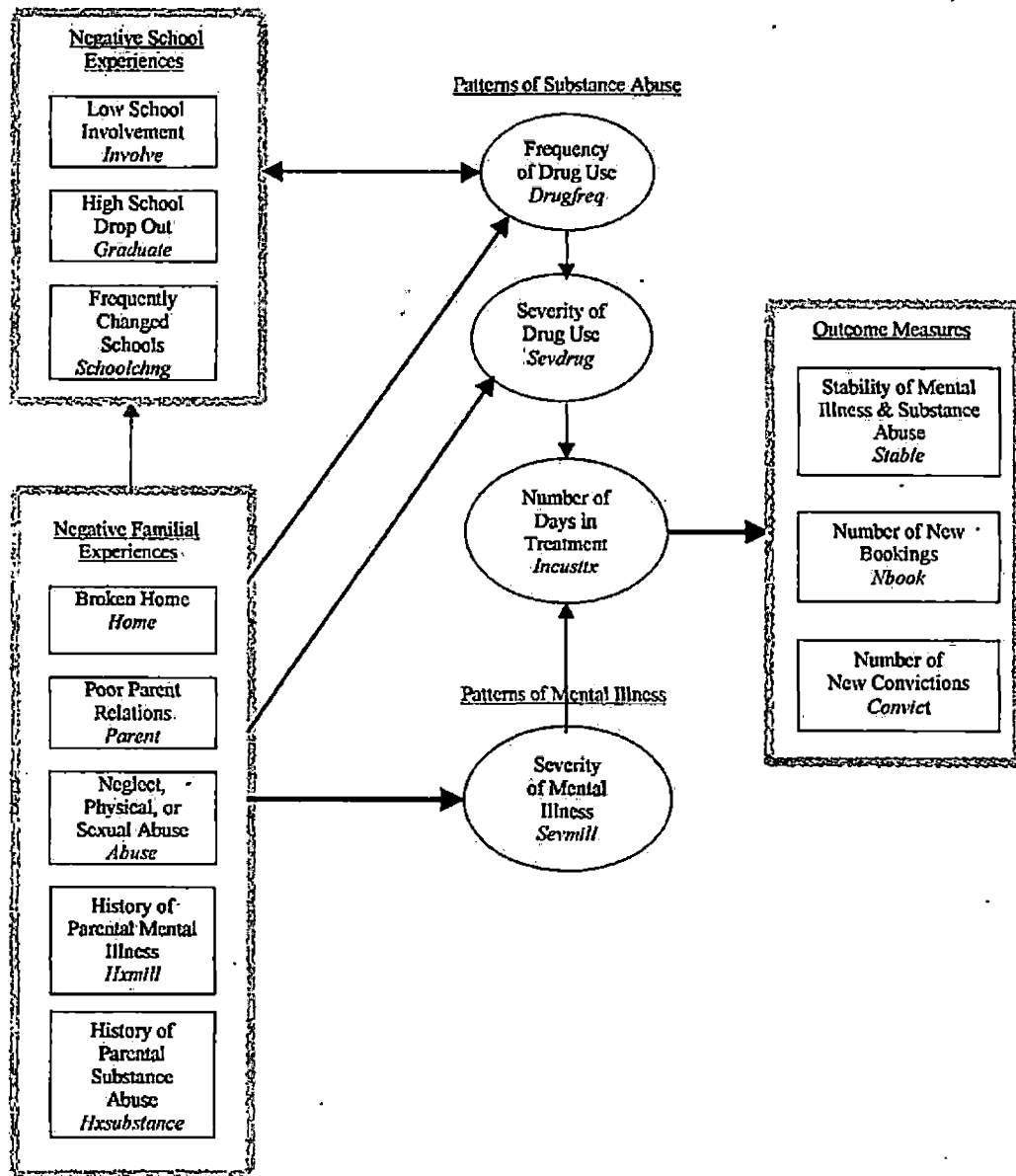


Figure 1. Theoretical Path Model



## CHAPTER FOUR

### METHODOLOGY

#### Subjects and Design

This study, using a nonexperimental design, utilized data from one of the Mentally Ill Offender Crime Reduction Grant demonstration projects (MIOCRG), Passages. The Passages project targeted dually diagnosed, adult, male offenders residing in San Bernardino County, California. These offenders were chosen for the project based on following: they were sentenced to a jail term that allowed participation in a 90 day in-custody treatment program, diagnosed with a mental and substance abuse disorder, and their criminal history did not include major violent offenses such as repeat assaults, sex offenses, or homicide. The offenders that met these requirements were admitted into Passages on a consensual basis; they were debriefed and signed an informed consent form, which explained to the clients that the data gathered for the project would be used in program evaluation and crime prevention studies.

Clients, who were recruited from various jails throughout San Bernardino County by probation officers,

jail mental health staff, and clinical nurses, were brought into the program gradually with a population goal of 200 by the end of the three-year grant project. They were given an initial assessment and sent before the judge who oversaw the Mental Health Court to determine whether Passages would be an appropriate alternative to straight jail time. After court approval, the inmates were transported to a separate block in Glen Helen Rehabilitation Center (GHRC) and over a two to four week time span, underwent a complete criminal history, psychiatric, and medical background check. If they met these requirements, their final transition was to Glen Helen North, (GHN) a renovated boy's ranch in a remote location one mile west of GHRC. It was at GHN where the 90-day in-custody treatment program took place. A client was only moved from this location for court dates, medical appointments, disciplinary action, or if needed, an acute psychiatric unit (where he was temporarily housed at GHRC or West Valley Jail). These days away from treatment were calculated when determining the total number of days the client spent in in-custody treatment, and were labeled SJHC and HIC respectively as shown in Appendix A.

The clients in this study were selected using purposive sampling, a type of nonprobability sampling,

criteria being that clients completed the in-custody treatment and 6 months out of custody treatment. Thus, the sample size for this study was estimated to be 50.

This study was designed to examine the effects of eight different independent variables that had been collapsed from 12 variables: highest grade completed, school involvement, frequency of changing schools, single-parent homes, quality of child/parent relations, child abuse history, history of parental mental illness, and history of parental substance abuse, on three different mediating variables that were collapsed from 13: frequency of drug use, severity of drug use, and severity of mental illness. The three mediating variables would affect the fourth mediating variable, number of days in treatment, which would affect the four outcome measures: stability of mental illness and substance abuse, number of new jail bookings, number of new jail convictions, and number of new prison convictions.

Post data collection, the variables needed to be changed slightly due to lack of data availability; thus, the new collapsed independent variables became: school absence, educational attainment, child/parent relations, sexual abuse, parental mental illness, and parental

substance abuse. The new mediating variables were condensed into: drug addiction, clinical diagnoses, social stability, treatment, and crisis intervention. The original dependent variables were condensed into one, recidivism.

#### Procedure and Instruments

Data was extracted from three different sources, two that were used by Passages Staff (Intake/Assessment and Six-Month Intervention Outcome) and one that was developed by the researcher for this study (Exit Interview). Eight items were taken from the assessment form filled out upon the client's entry into the program entitled, Passages Intake/Assessment Form (see Appendix A). Upon completion of in-custody treatment, the researcher interviewed each client using an instrument entitled, Passages Exit Interview (see Appendix B). Fifteen items from this instrument were used as part of the data set. Once the client had been out of in-custody treatment for six months, each client's assigned clinician, probation officer, and alcohol and drug counselor, completed a portion of an assessment instrument entitled, Passages Six Month Intervention Outcome Assessment Form (see Appendix C). Eight items from this instrument were used as part of the

data. Table 1 illustrates how the three school-related independent variables were measured.

Table 1. Description of School-Related Independent Variables

Negative School Experiences

Low School Involvement <sup>3</sup>	Dummy coded 0 for did not miss days of school on a regular basis, 1 for missed days of school on a regular basis  Variable computed by means of self-report, coded 0 for consecutively missing 0 days/week, 1 for missing 1 day/week, 2 for missing 2-4 days/week, 3 for missing 1-3 weeks, 4 for missing more than 3 weeks
Highest Grade Completed	Variable computed by means of self-report, coded 0 for college, 1 for high school graduate, 2 for completed grades 9-11, 3 for completed grade 8
Frequently Changed Schools	Variable computed by means of self-report (using moving as a proxy), coded 0 for never, 1 for once every 7 years, 2 for once every 3-6 years, 3 for once every 1-2 years, 4 for more than once a year

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Table 2 illustrates how the five family-related independent variables were measured.

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<sup>3</sup> Codes from the three variables are added to indicate overall level of school involvement: 0-1=high involvement, 2-3=medium involvement, 4-6=low involvement

Table 2. Description of Family-Related Independent Variables

Negative Familial Experiences

Single-Parent Home	Dummy coded 0 for neither biological parent absent, 1 for either biological parent absent
Quality of Child/ Caregivers' Relationship	Variable computed by means of self-report based on child/parent relations, coded 0 for good with both parents, 1 for good with one parent & fair with other parent, 2 for fair with both parents, 3 for fair with one parent & poor/bad with other parent, 4 for poor with one parent & poor/bad with other parent, 5 for bad with both parents
Parental Mental Illness	Dummy coded 0 for neither parent or didn't know, 1 for one or both parents
Parental Substance Abuse	Variable computed by means of self-report, coded 0 for neither biological parent or didn't know, 1 for one biological parent, 2 for both biological parents
Sexual Abuse Index <sup>4</sup>	
Sexually Abused	Dummy coded 0 for no abuse, 1 for abused
Early Sexual Activity	Dummy coded 0 for not involved in sexual activity with an adult before age 18, 1 for involved in sexual activity with an adult before age 18
Age of First Sexual Abuse	Variable computed by means of self-report based on age of first abuse, coded 0 if after 18 years of age, 1 if between 15-18 years old, 2 if between 11-14 years old, 3 if between 7-10 years old, 4 if before 7 years of age
Force Used During Abuse	Dummy coded 0 if threats, coercion, or force were not used, 1 if threats, coercion, or force was used

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<sup>4</sup> Codes from the four variables will be added to determine the possible degree of likelihood that the abuse contributed to the development of psychopathology: 0=none, 1-2=low, 3-4=moderate, 5-6=high

Table 3 illustrates how two of the mediating variables, drug addiction and clinical diagnoses were measured.

Table 3. Description of Substance and Clinical Diagnoses Variables

Drug Addiction

Frequency of Drug Use <sup>5</sup>	Variable computed by means of self-report, coded 1 for 1-3 days/week, 2 for 4-6 days/week, 3 for daily, 4 for hourly
	Variable computed by means of self-report based on time spent obtaining, using, or recovering from drugs, coded 1 for does not use daily, 2 for less than an hour/day, 3 for 1-3 hours, 4 for more than 3 hours
	Variable computed by means of self-report based on when drug use begins, 1 for late night, 2 for evenings, 3 for mid-day, 4 for mornings
Severity of Drug Use	Variable coded 1 for any substance abuse disorder, 2 for any substance dependence disorder

Clinical Diagnoses  
From DSM IV

Clinical Diagnoses	Variable coded 1 for adjustment, anxiety, or mild mood disorders, 2 for major mood disorders w/o psychosis, 3 for major mood disorders with psychosis, 4 for schizoaffective, schizophrenic, delusional, or other psychotic disorders
Personality Disorders	Variable coded 0 for none, 1 for any Cluster C-Avoidant, Dependent, Obsessive-Compulsive, 2 for any Cluster A-Paranoid, Schizoid, Schizotypal, 3 for any Cluster B-Antisocial, Borderline, Histrionic, Narcissistic

---

<sup>5</sup> Codes from the two variables will be added to calculate frequency: 0-2=low, 3-5=moderate, 6-8=high

Table 4 illustrates how three of the mediating variables, social stability, crisis intervention, and treatment were measured.

Table 4. Description of Social Stability and Treatment Variables

Social Stability

Axis IV Diagnoses Variable coded 1 for problems in 1-3 areas, 2 for 4-6 areas, 3 for 7-9 areas

Adequate Income in Three Areas Dummy coded 0 for yes, 1 for no

In-Custody Treatment

Number of Days in Treatment Variable coded 0 for 90 or more days, 1 for 60-89, 2 for 30-59, 3 for less than 30

Crisis Intervention (non-treatment days) Variable coded 0 for 90 or more days, 1 for 60-89, 2 for 30-59, 3 for less than 30 days

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Table 5 illustrates how the three outcome measures, number of new bookings, number of new jail convictions, and number of new prison convictions were extracted from the Six-Month Intervention Outcome Assessment.



Table 5. Description of Dependent Variables: Recidivism

Recidivism

New Jail Bookings	Variable coded 0 for no new bookings, 1 for 1 new booking, 2 for 2 or more new bookings
New Jail Convictions	Dummy coded 0 for no new convictions, 1 for 1 or more new convictions
New Prison Convictions	Dummy coded 0 for no new convictions, 1 for 1 or more new convictions

---

Due to the large number of independent and mediating variables, a factor analysis was performed, yielding 11 new factors that resulted in a total of six independent variables, five mediating variables, and one dependent variable. Using the new factors, a type of regression, path analysis was performed to determine direct and indirect effects between the exogenous and endogenous variables. Additionally, correlations were performed on the exogenous variables.

Limitations

The biggest limitation in this study was the homogeneity of the sample, which created a biased sample that may contribute to a lack of statistical power in analyses. Perhaps if the offenders could have been selected

using random sampling from a more diverse dually diagnosed population the outcome would have yielded more significant results.

Two of the variables from the original hypotheses had to be excluded from the final model. First, an original outcome measure from the original hypotheses, stability of mental illness and substance abuse, was not able to be tested due to lack of data from the mental health and correctional sources. Additionally, stability of mental illness is difficult to measure due to the many facets of the illness and the various areas in life it may be observed.

Secondly, an original independent variable, neglect and physical abuse, was not included in the final model for two reasons. One problem was the method of collection for this variable, retrospective data collection (the inability of subjects to recall specific details due to the amount of time elapsed since the experiences). Additionally, this variable is not always as discernible as sexual abuse (part of the original variable), for children from abusive families may not be able to clearly identify neglect or differentiate between corporal punishment and physical abuse.

Three other variables not contained in this study, attachment and levels of family cohesion and adaptability, are also important aspects of the research associated with negative familial experiences. However, due to instrument limitations and retrospective data collection these variables were not included in this study.

The quality of parental relations was assessed through means of self-report. Due to the clients' limited memory from the time elapsed since childhood, along with prolonged substance abuse, this may not have been a reliable measurement. With regards to overall reliability, Cronbach coefficient alphas were estimated for each subscale within the surveys to measure internal consistency.

The most obvious threat to internal validity was a single group threat due to the lack of a comparison group in this study. There was only one threat to construct validity that should be mentioned: interaction of different treatments. In other words, the variables examined in this study may not have been the main causes of recidivism. For example, severe personal trauma that occurred after in-custody treatment may have been a significant factor in reoffending. The external validity is limited to the adult male, mentally ill offender population.

CHAPTER FIVE

RESULTS

Causal relationships between 28 variables were analyzed through frequency distributions, factor analyses, and path analyses. Table 6 shows basic demographic characteristics of the sample (male offenders) (N = 48).

Table 6. Sample Demographics

	n	%
Primary Ethnicity		
Caucasian	37	75.0
Hispanic	5	10.4
African-American	6	14.6
	48	100.0
Age		
18-24	10	20.8
25-31	10	20.8
32-38	12	25.0
39-45	12	25.0
46+	4	8.4
	48	100.0
Age at First Arrest		
Under 18	5	10.5
18-24	27	55.9
25-31	8	16.8
32-38	4	6.2
39-45	4	8.4
46+	1	2.0
	48	100.0
Most Serious Type of Offense for Which the Individual was Booked		
Violent	14	29.2
Property	14	29.2
Drug	5	10.4
All other felonies	3	6.2
All other misdemeanors	3	6.2
Violation of probation	9	18.8
	48	100.0

Table 7 reveals that the a little more than half of the sample did not graduate from high school.

Table 7. Percentage and Mean Distributions for Education Variables

	n	%
Highest Education Level Completed		
0-8 <sup>th</sup> grade	5	10.4
9 <sup>th</sup> -11 <sup>th</sup> grade	20	41.7
High School Graduate/GED	15	31.3
College (with or without a degree)	8	16.7
	48	100.0
Missed School Regularly		
No	23	47.9
Yes	25	52.1
	48	100.0
Approximate Days of School Missed Consecutively		
Does not apply	22	45.8
One day a week	5	10.4
2-4 days a week	7	14.6
1-3 weeks	7	14.6
More than 3 weeks	7	14.6
	48	100.0
Frequency of Moving		
Never moved as a child	3	6.3
Once every 7 or more years	9	18.8
Once every 3-6 years	16	33.3
Once every 1-2 years	9	18.8
More than once a year	11	22.9
	49	100.0

Table 8 reveals that the majority of the sample came from single-parent households. Approximately half of the sample was aware that at least one of their parents abused

drugs or alcohol. Additionally, almost 71% were sexually active with adults before they reached the age of 18.

Table 8. Percentage and Mean Distributions for Family Environment Variables

	<u>n</u>	<u>%</u>
Lived With Both Biological Parents Until 18		
Yes	15	31.2
No	33	68.8
	<u>48</u>	<u>100.0</u>
Quality of Child & Main Caregivers' Relationship		
Good with both parents	4	8.3
Good with 1 parent, fair with 1 parent	17	35.4
Fair with both parents	3	6.3
Fair with 1 parent, poor/bad with other parent	12	25.0
Poor with 1 parent, poor/bad with other parent	7	14.6
Bad with both parents	5	10.4
	<u>48</u>	<u>100.0</u>
Involved in Sexual Activity With an Adult Before Age 18		
Yes	34	70.8
No	14	29.2
	<u>48</u>	<u>100.0</u>
Sexually Abused Before Age 18		
Yes	13	27.1
No	35	72.9
	<u>48</u>	<u>100.0</u>
Forced Into Sexual Activity by an Adult Before Age 18		
Yes	8	16.7
No	40	83.3
	<u>48</u>	<u>100.0</u>
Presence of Parental Mental Illness		
Yes	19	39.6
No/Do not know	29	60.4
	<u>48</u>	<u>100.0</u>
Parental Substance Abuse		
Yes, both parents	10	20.8
Yes, one parent	15	31.3
No/Do not know	23	47.9
	<u>48</u>	<u>100.0</u>

Table 9 shows that over 85% of the sample had sufficient basic financial means before they were arrested.

Table 9. Percentage and Mean Distributions for Social Stability Variables

	<u>n</u>	<u>%</u>
Axis IV Diagnoses (Psychosocial/Environmental Problems) at Time of Jail Admittance		
Problems in 1-3 areas	41	85.4
Problems in 4-6 areas	5	10.4
Problems in 7-9 areas	2	4.2
	<u>49</u>	<u>100.0</u>
Adequate Income for Food		
Yes	43	89.6
No	5	10.4
	<u>48</u>	<u>100.0</u>
Adequate Income for Housing		
Yes	42	87.5
No	6	12.5
	<u>48</u>	<u>100.0</u>
Adequate Income for Transportation		
Yes	43	89.6
No	5	10.4
	<u>48</u>	<u>100.0</u>

Table 10 shows that almost 65% of the sample was diagnosed with schizoaffective disorder or schizophrenia, both of which are extremely debilitating if not treated. To compound this issue, approximately 75% of them spent the majority of their time consumed by drugs or alcohol, 43.8%

beginning their substance use first thing in the morning,  
and 77% diagnosed as being dependent on drugs or alcohol.

Table 10. Percentage and Mean Distributions for  
Clinical Diagnoses and Drug Use Variables

	<u>n</u>	<u>%</u>
Primary Mental Health Diagnosis (DSM-IV Axis I)		
Adjustment, anxiety, mild mood disorders	3	6.3
Major mood disorders (w/o psychosis)	11	22.9
Major mood disorders (with psychosis)	3	6.3
Schizoaffective or schizophrenic	<u>31</u>	<u>64.5</u>
	48	100.0
Personality Disorders (DSM-IV Axis II)		
None	43	89.5
Avoidant, obsessive compulsive, or dependent	1	2.1
Antisocial, borderline, histrionic, or Narcissistic	3	6.3
Paranoid, Schizoid, or Schizotypal	<u>1</u>	<u>2.1</u>
	48	100.0
How Often Drugs (Including Alcohol) is Used		
Less than a few times per week	4	8.3
A few times per week	8	16.7
Daily	30	62.5
Hourly	6	12.5
	<u>48</u>	<u>100.0</u>
Severity of Drug Use (DSM-IV Axis I)		
Substance Abuse Disorder	11	22.9
Substance Dependence Disorder	<u>37</u>	<u>77.1</u>
	48	100.0
Amount of Time per Day Spent Obtaining, Using, or Recovering from Drugs (Including Alcohol)		
Do not use daily	3	6.3
Less than 1 hour	7	14.6
1-3 hours	13	27.1
More than 3 hours	<u>25</u>	<u>52.1</u>
	48	100.0
Time of Day Drug or Alcohol Use Begins		
Don't know	4	8.3
Late night	2	4.2
Evening	9	18.8
Mid-day	12	25.0
Morning	<u>21</u>	<u>43.8</u>
	48	100.0



Table 11 shows that despite 68.8% of the sample completing the treatment program, the majority not requiring any crisis intervention, an average of 26% received new jail or prison convictions within six months.

Table 11. Percentage and Mean Distributions for Crisis Intervention and Recidivism Variables

	<u>n</u>	<u>%</u>
Days in Intensive In-Custody Treatment Program		
90+	33	68.8
60-89	8	16.7
30-59	6	12.5
Less than 30	1	2.1
	<u>48</u>	<u>100.0</u>
Admitted to an Acute Psychiatric Hospital During Out-of-Custody Treatment		
Yes	4	8.3
No	44	91.7
	<u>48</u>	<u>100.0</u>
Number of Days that Crisis Intervention was Received During Out-of-Custody Treatment		
0	38	79.2
1	6	1
2	1	2.1
3 or more	3	6.3
	<u>48</u>	<u>100.0</u>
Times Booked into Jail After Program Completion		
0 new bookings	28	58.3
1 new booking	16	33.3
2 or more new bookings	4	8.4
	<u>48</u>	<u>100.0</u>
Jail Convictions After Program Completion		
0 convictions	34	70.8
1 or more convictions	14	29.2
	<u>48</u>	<u>100.0</u>
Prison Convictions After Program Completion		
No prison sentencing	37	77.1
Prison sentencing	11	22.9
	<u>48</u>	<u>100.0</u>

Preceding a path analysis to explore the hypothesized causal relationships, a factor analysis was used to identify several factors from the 13 independent, 14 mediating, and three dependent variables. The KMO (Kaiser-Meyer-Olkin) and Bartlett's Sphericity Test was applied, with only high-loading ( $\geq 0.50$ ) variables retained. To verify that no association existed between the new factor loadings, an orthogonal rotation (Varimax) was used. Seven different analyses yielded 10 factors from 25 variables that met the required assumptions. The 10 new factors shown in Table 12 are divided in to seven categories and have been labeled as follows: Category 1-Education: F1 - School Absence, F2 - Educational Attainment; Category 2-Family Environment: F1 - Parental Substance Abuse, F2 - Child/Parent Relationship, F3 - Sexual Abuse; Category 3-Social Stability: F1 - Social Stability; Category 4-Mental Health: F1 - Clinical Diagnoses; Category 5-Substance Use: F1 - Drug Addiction; Category 6-Crisis Intervention: F1 - Crisis Intervention; Category 7-Recidivism: F1 - Recidivism.

Table 12. Rotated Factor Matrix

Variables	Factor 1	Factor 2	Factor 3	h <sup>2</sup>
Highest grade completed	.304	.724		.617
Missed school regularly	.933	.159		.896
School absence	.938	.107		.892
Frequency of moving	-.016	.877		.769
Explained Variance	2.110	1.065		
Cumulative % of Variance	52.738	79.359		
Substance abuse in mother	.171	.798	.171	.695
Substance abuse in father	-.041	.816	-.150	.689
Lived with biological parents	.016	-.218	.825	.729
Child/parent relationship	-.171	.284	.747	.667
Adult/child sex before 18	.952	.046	-.018	.908
Forced into sexual activity	.685	.180	-.270	.574
Age of 1 <sup>st</sup> sexual abuse	.902	-.057	.048	.818
Explained Variance	2.339	1.445	1.297	
Cumulative % of Variance	33.410	54.055	72.587	
Axis IV diagnoses	.842			.709
Food income	.970			.942
Housing income	.955			.913
Transportation income	.970			.942
Explained Variance	3.505			
Cumulative % of Variance	87.623			
Axis I (clinical) diagnoses	.750			.562
Axis II diagnoses	.750			.562
Explained Variance	1.124			
Cumulative % of Variance	56.206			
Frequency of drug use	.801			.641
Total time spent on drug use	.793			.629
Time of day drug use begins	.717			.514
Axis I (substance) diagnoses	.711			.506
Explained Variance	2.290			
Cumulative % of Variance	57.246			
Crisis intervention	.817			.668
Psychiatric hospital stay	.817			.668
Explained Variance	1.336			
Cumulative % of Variance	66.811			
New jail bookings	.854			.730
New jail convictions	.907			.822
New prison convictions	.822			.675
Explained Variance	2.227			
Cumulative % of Variance	74.235			

Five of the new factors and one independent variable serve as exogenous variables, four of the new factors and one independent variable become intervening endogenous variables, and one new factor is the dependent variable. The full path analysis model is shown in Figure 2. Correlations between exogenous variables were tested and revealed a significant correlation between Educational Attainment and Sexual Abuse,  $r(47) = .312, p < .05$ , implying that if a client was subjected to sexual abuse, he was more likely to complete high school and possibly attend college. Perhaps school provides a secure environment in an otherwise chaotic childhood. Gilligan (2000) found that a positive school experience builds resilience from adversity by providing a "secure base", and improving self-esteem and self-efficacy. There was also an identical significant correlation between Parental Mental Illness and Parental Substance Abuse,  $r(47) = .312, p < .05$ , which suggests that the more severe the mental illness is, the more severe the substance abuse is as well.

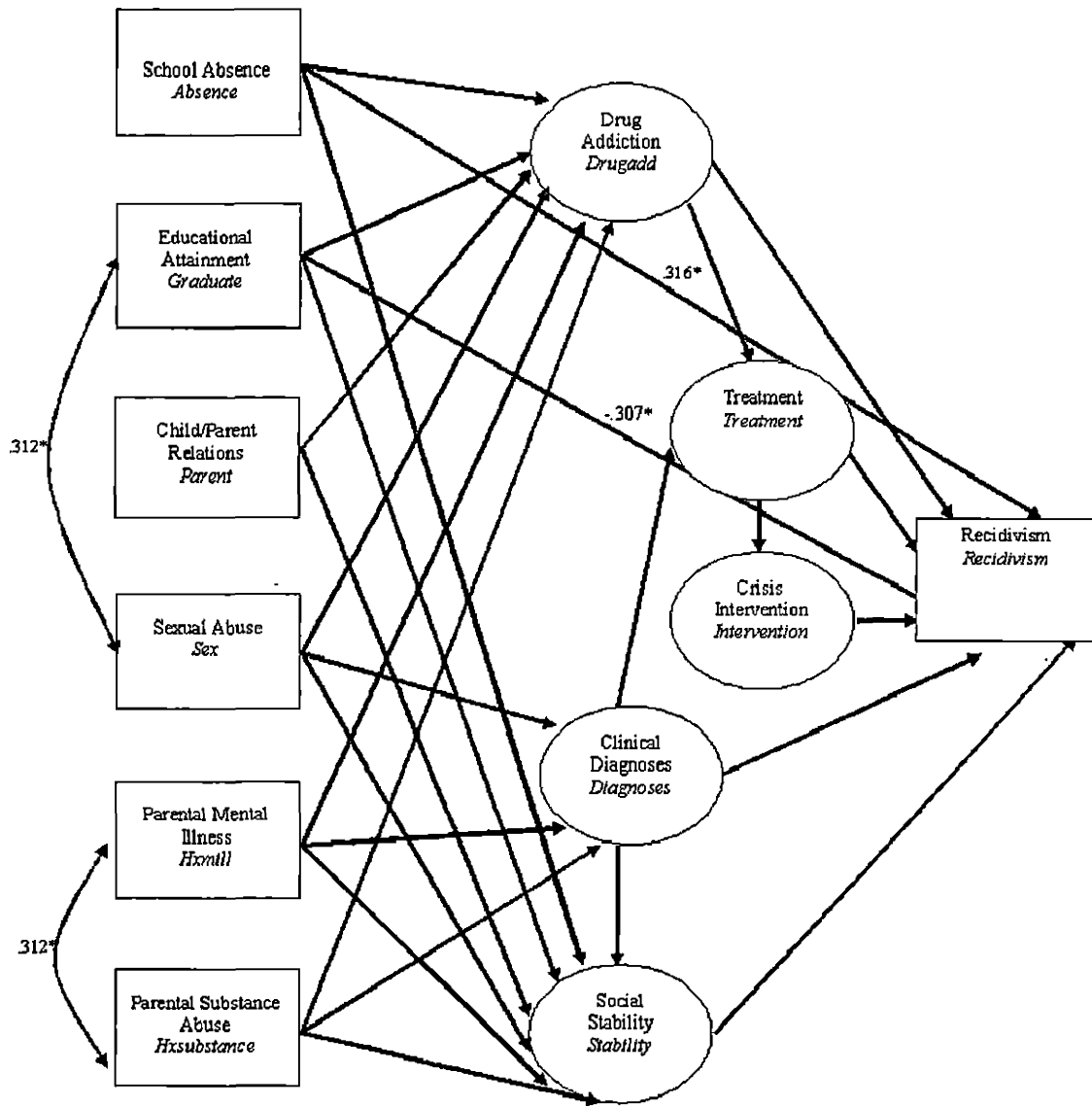


Figure 2. Path Model Testing Predictors of Recidivism Showing Beta Values for All Significant Paths

Direct, indirect, and total causal effects from the path analysis are presented in Table 13.

Table 13. Decomposition Effects: Direct, Indirect and Total Effects of the Model of Negative Childhood Experiences on the Severity of Mental and Substance Abuse Disorders and Recidivism

Variables	Direct	Indirect	Total
School Absence on:			
-Drug Addiction	.139		.139
-Social Stability	.171		.171
-Recidivism	.316*	.001	.317*
Educational Attainment on:			
-Drug Addiction	.051		.051
-Social Stability	.011		.011
-Recidivism	-.307*	.006	-.301*
Child/Parent Relations on:			
-Drug Addiction	-.107		-.107
-Social Stability	.141		.141
Sexual Abuse on:			
-Drug Addiction	-.157		-.157
-Clinical Diagnoses	-.119		-.119
-Social Stability	-.069		-.069
Parental Mental Illness on:			
-Drug Addiction	.008		.008
-Clinical Diagnoses	.039		.039
-Social Stability	.172		.172
Parental Substance Abuse on:			
-Drug Addiction	.064		.064
-Clinical Diagnoses	-.005		-.005
-Social Stability	-.134		-.134

The path analysis reveals that there was a significant direct effect ( $\beta=.316, p<.05$ ) for school absence on recidivism, as well as a total causal effect ( $\beta=.317, p<.05$ ) for school absence on recidivism, with drug addiction, treatment, crisis intervention, and social stability acting as intervening variables between school absence and recidivism. There was also a significant direct negative effect ( $\beta=-.307, p<.05$ ) for educational attainment on recidivism, and a total causal negative effect ( $\beta=-.301, p<.05$ ) for educational attainment on recidivism, with drug addiction, treatment, crisis intervention, and social stability acting as intervening variables between educational attainment and recidivism.

These findings only substantiated one of the original hypotheses: Clients who have a low level of academic achievement (measured by highest grade completed) will have a higher rate of recidivism. Additionally, the results showed that increased school absence led to increased recidivism. Gilligan (2000) found that indeed, positive school experiences provide resilience from adverse childhood experiences, thus, further reinforcing the importance of a positive school environment as a potentially protective factor from childhood trauma.

## CHAPTER SIX

### DISCUSSION

Prison and jail overpopulation is a well-known problem in the United States that still has no long-term solution.

Overcrowding in the prisons led to "criminogenic" conditions, which resulted in more crimes being committed by former prisoners and an increase in the recidivism rate...in addition to...constitutional violations that have long existed with respect to the provision of medical and mental health care (Sagar, 2009, p.3).

From 1995 to 2000, over 10,000 California jail inmates per month were awarded early releases, solely because there was not enough jail bed space (Board of Corrections [BOC], 2004). Between 2000 and 2004 this number increased approximately 60% (BOC, 2004).

One resolve, part of California Governor Schwarzenegger's prison reform, is to ship 1000's of inmates to out-of-state prisons. The California Department of Corrections is enthusiastic about transferring 8,000 inmates out-of-state by the first part of 2009



(Tilton, 2008). This may be a temporary overcrowding solution for California, but not for the other states. Additionally, "on August 4, 2009, the three-judge district court, following two years of proceedings...issued an opinion that imposes a population cap on California's prisons" (Sagar, 2009, p.3), thus, additional governmental measures also include building new prisons and developing rehabilitation programs for future and current parolees (Tilton, 2008). This may temporarily reduce prison overcrowding and recidivism rates; however, it will not inhibit the development of first-time offenders, who will still occupy jail and prison beds. These governmental solutions of building more facilities, early inmate release of non-violent prisoners, and moving inmates to other forms of custody are not viable, lasting solutions.

Keeping folks out of the correctional system is a complex issue that requires much future research. Learning more about the inmate population will allow us to implement prevention models for these at risk populations, rather than alternative ways to punish and rehabilitate them after the fact. This study focused on seriously mentally ill offenders, who when untreated, are at higher risk for arrest than the general population due to their often

unmanageable bizarre and publicly unacceptable behavior and homelessness (Abram & Teplin, 1991). Because alcohol or drug abuse greatly increases this risk, it is these dually diagnosed individuals who were the subjects of this study.

The purpose of this research was to identify common factors amongst dually diagnosed offenders that contributed to the development of their mental and substance abuse disorders. Many childhood disorders, such as conduct disorder, are preceded by negative experiences in childhood, and may be identified and treated before substance abuse and more severe mental disorders emerge (Johnson et al., 2001; Armstrong & Costello, 2002). Negative educational and family experiences as well as genetics were hypothesized to be significant factors in the progression of the offenders' mental and substance abuse disorders.

Recidivism, being a common measurement of offenders' rehabilitation, was another variable that was measured (Josi & Sechrest, 1999). Because the population in this study was taking part in an intensive 90 day in-custody treatment program, the number of days in treatment was a mediating factor. The end result being that negative school experiences in conjunction with negative familial

experiences would affect the severity of substance use and mental illness, which after factoring in the amount of treatment received, would be predictive of mental illness stability and the likelihood of continued substance abuse and recidivism, 6 months after custody release.

Following a discussion of the limitations impacting this study, the implications of the substantive findings will be explored. Next, the discussion will turn to potential policy implications and directions for future research that may be gleaned from this study.

#### Limitations

Three study limitations impacted this research: experimental mortality (the number of subjects with follow-up information 6 months after their release), the lack of random sampling available in this study, and the stringent program selection criteria which substantially reduced variability (inmates admitted to the in-custody treatment program were too homogeneous). The final sample size of 48, would equate to a small effect size and low statistical power (Helper, 1992). In retrospect, it would have been wise to perform a power analysis before the data collection in order to prevent a Type II error.

Originally, 14 hypotheses were intended to be tested; these items were derived from 13 independent variables, 14 mediating variables and three dependent variables; however, analyzing so many variables individually proved cumbersome. Therefore, variables were reduced using factor analysis. The new factors and some of the original variables that could not be factored yielded six new independent variables: school absence, educational attainment, child/parent relations, sexual abuse, parental mental illness, and parental substance abuse. Further, this process reduced the number of missing cases linked to mediating variables. Factor analysis reduced mediating variables from 14 to 5: drug addiction, clinical diagnoses, social stability, treatment, and crisis intervention. Stability of mental illness and substance abuse were also removed as dependent variables due to a lack of data, and the other three dependent variables, number of new jail bookings, number of jail convictions, and prison convictions, were combined into one dependent variable, recidivism.

### Substantive Findings

Path analysis failed to find support for the original research hypotheses; however, some other significant

effects were found. Closely related to hypothesis 3a) Clients that do not maintain abstinence have more difficulty stabilizing their psychiatric symptoms than clients who remain abstinent, was a significant correlation between parental mental illness and parental substance abuse. More research on this topic revealed that contrary to commonly held beliefs, mentally ill populations do not necessarily self medicate as often as previously thought, rather, those who have experienced a great amount of trauma in their lives, often as children, are more likely to develop a mental illness, use substances such as drugs and alcohol as a coping method, which in turn, promotes more negative symptoms and difficulties(Christo & Morris, 2004; Ballon, Courbasson & Smith, 2001; Bernet & Stein, 1999). It does seem logical that folks who never learned healthy stress management and coping skills as children would be more apt to seek quick relief from chemical sources as teens and adults, particularly if that is what they learned from their parents' behavior.

Another significant correlation was completely unexpected. Clients who were sexually abused were more likely to complete high school and possibly attend college. One previously mentioned explanation for this is that

physically being in school may help children develop healthy relationships and a sense of worth that is diminished by sexual abuse, thus, creating increased resilience to their trauma (Eckenrode, Laird, & Doris, 1993). Eckenrode, Laird & Doris (1993) also found that among physically abused, sexually abused, and neglected children; neglected children had the most difficulties academically, and physically abused children struggled behaviorally. Conversely, sexually abused children performed at an academic equivalence of children who were nonmaltreated. Although sexual abuse may have detrimental emotional and psychological effects on children, oddly enough, it does not appear to hamper their academic performance.

The path analysis revealed only two significant effects. The more school that was missed in childhood, the more likely the client was to recidivate. Similarly, the higher the grade level achieved, the less likely the client was to recidivate. These last two findings have strong policy implications that go back to the brief discussion of prevention models.

## Policy Implications

Children and teens who stay in school, graduate, and even go on to college will be much less likely to become part of the correctional system. Although it may seem difficult to keep some teens in school, if education officials made teens more accountable with for example, the implementation of truancy officers or high school graduation policies this task may not be as monumental as it appears. Additionally, putting more money in to education, including higher education, instead of prisons sounds like an obvious solution, but today's economic and educational climates do not reflect this. Simply put, college should be made more accessible rather than unobtainable. Also, with the large number of single-parent households in this country, particularly in impoverished areas, low-cost child care, vocational and parenting classes, and support groups should be provided for the parents at the community level. This in turn may help build parental stability and serve as a reminder of how vital education really is for their families' futures.

Additionally, research shows that substance abuse and mental illness commonly begin in the home. Children who have a chemically dependent or mentally ill parent are

already genetically predisposed to psychopathology, and if that child is raised by this parent, it is likely that he or she may become chemically dependent or mentally ill as well. Early identification of at-risk children would reduce this problem. Ideally, this could occur in the classrooms by training teachers to identify children who may have mentally ill or substance abusing parents. The signs are not difficult to identify; they are similar to those of children who are victims of child abuse and neglect, which teachers are already mandated to report. It would also be beneficial for schools to require curriculum that taught life skills such as conflict resolution and interpersonal relations. This would offer youth additional coping skills and a buffer from the chaos they may encounter in their daily lives. Fact based information about substance use and family planning would also allow teens to make educated choices about these issues that portions of society may consider a private, family matter. It's ironic how avoiding early discussion of these topics can lead to substance abuse and bad parenting later in life, which eventually become everyone's problem via crime and economics.



Finally, a secure base is vital for healthy child development. Without it, neurochemical, emotional, physical, and academic difficulties will likely ensue. Because many children from high-risk families and low-income communities lack this secure base, community youth programs that provide safe and nurturing environments with opportunities to build self-esteem may lessen the impact of trauma they encounter (Gilligan, 2000).

#### Directions for Future Research

Although this study did not yield the significant results with regards to specific causes of substance abuse and mental illness that perhaps it could have, had randomly sampling been done from a larger population and ideally, yielded a sample size of closer to 100, it did reveal two important general findings. Firstly, prevention needs to start in the home and community. Research about pre-natal care and early parenting techniques with regards to attachment would provide insight into the very beginnings of neurochemical problems that commonly compound and continue in to adulthood. At the community level, youth programs, parental support groups, and affordable education should be looked at in the prevention of substance abuse, mental illness, and criminality. Secondly, research with

regards to society's feelings about the necessity of education may reveal an overlooked factor, where the media's increasingly large role in downplaying the importance of education by filling the airwaves with beauty over brains is creating an additional challenge for today's youth. As a final note, at the current taxpayers' cost of \$49,000/year per inmate, it is obvious that this money would be better spent on education. Thus, more money needs to be put into these proposed programs and public education so that it is accessible to everyone, especially those who need it most, the high-risk youth that will likely fill our correctional systems as adults if not presented with positive alternatives.

APPENDIX A  
VARIABLES SELECTED FROM THE PASSAGES  
INTAKE/ASSESSMENT FORM

Concept	Variable	Description	Measurement
Education Level	PI 8	Client's highest grade level completed upon jail admittance	0=College 1=High school graduate 2=High school drop out
Severity of Mental and Related Problems	MH 7a	DSM-IV Axis I Diagnoses (non-substance related) at the time of jail admittance. Original is text.	Recorded 0=None, 1=Adjustment, anxiety disorders, or mood disorders categorized as mild, 2=major mood disorders without psychotic features, 3=major mood disorders with psychotic features, 4=schizoaffective or delusional disorder, 5=schizophrenia or other psychotic disorders
	MH 7b	DSM-IV Axis II Diagnoses at the time of jail admittance. Original is text.	Recorded 0=None, 1=avoidant, obsessive compulsive, or dependent personality disorders, 2=paranoid, schizoid, or schizotypal 3=antisocial, borderline, histrionic or narcissistic personality disorders
	MH 7d	DSM-IV Axis IV Diagnoses at the time of jail admittance. Original is text.	Recorded 0=none, 1=problems in 1-3 areas, 2=problems in 4-6 areas, 3=problems in 7-9 areas
	CR 1a	Does client have adequate income for basic food needs during the month before jail admittance?	Recorded 0=Yes, 1=No
	CR 1c	Does client have adequate income for basic housing needs during the month before jail admittance?	Recorded 0=Yes, 1=No
	CR 1d	Does client have adequate income for basic transportation needs during the month before jail admittance?	Recorded 0=Yes, 1=No
Severity of Drug Use	MH 7a	DSM-IV Axis I Diagnoses (substance related) at the time of jail admittance. Original is text.	Recorded 0=None, 1=any substance abuse disorder, 2=any substance dependence disorder, 3=presence of substance use/dependence and substance-induced disorders

APPENDIX B  
VARIABLES SELECTED FROM THE  
PASSAGES EXIT INTERVIEW

Concept	Variable	Description	Measurement
Frequency of Drug Use	SA 2	How often do you use this/these drug(s)? 1=hourly, 2=daily, 3=a few times/week, 4=less than 3X/week	Variables will be reverse coded from the original survey. Rank ordered variables
	SA 4	On average, how much of your time do you spend each day obtaining, using, or recovering from this/these drug(s)? 1=do not use daily, 2=less than an hour, 3=1-3 hours, 4=more than 3 hours	
Severity of Drug Use	SA 3	At what time in the day do you begin to use this/these drug(s)? Variables have been reverse coded from the original survey: 1=morning, 2=mid-day, 3=evenings, 4=late night	Variables will be reverse coded from the original survey.
Single-Parent Home	FH 1	Did you live with both biological parents until you were 18 years old? 0=No 1=Yes	Variables will be reverse coded from the original survey.
School Change (use moving as a proxy)	FH 3	How often did you move before 18? 1=more than once/yr, 2=once every 1-2yrs, 3=once every 3-6yrs, 4=once every 7 or more years, 5=never moved as a child	Variables will be reverse coded from the original survey.
School Involvement	FH 4a	Did you miss days of school on a regular basis?	0=No 1=Yes
	FH 4b	If so, how many days did you miss in a row (consecutively)? 1=one day/week, 2=2-4 days/week, 3=1-3 weeks, 4=more than 3 weeks	Rank ordered variables
	FH 5	Were you involved in sports teams or school clubs? 0=No 1=Yes	Variables will be reverse coded from the original survey.
Abuse	FH 8a	Before you were 18, did any adult try to involve you in sexual activity?	0=No 1=Yes
	FH 8b	If yes, did the adult use threats or coercion to force you into the activity?	0=No 1=Yes
	FH 8c	If yes, how old were you (first time you can remember)?	Text
Parental Mental Illness	FH 9	Did either your mother or father suffer from a mental illness? 0=No, 1=Yes, If yes, which one? 2=Don't know, Text	Recoded 0=No or don't know, 1=Yes for one parent, 2=Yes for both parents
Parental Substance Abuse	FH 10a	Did your mother have a substance abuse problem? 0=No, 1=Yes, 2=Don't know	Recoded 0=No or don't know, 1=Yes
	FH 10b	Did your father have a substance abuse problem? 0=No, 1=Yes, 2=Don't know	Recoded 0=No or don't know, 1=Yes
Parent Relations	SN 5a	How would you describe your relationship with: Parents/Caregivers? The original variable is text. [Probe about childhood if this information is not offered].	Recoded from text: 0= good w/ both, 1= good w/one & fair, poor or bad w/ the other, 2= fair w/both, 3= fair w/one & poor or bad w/other, 4= poor w/one & poor or bad w/other, 5= bad w/both

APPENDIX C  
VARIABLES SELECTED FROM THE PASSAGES SIX MONTH  
INTERVENTION OUTCOME ASSESSMENT

Concept	Variable	Description	Measurement
Days in Treatment	SJHC	Total number of days client was placed in special jail housing during in-custody treatment (does not receive regular treatment, therefore these days are subtracted from total days of in-custody treatment)	Recorded into total number of days of in-custody treatment: 0=90 or more, 1=60-89, 2=30-59, 3=less than 30
	HIC	Total number of days client was placed in acute psychiatric hospital or unit during in-custody treatment (does not receive regular treatment, therefore these days are subtracted from total days of in-custody treatment)	Recorded into total number of days of in-custody treatment: 0=90 or more, 1=60-89, 2=30-59, 3=less than 30
Stability of Mental Illness and Substance Abuse	HIO	Total number of days client was placed in acute psychiatric hospital or unit during out of custody treatment (client is relapsing)	Recorded: 0=0 days, 1=1 day, 2=2 days, 3=3 or more days
	CIO	Total number of times client received crisis intervention during out of custody treatment (client is in crisis)	Recorded: 0=0 days, 1=1day, 2=2 days, 3=3 or more days
	MHD_1c	DSM-IV Axis V GAF after 6 months of out of custody treatment	Recorded: 0=71 or higher, 1=70-62, 2=61-52, 3=51-42, 4=41-32, 5=31-22, 6=21 or lower
Number of New Bookings	CJOD_1b	Number of times client was booked in jail after 6 months of out of custody treatment	Recorded: 0=0 new bookings, 1=1 new booking, 2=2 or more new bookings
Number of New Jail Convictions	CJOD_1c	Number of convictions after 6 months of out of custody treatment	Recorded: 0=0 convictions, 1=1 or more convictions
Prison Convictions	CJOD_2b	Prison Convictions after 6 months of out of custody treatment	Recorded: 0=no prison 1=prison sentencing



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