FACTORS CONTRIBUTING TO JUVENILE RECIDIVISM IN A PREDOMINATELY
HISPANIC POPULATION

A Dissertation

by

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This dissertation meets the standards for scope and quality of
Texas A&M University-Corpus Christi and is hereby approved.

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ABSTRACT

Identifying adolescents at risk for re-offense, specifically among a predominately

Hispanic population, is rarely empirically examined (Cintrón, 2006). The Hispanic population

comprises the largest minority population in the United States, and accounts for over 60% of the

population in Nueces County (US Census Bureau, 2011). The purpose of this study was to

explore the boundaries and utility of the Massachusetts Youth Screening Instrument Version 2

(MAYSI-2) through its subscales, specifically in a predominately Hispanic population. A binary

logistic regression was conducted to explore the extent to which MAYSI-2 subscale scores,

demographic variables, and offense information predict re-offense.

A sample of 884 adolescent offenders from Nueces County was utilized to examine

factors that are predictive of recidivism. The regression analysis included all offenders from the

year 2010. A listwise deletion was conducted to remove offenders with multiple offenses, and

missing MAYSI-2 scores, or missing data. Data were collected ex-post facto and analyzed using

a hierarchical logistic regression.

The results of the logistic regression indicated all three domains (MAYSI-2 subscale

scores, demographic variables, and offense information) were statistically significant predictors

of juvenile re-offense.   Three of the MAYSI-2 subscales, Alcohol/Drug Use, Angry-Irritable,

and Somatic Complaints, were significant predictors of re-offense. Additionally, six of the

demographic variables were found to be predictive of recidivism: juvenile age, number of

siblings, Hispanic adolescents, gang affiliation, type of school, and legal guardian. Significant

variables identified as predictive of re-offense from the offense information included

misdemeanors and prior violent offenses.

Overall, each of the three domains provides statistically significant contributions to the prediction of the dichotomous dependent variable, re-offense. The most powerful contribution for predicting juvenile recidivism is from the demographic variables, age and legal guardian (i.e., coming from a home with an absent biological parent). The results of this study imply that personal interactions with offender may be more helpful than psychometric measures at identifying adolescents at risk to reoffend. Although attempting to categorize adolescents merely based on demographic information can result in biases, and steoreotyping, the information can be used to identify risk factors that may impede an adolescent's success. Identifying adolescents that present with characteristics indicating higher risk for re-offense, can assist clinicians in developing treatments.

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CHAPTER 1

Introduction

Juvenile crime is a serious problem affecting the United States. Over two million

juveniles are arrested each year (Snyder & Sickmund, 2006; Onifade, Davidson, Livsey, Turke,

Horton, Malinowski, Atkinson, & Wimberly, 2008). Many more offenses are committed in

which juveniles are never apprehended (Lawrence & Hesse, 2010). The disproportionate amount

of offenders to the population make delinquency prevention efforts a key component in reducing

adult crime and violence. Developing programs and policies to prevent juvenile delinquency and

correct delinquent behavior is integral to reducing violence and improving society. The

prediction of recidivism can serve several purposes: the advancement of theory regarding child

development, to highlight early indication of deviancy, and can be used to influence judicial

decision making (Stouthammer-Loeber & Loeber, 1988).

Juvenile Delinquency

Juvenile delinquency generally falls into two categories: status offenses and criminal

offenses. Status offenses are acts that if committed by adults would not be considered criminal

(e.g. runaway, minor in possession). Criminal Offenses are offenses that range from property

crime to murder. Of the 2.2 million juveniles arrested each year, 92,300 are arrested for violent

crimes, and 463, 300 for non violent or property crimes. Individuals under 18 represent about

25% of the United States population and account for approximately 16% of all arrests (15% of

male arrests and 20% of female arrests). Approximately 71% of all juvenile arrestees are male,

and 68% of juvenile arrests are between 16 and 17 years old.

Juvenile Justice System Process

The juvenile justice center treats adolescents with the notion that behaviors in adolescents

are developmental, and therefore malleable. The justice system employs skilled helping

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professionals to place and treat adolescents rather than punish the behavior. The justice system compiles a detailed history of the adolescents, and tailors treatment and rehabilitation to their specific needs. A major goal within the justice system is to help delinquents and their families by delivering services to them (Fagan & Zimring, 2000). The juvenile court system is focused on the underlying issues causing the behavior and providing interventions to address these issues (NCJFCJ, 2005).

Risk

The etiologies and precipitating factors of risk regarding offending and its effects have not been sufficiently addressed. According to Bock and Goode, (1996) criminal and antisocial behavior is the result of a complex interplay of individual, biological, genetic and environmental factors. There is not a clear understanding of the motivations of delinquents or how psychological processes influence juvenile delinquency (Williams-Anderson, 2004). Demographic factors (e.g. gender, Socio-economic status, age) in combination with internal factors (e.g. impulsivity, coping skills, beliefs) are essential components in identifying the risk of offense for an individual.

Risk assessments are used to identify characteristics in youth and their environment associated with repeated criminal behavior (Hoge, Andrews, & Gomez, 2005). The results of risk assessments aid in intervention selection by assessing a juvenile's current risk and protective factors (Marczyk, Heilbrun, Lander, & DeMatteo, 2003). Identifying risk factors early may assist in providing interventions that target adolescents most in need of preventative services. Unfortunately risk assessments cannot consistently identify which particular individuals will become serious or chronic offenders.

Examining the origins of juvenile delinquency provides a better understanding of recidivism risk. Numerous studies are dedicated to uncovering risk factors contributing to juvenile crime. A recent meta-analysis assembled by Cottle, Lee & Heilbrun (2001) provided a useful summation of findings from 1983 to 2000 identifying predictors associated with recidivism. Key risk factors include age, academic achievement, prior offense, family structure, and psychopathology (Cottle et al., 2001).

Prevalence of Psychiatric Illness in Juveniles

Mental illness is also a central concern within the juvenile justice system. Many adolescents suffer from mental illness; over 65% of adolescents in the juvenile justice system have diagnosable mental health disorders (Wasserman, McReynolds, Ko, Kats, & Carpenter, 2005). Juveniles suffering from mental health illnesses are at greater risk to harm themselves or others and have special needs that must be addressed while in the state's custody. Because of these needs, juvenile justice personnel are tasked to identify these youth in order to more effectively and efficiently provide proper services (Wasserman et al., 2005).

Several steps are taken in order to address the mental health concerns in the juvenile justice system. To assist personnel in identifying adolescents at risk for mental health illness, assessments are utilized. Assessments such as the Diagnostic Interview Scale for Children (DISC) have been helpful in describing personalities, measure cognitive and academic abilities, and diagnose mental disorders. Traditional assessments, such as the DISC, require staff to be trained properly in order to administer and score. Not only are these assessments time consuming for the staff, but they are also lengthy in regards to administering them to the youth (Grisso, 2005).

The Texas State Legislature mandated the use of a mental health screening instrument in 2001. In response, the Texas Juvenile Probation Commission began to implement the Massachusetts Youth Screening Instrument Version 2 as the assessment tool for screening adolescents (TJPC, 2005). This assessment screens for mental distress in adolescents entering the juvenile probation system. This screening is given to all youth, and geared to identify conditions that potentially need immediate response. Once mental health illnesses are identified, staff provide proper and efficient services to youth based on the results.

Statement of Problem

Recidivism is an important concept to measure in juvenile justice settings. Juvenile recidivism rates differ between states, because of the variance in justice systems and state jurisdictions. There is no national data on juvenile recidivism because of the varying measurements and methodologies of recidivism (Bisbee, 2009). Some studies suggest up to 33% of juveniles reoffend, and between 5-25% characterized as chronic offenders (DOJ, 1997). According to Uzzell (1997), 6-8% of male juveniles account for over 60% of serious juvenile offenses.

Although highly represented in the United States, few studies have addressed the empirical examination of recidivism, specifically among Hispanic adolescents in the juvenile justice system (Cintrón, 2006). The Hispanic population is the largest minority group in the United States, accounting for over 50.5 million of the population (Ennis, Rios-Vargas, & Albert, 2011; US Census Bureau, 2011). In 19 locations, people of Hispanic origin account for the majority of the population. In Nueces County, Texas a 60.2% Hispanic population is present (US Census Bureau, 2011). Because of the dearth of empirical research, drawing firm conclusions for the Latino population is difficult (Sampson & Lauritsen, 1997). Inconsistencies

in documenting and recording race and ethnicity in Hispanic populations account for much of this deficiency. However the lack of information can also be attributed to consolidation of minority groups in reports.

Numerous risk assessments are available to the juvenile justice system; however identifying high risk juveniles is a challenge without a valid and reliable method (Ashford & LeCroy, 1990; Gottfredson & Gottfredson, 1984; Hoge & Andrews, 1996; Marczyk, Heilbrun, Lander, & DeMatteo, 2003). Identifying adolescents at risk to reoffend is important when only 8% of the juvenile population responsible for over half the offenses, and the majority of offenders never reoffending (Schumacher & Kurz-Gwen, 2000; Onifade et al., 2008).

Data are often collected routinely from juveniles upon entry into juvenile justice programs. In Texas juvenile justice systems, the MAYSI-2 is the standardized screening tool given to all individuals. This assessment is given to adolescents upon entry, usually within 24 hours. The MAYSI-2 along with demographic and offense information may be a useful tool to identify and predict adolescents at risk to reoffend.

The Massachusetts Youth Screening Instrument – 2

The Massachusetts Youth Screening Instrument (MAYSI) was developed in 1998 specifically to address the needs of the juvenile justice system: cost effective, brief, widely applicable, and simple to administer, score, and interpret (Grisso & Barnum, 1998, 2006). Now in its second edition, the MAYSI-2 is used in 44 states for intake purposes in all probation, detention, and corrections facilities (Grisso, Fusco, Paiva-Salisbury, Perrauot, Williams, & Barnum, 2012). This tool is designed to be administered by juvenile justice staff upon intake and can be administered to all youths (ages 12-17).

The MAYSI-2 is designed to identify factors that are common in psychiatric diagnoses of youth, specifically targeting thoughts, feelings or behaviors attributed to specific diagnoses (Grisso et al., 2012). This questionnaire uses seven subscales in which administrators interpret to assess youth's immediate health needs (Grisso et al., 2012). This assessment tool is comprised of 52 questions written at an approximate 5th grade reading level that can be self-administered, or questions read aloud by staff member while the youth responds orally. The entire assessment takes less than 15 minutes to complete.

The MAYSI employs seven scale scores. Each scale is comprised of 5 to 9 items; these contributing items can load on more than one scale. There are some items that do not correspond to a scale, and were included in the assessment for future research. The seven scales measure frequency and pervasiveness of substance use (Alcohol/Drug Use), feelings of preoccupying anger and vengefulness, irritability and *touchiness* (Angry-Irritable), internalized distress feelings (Depressed-Anxious), health concerns including bodily aches and pains related to depressed or anxious feelings (Somatic Complaints), thoughts and intentions of self-harm and feelings of hopelessness (Suicide Ideation), unusual thought content including altered perceptions of reality (Thought Disturbance), and self-reported exposure to events that have potential traumatizing effects (Traumatic Experiences). Psychometric evaluations show only scores on six of the scales are stable for females (Grisso et al., 2012). Thought disturbances are scored only for males (Grisso et al., 2012).

The use of the MAYSI-2 as a predictor for recidivism is virtually unexplored (Marczyk, 2002). As an exploratory analysis, the MAYSI-2 was studied using a total score; however there is no psychometric support for this variable (Marczyk, 2002; Grisso et al., 2012).

South Texas has a predominately high Hispanic population. Not much is known exclusively about Hispanic offenders or demographic characteristics of reoffenders. Understanding this population is unexplored and necessary to identify and treat. The use of the MAYSI-2 has predominately been administered on a demographic composition of 18% Latino population, 33% White, and 33% African American, and 3% other (Grisso et al., 2012). A predominately Hispanic population may yield ulterior results than prior documented demographics. Lack of research in this area beckons empirical exploration.

Purpose of Study

The primary purpose of this study is to investigate juvenile recidivism prediction as a function of the static and dynamic risk factors identified in the literature on juvenile recidivism. The MAYSI-2 subscale scores, demographic variables, and other information commonly collected at intake will be explored through the use of a classification and prediction model. The MAYSI-2 is a commonly used assessment within the juvenile justice system. Understanding the boundaries and exploring possible avenues for the utility of the MAYSI-2 through its subscales in a predominately Hispanic population is a goal of this study.

Significance of Study

The results of this study will contribute to the body of knowledge regarding juvenile recidivism. This outcome of this study will also extend the existing research that was conducted on juvenile recidivism by incorporating specific and unique factors such as data reflecting a predominately Hispanic population and use of a mental health screening tool for recidivism prediction.

The data in this study are commonly collected information gathered by all intake officers at juvenile justice facilities. This study would potentially make this information available and interpretable for all staff members.

As a predictive model of recidivism is the core variable being explored, this study potentially outlines opportunities to detect at risk youth early on. Early intervention will better serve adolescents and direct them to the necessary and helpful resources. The results of this study can be used to classify and treat all juveniles to identify those with potential to reoffend. Staff will be able to cater to the 8% of juveniles that are responsible for the majority of offenses.

Juvenile offenders comprise a large portion of the population served by counselors. The American Counseling Association (ACA) has a primary division dedicated to serving this population as well: International Association for Addiction and Offender Counselors. This study may increase the breadth of knowledge that counselors can use to treat and educate these clients.

Recidivism is a costly occurrence with many residual effects. Juvenile recidivism is of interest because of the potential to evoke more criminal behavior. Monetary costs are positively correlated with number of incarcerations (MDOC, 2000).

Research Questions

The following research questions will be addressed in the study:

1.) To what extent can status of re-offense (i.e., reoffend/did not reoffend) be correctly predicted from demographic information, offense information, and the MAYSI-2 subscale scores in a predominately Hispanic population?

Basic Assumptions

An assumption of this study is that the quantitative data made available to the researcher was accurate, and the participants accurately understood the questions and gave accurate and honest answers, thereby providing accurate data.

Limitations

The accuracy of information input by probation officers is a limitation of this study. Information accuracy is dependent on numerous administration variables including: hours or days between admission in the juvenile justice system and administration of assessments, personnel adherence to the standards of administration, and the amount and accuracy of information provided to the youth about the uses of results (Grisso et al., 2012).

The accuracy of information given by juveniles is a limitation to this study. A juvenile's exposure to MAYSI-2, such as frequency and recency, can influence responses. Juveniles also have an option to refuse the assessment altogether. Youth's perceptions of the manner in which the staff will use the results can also influence the information gathered upon intake.

The demographic group represented in this study is unique. Therefore, cross study comparisons are cautioned. Hazard conditions across communities can influence the level of psychopathology represented in juvenile justice facilities (Grisso et al., 2012). The availability of mental health services, variability in exposure to traumatizing environments, and patterns and volume of drug traffic are reflective of local norms instead of national norms.

Delimitations

This study is an examination of the 2010 cohort of juvenile offenders. Although many of the juveniles committed more than one offense during this time frame, only the first offense was gathered for data use. Therefore, the first MAYSI-2 score collected for the year on any

particular juvenile was the score used in this study. This study looks at re-offense within a three year period (2010- 2013). During this time frame, some of the subjects may have aged out of the system.

Data were collected based on the referral dates rather than the actual date of offense. Because of this, some of the offense dates may be from the preceding year; however, assessment scores will be from the current (2010) year. Use of referral dates rather than convictions is also a delimitation as police discretion may not be an accurate indication of involvement.

MAYSI-2 scores have multiple levels of measurement: dichotomous, trichotomous, and continuous. The dichotomous scores are based on cautionary and warning points. Trichotomous scores are used to measure below caution, between caution and warning points, and above warning points. Though the continuous scores can provide the most data to researchers, they are seldom used by staff. The continuous scores alone are difficult to use in everyday practice, and most juvenile justice personnel only use the dichotomous and trichotomous measurements (Grisso et. al, 2012).

Definition of Terms

Adolescent. A person who has gone through puberty, but has not yet reached adulthood. Transitional stage in which a person is in between childhood and adulthood. Adolescence marks a new stage of growth and development, but there is no way to pinpoint this period chronologically or to restrict it within physiological boundaries (Bartollas, 2006). For the purposes of this study, *adolescent* refers to any person between the ages of 10 and 17. *Adolescent*, *youth* and *teenager* are used synonymously throughout this study.

Crime. An act that is legally prohibited. Any act that is committed or omitted that is in contrast with the public law. These acts are punishable if convicted.

Delinquency. Acts committed by a juvenile, that if an adult were to commit could be a criminal act. These violations are divided into four categories: crimes against persons, crimes against property, drug law violations, and offenses against public order (del Carmen & Trulson, 2006; Bilchik, 1996; Washington, DC: Office of Juvenile Justice & Delinquency Prevention, 1999). Violations or attempts at violation of the criminal law by minors (Agnew, 2001).

Gang Affiliation. Involvement, association, or close connection with gangs.

Hispanic. Ethnic label used to identify any persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish cultural origin regardless of race (Grieco & Cassidy, 2000, p.2). Used interchangeably with *Latino* in this study.

Juvenile. Term used in justice system that refers to a person who is under the age of 18. In regards to the justice system, a *juvenile* has not reached adulthood. Used synonymously with *adolescent* in this study

Juvenile Offender. Any persons under the age of 18 who has committed a crime.

Juvenile Delinquency. An act committed by a minor that violates the penal code of the government with authority over the area of which the act occurs (Bartollas, 2006).

Massachusetts Youth Screening Instrument – Version 2 (MAYSI-2). An assessment tool used for brief mental health screening upon entry at juvenile justice facilities. This assessment is used to identify youth at risk for suicide, mental health and substance use needs (Grisso et al., 2012).

Recidivism. Repetition of delinquent behavior.

Repeat Offender. A youth who engages repeatedly in delinquent behavior. Commonly refers to youths involved in serious and repetitive offenses, and can account for a disproportionate amount of crimes. May be termed *chronic youthful offender* (Bartollas, 2006).

Status Offense. Offenses that are illegal for juveniles, but would not be considered criminal if adults committed them. Such offenses include: truancy, curfew violations, runaway behaviors. Status offenders are referred to as CHINS (children in need of supervision) throughout this study. They may also be termed *predeliquent*, *incorrigible*, *beyond control*, *ungovernable*, or *wayward* (Bartollas, 2006).

Violent Offender. "Any act, event, or condition resulting from human behavior that causes death, injury, or some other damage to the physical or psychological well-being of one or more individuals" (Michalowski, 1985).

CHAPTER II

Historical Aspect of Juvenile Delinquency

Youthful offenders were identified as far back as the 7th and 8th century. Seventh century English law dictated children as young as seven could be held accountable for their actions (Sanders, 1970; Shoemaker, 2009). Separating children and adults in the prosecution of offenses is a recent concept. The notion that children were to be considered in need of nurturance and special care and supervision began to appear in Europe and eventually trickled over into the United States (Shoemaker, 2009)

In the United States, juveniles were treated as adults in the criminal justice system until the early 20th century. The constant concern for youth in society and concern for the adolescent's development led to the creation of a separate court system dedicated specifically to juvenile offenses. It was not until 1899 that formal juvenile courts were created (Shoemaker, 2009). The juvenile court system operates under the premise that juveniles should be provided special care and supervision as much as penalized for their offenses. The tension between wanting to help juveniles and punish them has always existed in society, and influences the structure and operation of the juvenile justice system today (Shoemaker, 1996).

The goals of the juvenile courts are to provide a unique service to juveniles that would allow them to be able to become productive citizens. In contrast to the goals of the adult criminal court, which emphasizes, incapacitation, retribution, and punishment, the juvenile justice system examines the needs of the individual and provides services through treatment, rehabilitation, and separation from adults. The services and procedures are drastically different in the juvenile and adult court systems in order to rescue youths from their destructive lifestyle (Shoemaker, 2009).

The juvenile court recognizes *parens patriae* as an important influence in a juvenile's behavior. If a youth's parents are not able to effectively care for their children's needs, the state takes over the care of that child. The juvenile justice system exercises wide discretion to be able to address the unique individual needs of the juveniles and provide appropriate intervention for the youths. Placing juveniles into reformatories, training schools and industrial schools has been a standard practice of addressing the parens patriae notion since the 1850's (Shoemaker, 2009).

Juvenile Justice System Process

The process of the juvenile justice system is divided into five stages: diversion, detention, adjudication, disposition, and probation (Clement, 1997; Shoemaker, 2009). These stages include pre-offense and post-offense influence/engagement with adolescents. Once a juvenile is arrested or a petition is filed against an adolescent, there are more specific proceedings and objectives in the juvenile court system. The court has both formal and informal procedures and both can be used. Because of the individual factors that dictate the progression of a specific case, each case may be managed differently to some degree. Whenever possible, discretion is used to protect the juvenile; records and court proceedings are kept confidential (Clement, 1997).

Juvenile Intake Process

The first stage in the processing of a juvenile is intake. Intake proceedings are initiated when jurisdiction of the juvenile court is invoked. This process can ensue in two ways: when a police officer brings a juvenile to the juvenile court or by a petition filed by either a parent or other citizen against a juvenile. The purpose of intake is to decide how the case will proceed. The intake worker has the discretion to divert the case either formally or informally (Shoemaker, 2009; del Carmen & Trulson, 2006).

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Petitioned or formal handling of a case occurs when a petition is sworn against the youth and the youth must appear before a judge. The official petition is usually written by a juvenile court intake officer. Once a petition is filed, the juvenile must attend an adjudicatory hearing. It is during this trial, that a judge decides whether the juvenile is guilty of the petitioned charge (Shoemaker, 2009; del Carmen & Trulson, 2006).

Nonpetitioned or unofficial handling of the case means that no formal charges will be filed against the juvenile (Clement, 1997). Informal diversion includes an interview, conducted by the intake officer, with parents and child. This thorough investigation provides insight to the intake officer to determine if there a deeper concern requiring individualized services, or if this is a solitary incident (Shoemaker, 2009; del Carmen & Trulson, 2006).

Although considered nonpetitioned, restitution for the juvenile's breach is standard. If reparation for the infraction can be made, it is considered. The intake officer can also provide planning, counseling or treatment to juveniles, if it is deemed appropriate. In house diversion programs provide help to troubled youth and their families. Programs developed for intervention can include educational services for specific age groups, drug alcohol abuse, communication skills, in depth family counseling, or mediation. Additionally recreation programs geared to develop self-esteem in challenge activities are common programs utilized (Shoemaker, 2009; del Carmen & Trulson, 2006).

Juvenile Detention Process

Detention is used to hold youth when they are awaiting a procedural hearing (detention hearing). Detention provides the juvenile a secure location during the interval of time between the petition being filed and their detention hearing. A detention hearing is not a trial, it

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determines whether the juvenile should appear for an adjudicatory hearing (trial) (Shoemaker, 2009).

There are numerous types of detention settings in which a juvenile can be placed: outreach detention, intensive supervision, less secure detention, and secure detention. An outreach detention is where the juvenile lives at home under the custody of the parent or guardian. Intensive supervision by court staff requires that a juvenile follow specific rules and many times is accompanied by an electronic monitoring system. A less secure detention is a house or building designed specifically for the purpose of monitoring juveniles. The buildings usually have no barred windows or locked doors, but residents are closely supervised. A secure detention facility requires that juveniles be under lock-and-key. In a secure facility, juveniles are required to follow strict rules, and attend the school provided within the structure (del Carmen & Trulson, 2006).

A detention center is designed especially for youth. The facilities can be very similar to adult jails. A judge decides what facility will best suit an individual's circumstance and needs. A judge can place a juvenile in adult jail if their behavior warrants. In some situations, the juvenile cannot go home is because the charge against the child has been induced by the parent or guardian (del Carmen & Trulson, 2006).

Waiver to Adult System

A waiver is the process in which the juvenile court transfers a juvenile's case into the adult court. The purpose of a waiver hearing is to end the juvenile court's jurisdiction and to allow the juvenile to be tried as an adult. State legislatures have created statutes that move youth into the adult criminal court based on age and seriousness of the offense. In some cases, based

on the nature of the offense, a juvenile never sees a juvenile judge, because the state regulates

that the juvenile go directly to the adult court (del Carmen & Trulson, 2006).

A transfer is contingent on two conditions: probable cause and amenability. The juvenile

court considers whether the juvenile will receive the most benefit through juvenile court or by

being tried as an adult. The juvenile court endeavors to exhaust all resources before endorsing a

waiver. The availability of programming willing and able to accept the juvenile, and a juvenile's

response to past treatments are also factors that are considered when determining the beneficence

of each court system (Shoemaker, 2009; del Carmen & Trulson, 2006).

Although legislation and probable cause dictate whether a waiver is required, other

factors are considered during a waiver hearing. There are five factors that influence a waiver: 1)

the age of the juvenile, 2) the mental and physical condition of the juvenile, 3) the juvenile's

amenability to treatment available to delinquents, 4) the nature of the offense, and 5) the safety

of the public. Each of these influences dictates specific and individualized consideration of the

juvenile's potential transfer (Shoemaker, 2009; del Carmen & Trulson, 2006).

Adjudication Proceedings

The adjudication phase in juvenile court is the equivalent to the trial stage in adult court.

The juvenile is given a trial to determine whether they committed the proposed infraction. The

trial is based on merits and determines if the juvenile did commit the act for which they are

charged. The judge listens to the facts of the case, and delivers a decision the juvenile. The

judge has the responsibility to determine if the juvenile is guilty or not (del Carmen & Trulson,

2006).

Disposition and Intervention

The disposition phase of the juvenile justice process is to determine what can be done with the youth in order to treat and reduce their criminal behavior. Disposition is similar to the sentencing stage of the adult criminal system. This portion of the process follows the adjudicatory hearing (Shoemaker, 2009; del Carmen & Trulson, 2006).

Treatment and intervention for the juvenile is developed on an individual level. The juvenile's family, friends, health, neighborhood, religion, and school progress aid in deciding the most appropriate intervention for the juvenile. The probation staff provides the judge with a social history, and collaboratively established treatment plan. The judge may order substance abuse treatment, family counseling, restitution, or community service. More structured placements include foster or group home placement, "camps," a commitment to state facility, or can even be placed into adult jails (del Carmen & Trulson, 2006).

Additionally, the judge may defer disposition for up to 12 months. This means that a juvenile's charge may be dismissed if child exhibits good behavior. A requirement that is commonly given during a deferred disposition is probation. Probation is similar to adult probation and can be revoked if the juvenile is found to be in violation of any of the specified conditions (Shoemaker, 2009; del Carmen & Trulson, 2006).

Theoretical Models of Juvenile Delinquency

Numerous theoretical foundations explain criminal behavior. Strain Theory (Merton, 1968) and Social Learning theory (Bandura, 1977) are two conceptually sound paradigms. They are presented to provide a baseline and background in which to consider when discussing juvenile delinquency. Social influence plays an integral role in development.

Strain Theory

Robert Merton (1968) proposed a social theory of criminal behavior, entitled Strain Theory. Merton cited economic inequality as the catalyst for criminal behavior. Two concepts impart rationale for external sources of delinquency: 1) culturally defined goals 2) institutionalized means of achieving those goals. The incongruence in these goals creates stress in order to achieve success.

Merton (1968) identified five methods for dealing with strain. The first approach identified was to conform to the culturally held goal and the means to achieve those goals. The second manner to deal with strain was to innovate. To innovate, an individual would accept the goals of the larger society, but not the means. Merton suggests illegal measures are used to achieve these goals. A third option is to engage in ritualism. This modality suggests that an individual accept the means but not the goals. Individuals who participate in ritualism accept the status quo, and realize they will never reach the culturally held goals. A fourth avenue for dealing with strain is to retreat, that is, to reject the society's goals and the means to achieve them. Merton identifies vagrants as retreaters. The final option for strain is rebellion. This course rejects society's entire model. Those that engage in rebellion actively desire to alter the design of society thereby demanding neither its means nor its goals be relevant to the equation.

Merton (1968) proposed that in attaining goals, structural and individual pressures influence achievement. Achievement, as noted by McClusky, (2002) has an inverse relationship with socioeconomic status. Those in the lower class are more apt to participate in delinquent behavior, because success is most limited. Moreover, delinquency is the outcome of an "array of stressful or negative life experiences that strain one's relationship with society" (Berger & Gregory, 2009, p. 142). As a response to strain or stressful events, juveniles engage in

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delinquent behavior to alleviate or reduce the strain (Williams-Anderson, 2004). Juveniles may even participate in delinquency in order to retaliate against someone or something inflicting strain or from stressful events (Agnew, 2001).

Social Learning Theory

Bandura (1977) characterized human behavior as a continuous and reciprocal interaction between cognitive, behavioral, and environmental determinants, known as social learning theory (Bandura, 1977). Social learning emphasizes the role played by vicarious, symbolic, and self-regulatory processes in psychological functioning. Individuals do not merely react to external influences; they select, organize, and transform the stimuli that impinge upon them. Bandura proposed that individuals are not born with an inherent knowledge of behavior, and that behaviors must be learned. There are two types of learning: learning by response consequences, and learning rooted in direct experience. From this experience an individual can provide numerous functions: informative, motivational, and reinforcing.

Observational learning or learning through modeling is a key contributor to an individual's repertoire of behavior. Much of human behavior is learned observationally, which reduces errors and time. Observational learning is governed by four processes: attentional (perceive accurately), retention processes (remembering it), motor reproduction processes (converting the thoughts into appropriate actions), and motivational processes (not necessarily enacting everything learned) (Bandura, 1977). Similar to Piaget's theory of schemata, Bandura placed great importance is on sensorimotor and ideomotor learning. Young children must develop the ability to translate what they perceive into corresponding actions. They learn to convert thought into organized sequences of actions (Bandura, 1977).

A patterned theory of modeling can account for behavior that is acquired observationally and the social setting in which it will most likely be exhibited (Bandura, 1977). Aggression and other long term personality traits are shaped by social learning principles. Similarly, juveniles learn through their interactions with peers to engage in delinquent acts (Agnew, 2001).

Mental Health in the Juvenile Justice System

The number of mental health disorders among youth in the juvenile justice system are identified through numerous studies (Teplin, Abram, McClelanland, Dulcan, & Mericle, 2002; Wasserman, McReynolds, Lucas, Fisher, & Santos, 2002). Overall, a consensus of exceptionally high rates of disturbance among youth is standard (Otto et al., 1992; Teplin et al., 2002). Mental health disorders in the general community affect approximately 20% of the population, whereas the prevalence among juvenile offenders is reported at over 66% (Kazdin, 2000). Teplin et al. (2002) identified approximately 66% of males and 74% of females in the juvenile justice system met diagnostic criteria for one or more psychiatric disorder. Moreover, Adams (2003) proposed that many of these juvenile suffer from two or more psychiatric disorders: 46% of males and 57% of females.

Identifying psychiatric disorders within the juvenile justice system is imperative with such an overwhelmingly high prevalence. The MAYSI-2 was identified as a promising method for identifying juveniles with established or emerging mental health problems and treatment needs (cite). MAYSI-2 scores and Diagnostic Interview Schedule for Children – Version IV, (DISC-IV) an extensively validated diagnostic interview tool, were compared to assess the utility of the MAYSI-2 for identifying psychiatric dysfunction. Both Shaeffer, Fisher, Lucas, Dulcan, & Schwab-Stone (2000) and Wasserman, Vilhaur, McReynolds, Shoai, & Jonh (2004) found the MAYSI-2 to identify effectively the presence of general psychiatric disorders, but less able to

identify specific disorders. The MAYSI-2 was also more likely than the DISC-IV to identify

youths with comorbid profiles than those with disorders in one or a single domain (Shaeffer et

al., 2000; Wasserman et al., 2004).

Minority offenders are involved in the juvenile justice system much more than white

youths. However, minority youths are less often referred for community mental health treatment

than white youths (Poe-Yamagata, and Jones, 2000; Pope et al., 2002). More often white

juveniles are classified as mentally disturbed, whereas minority offenders are determined to be

disorderly (Cohen, Brook, Cohen, Velez, & Garcia, 1990; McGarrell, 1993; Westendorp, Brink,

Roberson, & Ortiz, 1986). Within juvenile justice facilities, white youths are more likely to

receive treatment than minorities, regardless of the acuteness of the pathology (Cauffman, 2004).

Gender differences in mental health pathology are present within the juvenile justice

system. Females are more frequently diagnosed with mood and anxiety disorders (Archer,

Simmons-Bisbee, Spiegel, Handel, & Elkins, 2010). Females within the juvenile justice system

appear to be more affectively distressed, and more reactive to traumatic events. Males are more

frequently diagnosed with conduct and behavior problems (Archer et al., 2010). These

differences in diagnoses indicate that different treatment approaches to rehabilitation may be

necessary between genders.

Risk Factors for Recidivism

Risk is examined by identifying offender characteristics and outcomes to determine a set

of traits that are correlated with negative outcomes (i.e., recidivism) (Ashford & LeCroy, 1998;

Baird, 1984; Hoge and Andrews, 1996; Wiebush, Baird, Krisberg, & Onek, 1995). Risk

assessments are used to identify high risk juveniles based on statistical relationships between

identified risk factors and recidivism. Risk assessments are used to assist in decision making

processes with commitment, classification, levels of intervention, and placements. Herrenkohl, Hawkins, Chung, Hill, and Battin–Pearson (2001) and Rutter (1987, 2003) asserted that accumulating multiple risks as a child increases the likelihood of delinquency in adolescence.

In a meta-analysis, Cottle et al. (2001) identified risk factors that best predict juvenile recidivism. Researchers examined 30 factors across eight domains: demographic information, offense history, demographic and social factors, educational factors, intellectual and achievement scores, substance use history, clinical factors, and formal risk assessment. In regards to recidivism, the domains of demographic variables, offense history variables, and family and social variables were consistently significant. Two of four clinical factors were significant. Risk assessments were identified as significant as well. Individually, the following factors (listed from highest to lowest) were identified as significant: 1) age at first commitment, 2) age at first contact with the law, 3) nonsevere pathology, 4) family problems, 5) conduct problems, 6) effective use of leisure time, 7) delinquent peers, 8) length of first incarceration, 9) number of out of home placements, 10) number of prior commitments, 11) type of crime, 12) standardized achievement score, 13) substance abuse, 14) full scale IQ score, 15) history of special education, 16) risk assessment instruments, 17) history of abuse, 18) gender, (male) 19) socioeconomic status, and 20) number of prior arrests.

Demographic Variables

Juvenile age. The age of the juvenile upon offense is a significant predictor in identifying recidivism (Mulder, Brand, Bullens, & van Marle, 2011; Cottle et al., 2001; Loeber, Farrington, Stouthammer-Loeber, Raskin-White, 2008). The younger the juvenile upon entry into the justice system, the greater the likelihood of continual engagement in criminal activity (Loeber & Stouthammer-Loeber, 1998). Additionally, when a juvenile begins delinquent

behavior at a younger age, the type of offenses escalates and the frequency of offenses increase (Mullis, Cornille, Mullis, & Huber, 2004). Mulder et al. (2011), also found that age was significant in assessing the severity of recidivism. However, Calley (2012) found that age of initial involvement in the juvenile justice system was not significantly related to recidivism.

Gender of offender. A majority of studies in the juvenile justice system focused on adolescent males. Results of risk factors and predictors of recidivism studies may not be generalizable to female offenders (Snyder & Sickmund, 1999). Adolescent males offend at higher rates than any other demographic group. Adolescent males are three times more likely to participate in delinquent behavior engage than adolescent females. Moreover, adolescent males are five times more likely than adult females to engage in criminal activities (Agnew, 2001; Loeber & Stouthammer-Loeber, 1998).

Mental health status is a key factor related to female juvenile offending (Dixon, Howie, & Starling, 2005). Female juvenile offenders exhibit higher rates of depression, anxiety, mood disorder, and suicidal ideation (Goldstein et al., 2003; Mullis et al., 2004; Kakar, Friedemann, & Peck, 2002). Female offenders are also more likely than males to exhibit both internalized and externalized problems (Espelage et al., 2003). Jenson (2001) noted 84% of female juvenile offenders report mental health symptoms as compared to only 27% of male juveniles. Additionally, Dixon et al.,(2004) reported over 83% of female offenders (from their study) meeting criteria for as many as eight psychiatric diagnoses.

Ethnicity of offender. Most of the data concerning ethnic groups categorize Latino with white youth. Approximately 92% of Hispanic juveniles are classified as racially white (Snyder & Sickmund, 2006). Due to recording inconsistencies, little information is known about juvenile justice other than for blacks and whites (Cintrón, 2006).

However, ethnic and racial minority youths may be twice as likely to commit violent acts as white male youths (Jenson et al., 2001; Maschi, 2006). Moreover, the number of Latino males, both juveniles and adults are overrepresented in the criminal justice system (Cintrón, 2006).   Recidivism rates between ethnic groups were found to be comparable (Katsiyannis, Zhang, Barrett, & Flaska, 2004).

Family and Social Variables Related to Recidivism

Environmental structure. Areas of high population were associated with higher crimes rates. These urban environments have more crime in both the juvenile and adult realms than rural areas. (Stouthammer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002; Agnew, 2001) Additionally living in a in a disadvantaged neighborhood, is a dynamic risk factor for juvenile recidivism. (Carcach & Leverett, 1999; Carr & Vandiver, 2001; Cottle et al., 2001; Kubrin & Stewart, 2006; Marczyk et al., 2003; Mbuba, 2004; Oberwittler, 2004; Pardini, Obradovic, & Loeber, 2006; Piquero et al, 2005; Vreugdenhil, van den Brink, Wouters, & Dorelleijers, 2003; Weerman & van der Laan, 2006; Wilson, Riojas, Hapanen, Duxbury, & Steiner, 2001)

Socioeconomic status (SES) of family. Socioeconomic status (SES) is inconsistently reported with regards to juvenile recidivism. SES is found to be unrelated to minor juvenile delinquency (Agnew, 2001; Stouthammer-Loeber et al., 2002; Tolan, Gorman-Smith, & Henry, 2003). Cottle et al. (2001) concluded SES to be the weakest variable identified via meta-analysis in predicting recidivism.

However, offenders with low SES have been linked to higher rates of serious delinquency. Agnew (2001) attributed the higher rates of delinquency within lower SES to chronic offenders. Socioeconomic status was not associated with violent behavior (Stoddard et al., 2012).

Family experiences of juveniles. A mutual relationship between negative family interactions and juvenile delinquency is documented in numerous studies. Factors such as abuse and neglect, domestic violence, conflicts with parents, and questionable parental lifestyles have been identified as risk factors juveniles (Tolan, 1997; Tolan etal., 2003; Agnew, 2001; Brenda & Tollet, 1999; Hawkins et al., 1999; Piquero, Brame, & Moffitt, 2005). Likewise, serious delinquency and offenses are found to be influenced by factors such as poor parental bonding, insecure attachment, poor parenting practices, parental neglect, family stress and a low SES (Henry, Caspi, & Moffitt, 1996; Hoeve et al., 2008, 2009; Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2009)

Farrington, Barnes and Lambert (1996) identified a proportionately small number of families responsible for a large portion of crimes. This study has generated several subsequent studies dedicated to understanding the familial influence in juvenile offending. Van de Rakt, Nieuwbeerta, and Apel (2009) identified a correlation between intergenerational offending but did not identify this relationship as significant. Paternal criminal history also was found to have a direct effect on juvenile delinquency (Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003). Moreover, the conviction of either parent was found to double the likelihood of a child's delinquency (Van de Rakt et al., 2009).

Family structure may be an explanatory factor in determining delinquency for both male and female adolescents (Dixon et al., 2005; Kakar et al., 2002). Single parent families and step families, separation from a biological parent, and stressed parent child relationships are identified as risk factors for adolescents (Putnins, 1984; Coughlin & Vuchinich, 1996). However, neither Myner et al. (1998) nor Niarhos and Ruth (1992) identified single parent households to be associated with an increased risk of delinquency.

Calley et al. (2012) reported involvement in the child welfare system had no effect on recidivism. Although the effect was not significant, involvement in child welfare system was shown to decrease likelihood of reoffending. Involvement with child welfare that eventually led to termination of parental rights was also shown to decrease the likelihood of re-offense but was not identified as a significant relationship (Calley et al., 2012). In contrast, Alltucker, Bullis, Close, and Yovanoff (2006) identified youth in foster care were four times more likely to engage in delinquent behavior, and the likelihood of delinquent involvement increased if one of their parents were involved in criminal behavior.

Educational factors. Poor academic performance and failure in school have been found to be associated with juvenile delinquency (Jensen, Potter, & Howard, 2001; Mann & Reynolds, 2006; Smith, Monastersky, & Deisher, 2006; Loeber et al., 2008; Valois, MacDonald, Bretous, Fischer, & Drane, 2002). However, intellectual functioning has an inconsistent in the relationship with juvenile recidivism (Duncan, Kennedy & Patrick, 1995; Katsiyannis & Archwamety, 1997). Cottle et al. (2001) found that under the domain regarding educational factors, only history of special education was identified as significant.

Socially, school and academics play a role in juvenile delinquency. Low attachment to school is an indicator for risk (Smith et al., 2006; Loeber et al., 2008; Valois et al., 2002). Female offenders consistently perform poor academically, have low self-esteem, and little hope for the future (Mullis, Cornille, Mullis, & Huber, 2004).

Peer influence. Peer engagement and interaction develops in adolescence. Peer influences can be constructive or adverse, and contribute to the extent of criminal behavior for juveniles. Peers with pro-characteristics may offer positive support and role modeling (Smith, Flay, Bell, & Weissberg, 2001).

Adolescents who are affiliated with delinquent peers are at increased risk of becoming involved in serious delinquency, violence, and crime (Dahlberg & Potter, 2001; Ferguson & Meehan, 2010).   Peer influences that include pressure to engage in fighting and weapon carrying also increase prospective of involvement in violence (Lipsey & Derzon, 1998; Salzinger, Feldman, Rosario, & Ng-Mak, 2011). Additionally interaction with criminally involved peers is a common characteristic of recidivists (Mulder et al., 2011).

Types of Offenses

Sexual offenses. The amount of sexual based offenses is increasing with both male and female juvenile offenders. The age of first offense for male juvenile sexual offenders is 13.2 while female sexual offender entry age is approximately 14.9, almost a two year difference in age (Vandiver & Teske, 2006). Juvenile offenders that commit sexual offenses generally have similar psychological symptoms, delinquency history, and physical and sexual victimization. However, female offenders were found to be involved in higher drug use and promiscuity as compared to their male counterparts (Vandiver & Teske, 2006).

Identifying and treating sexually based offenses is a goal of numerous studies (e.g. Vandiver & Teske, 2006; Hendriks & Bijleveld, 2008; Worling & Langstrom, 2003). Investigating predictors of recidivism, concerning sexual offenders, Worling & Langstrom (2003) identified previous sexual offenses, previous sexual interest, social isolation, impulsiveness, and deviant sexual interest to be identifiers of sexual recidivists. Conversely, Hendrik and Bijleveld (2008) could not distinguish any of the variables as predictive.

Similarly, defining the rate of recidivism concerning sexual offenses is controversial as well. Hendriks and Bijleveld, (2008) reported an overall rate of re-offense for sexual offenders of 70%, with 11% of the re-offenses to be sexual. Caldwell and Dickinson (2009) reported

similar statistics, with 59.3% reoffended of which 12.2% were sexual re-offenses. However Calley (2012) found only 3% of juvenile sexual offender reoffended, none of which were sexual. Moreover, sexual offenders were found to be less likely than general offenders and substance abusing offenders to reoffend (Calley, 2012).

Violent offenses. Violent offense is a dynamic environmental factor in risk. For example, parental involvement can affect the risk or resiliency factors in a juvenile's environment. Parental attitudes, a hostile environment, and aggressive conduct are risk factors for youth violence (Herrenkohl et al., 2000; Youngblade et al., 2007). Violent behavior may be amplified by the amount of cumulative risk factors associated with the individual. Correspondingly violent behavior is decreased for every unit increase in cumulative promotive (i.e. individual assets and contextual resources) factors (Stoddard et al., 2012).

Typically, males report a higher level of involvement in violence and violent behavior than females (Stoddard et al., 2012). Individual risk factors associated with a high level of aggression and violence include attention and learning problems, antisocial behavior, hopelessness, witnessing violence, and violence victimization (Boland, 2001, 2003; Brookmeyer, Fanti & Henrich, 2006; Cedeno, Elias, Kelly, & Chu, 2010; Stoddard, Zimmerman, & Bauermeister, 2012). Additionally, Stoddard et al. (2012) found violent behavior to be more prevalent in younger juveniles, and violent behavior decreased with age.

Substance abuse offenses. Substance abuse has been identified as a risk factor in regards to juvenile recidivism (Ford, 2005; Hawkins et al., 2000). Substance abuse is associated with severe ADHD symptoms and conduct disorders in children (Molina & Pelham, 2003). Higher levels of alcohol and marijuana use are correlated with antisocial behaviors, such as violence and conduct disorder (White, Xie, Thompson, Loeber, & Stouthammer-Loeber, 2001)

Wagner (1996) noted little support for causality between substance abuse and delinquent behavior. Wagner did, however, conclude strong support for delinquent behavior as a predictor of later substance use. Correspondingly, Collins, Abadi, Johnson, Shamblen, & Thompson, (2011) reported youths with substance use disorder as more likely to commit future substance offenses. McReynolds et al., (2010) Schubert, Mulvey, and Glasheen. (2011), and Hoeve, McReynolds, and McMillan (2013) found juveniles with substance abuse problems to be more likely to recidivate as compared to juveniles without substance use problems. Despite prior offending behavior, substance use disorder elevated the risk of reoffending.

Empirical Assessment to Recidivism Risk

Cauffman (2004) conducted a multivariate analysis of variance on 5 mutual scales males and females share to explore differences between race, gender, and age. The researcher found that 70% of males and 80% of females scored above the clinical cutoff point on at least one scale. Congruent with prior research, Cauffman (2004) reported females, regardless of race or age, displayed more mental health symptoms than males across all five sub scales. Cauffman also found differences in race. In general, white adolescents were more likely than Hispanic adolescents and African American adolescents to present with mental health problems. Further, Hispanic adolescents were more likely than likely than African Americans to display mental health symptoms. However, Hispanic adolescents were more likely to score higher than white youth on the Depressed-Anxious scale.

Bisbee (2010) explored scale stability, long term characteristics, and predictive utility of the MAYSI-2. The results of this study also yielded higher scores in mental health symptomology in females. Furthermore, white juveniles, both male and female were more likely to report mental health symptoms, especially in regard to Alcohol/Drug Use and Somatic Complaints.

Additionally, Bisbee reported 56% of males and 70% of females scored above the cautionary or warning cut-off points on at least one scale. Males were more likely to be charged with a serious offense than females, with African American males 56% more likely to be charged with a felony than any other race. Bisbee reported four significant predictive scales for males. High scores on Alcohol/Drug Use and Angry-Irritable scale, as well as low scores on Depressed-Anxious and Somatic Complaints scale yielded predictive for male juvenile recidivism. Additionally, three scales were found to be significant for predicting recidivism in females: high scores on Alcohol/Drug use, high scores on Angry-Irritable scales, and low scores on Somatic Complaints. When considering males and females together, Bisbee reports Alcohol/Drug Use and Angry-Irritable scales as predictive for recidivism. The population examined in this study contained a lower than national average amount of Hispanic youth and more African American adolescents than reported in norms.

Marczyk et al. (2003) investigated juvenile recidivism prediction using the Psychopathy Checklist-Youth Version (PCL-YV), The MAYSI (now in its second version), and the Youth Level of Service/Case Management Inventory (YLS/CMI). Initially, Marczyk et al. (2003) utilized a total score, although not psychometrically supported, to reflect a juveniles overall distress to identify recidivists. Neither the MAYSI alone, nor in combination with the PCL-YV or YLS/CMI, were found to be predictive of recidivism. Further exploration of subscales scores revealed some predictive validity in select subscales. Recidivism was found to correlate to higher scores on Suicidal Ideation, Angry Irritable, Fighting, and Anxiety. Alcohol/Drug Use, Somatic Complaints, Thought Disturbance and Traumatic Experiences scale negatively related to recidivism, suggesting the presence of these things prevented recidivism. Although predictive properties were revealed in the data, much like the results of the Bisbee study, results of accurate

prediction were only slightly better than chance. Various levels of emotional disturbance were related to recidivism, suggesting the dynamic properties measured by the PCL-YV, MAYSI, and YLS/CMI influence an individual's risk for re-offense.

Vasquez (2010) conducted an inquiry to determine if levels of emotional disturbance, severity of offense, and specific demographics variables would predict recidivism in juvenile offenders following their first physical arrest. This study consisted of 51% Hispanics, 36% Caucasian, and 4% Native American, much different to the national norms. In regards to ethnicity and recidivism, Vasquez (2010) concluded that no significant differences were found between Caucasian, Hispanic, African American, and Native American Youth. Vasquez suggested this is due to the high rate of recidivism documented, thereby reducing variability between groups. Vasquez found that Hispanics that scored high on Alcohol/Drug Use and Angry-Irritable scales were 1.82 and 1.68 times more likely to reoffend than those who scored low. Vasquez reported age to have a noteworthy contribution to the study. Hispanic adolescents 12 years of age were 4.46 times more likely to reoffend than a 16 year old adolescent; adolescents 13 years of age were 1.98 more likely than a 16 year old to reoffend; and adolescents 15 years old were found to be 2.09 times more likely to reoffend than a 16 year old. Additionally, Vasquez observed significant relationship for juveniles that identified 3-5 items on the Traumatic Experiences scale as true and juvenile that recidivated. Dynamic factors such as school performance, peer affiliation, and family functioning were not examined during this study; incorporating such dynamic factors may contribute to the understanding of recidivism (Gavazzi, Bostic, Lim, & Yarcheck, 2008).

MAYSI-2 Risk Assessment Subscales

      Traumatic experiences. Exposure to trauma and trauma related psychopathology occur regularly during adolescence for both male and female juvenile offenders (Dixon et al., 2005). Neuropsychological and psychosocial development is drastically effected by trauma. Risk of delinquency is increased through the emotional, cognitive and interpersonal functioning established during these processes (Putnam, 2006; Ford, Chapman, Mack, & Pearson, 2006). Abram et al. (2004) reported 93% of male juveniles and 84% of female juveniles (n= 898) in a short term detention facility had experienced at least one traumatic life event. Abram et al. (2004) further noted that many adolescents identify as many as 14 traumatic stressors in their lifetime. Older adolescents, both male and female, are more likely to have traumatic experiences than younger adolescents.

      Trauma is consistently related to male juvenile delinquency (Dixon et al., 2005; Lenssen Doreleijers, van Dijk, & Hartman, 2000; Maschi, 2006). Traumatic experiences were shown to produce psychopathologies and depression in juvenile males (Cauffman et al., 1998; Maschi, 2006; Ritakallio et al., 2006). Hispanic males are more likely to report traumatic experiences, followed by white males, and African American males least likely to report trauma (Leve & Chamberlain, 2004).

      Female juvenile offenders are more likely than males to have experienced a trauma (Jenson et al., 2001; Dixon et al., 2005). Incarcerated females are more likely than male offenders to have histories of physical and sexual abuse or child maltreatment. Additionally, Hispanic and white females are more likely than African American females to have traumatic experiences (Leve & Chamberlain, 2004). Jenson et al. (2001) reported over 85% of juvenile females have experienced physical abuse and 61% sexual abuse. Furthermore, Dixon et al.

(2005) noted female juvenile offenders experience post-traumatic stress disorder (PTSD) at a much higher rate (67%) than male offenders (less than 30%).

Alcohol/Drug use. Detained youth are more likely to become involved in substance use and risky behaviors earlier than youth that are not involved in the juvenile justice system (Morris et al., 1995). Moreover older adolescents are more likely to present with Alcohol/Drug Use symptoms than younger juveniles (Cauffman, 2004). Female juvenile offenders ages 10-15 are more likely than male juvenile offenders ages 10-15 to exhibit alcohol or drug abuse symptoms. However, females and males ages 16-19 display no differences in substance abuse. Substance use disorders within the juvenile justice system, as reported by Teplin et al. (2002), reflect 50.7% prevalence for males and 46.8% for females.

Angry-Irritable. Childhood aggression may lead both male and female juveniles to commit delinquent acts (Brook, Whiteman, Finch, & Cohen, 1996). Aggression displayed within the school setting is also affiliated with juvenile offending (Huesmann, Eron, Lefkowitz, & Walder, 1984; Loeber & Dishion, 1983). Younger juveniles are more apt to present indicators of Angry-Irritable behavior than older juveniles.

Male and female juvenile offenders present differently with aggressive behaviors. Lenssen et al. (2000) noted that male and female adolescents display aggression differently. Females are more likely to use social manipulation and isolation rather than violent acts. Moreover, aggression peaks later in males, who tend to express aggression through physical violence (Lenssen et al., 2000).

Suicide. Risk of suicide in juvenile offender populations is significant due to levels of depression, impulsivity, and substance abuse (Sanislow et al., 2003). Juvenile justice facilities incur suicide rates that are over four times higher than in non-offender communities (Memory,

1989; Hayes 2005). Female offenders are more likely to attempt suicide than incarcerated males (Jenson, 2001), however males have more successful attempts (4:1) (Snyder & Sickmund, 2006). Conditions such as involuntary restraint, disciplinary confinement, or locked cells can intensify the risk of suicide for incarcerated youth (Gallagher & Dobrin, 2006). Sexual abuse among teens is associated with suicide attempts (Bergen, Martin, Richardson, Allison, & Roeger, 2003).

Juvenile delinquency is often related to suicide ideation. Sexual abuse in teens is linked to suicide attempts. (Bergen et al., 2003). Thompson, Ho, and Kingree, (2007) found delinquent behaviors to be connected with suicidal planning, attempts, and attempts with injury. Duration, frequency, and severity of ideation are predictive of suicide attempts (Borges et al., 2006; Gould, Greenberg, Velting, & Shaffer, 2003; Kuo, Gallo, & Tien, 2001; Overholser & Spirito, 2003).

An important component in suicide prevention is measurement of suicidal ideation (Peña & Caine, 2006). Wasserman et al. (2004) found that the MAYSI-2 accurately identified recent and prior suicide attempts in juveniles. Although the MAYSI-2 correctly report past suicide attempts, the MAYSI-2 was not helpful in identifying two-thirds of adolescents who reported suicide ideation (Wasserman et al., 2004).

Depressed-Anxious. Mental health problems in conjunction with depression were reported to be associated with repeated delinquency (Cauffman et al., 1998; Maschi, 2006; Ritakallio et al., 2006). In juvenile justice settings, younger adolescents are more likely to present with depressed or anxious moods than older adolescents. Depressed females are three times more likely to engage in delinquent behavior than were non depressed female juveniles (Ritakallio et al., 2006). Depressed males, as reported by Ritakallio et al. (2006) were five times more likely to repeat delinquent acts such as violence or vandalism than were non depressed

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males. Further, several studies indicate that male juveniles with depression commit more diverse crimes and are violent offenders (Caufman et al., 1998; Maschi, 2006; Ritakallio et al., 2006).

Thought disturbance. Minimal research regarding thought disturbance and recidivism is evident. Cauffman, (2004) reported disordered thought processes in Hispanic males. This disturbance was higher than the prevalence in white or African American males. Additionally, thought disturbance is less frequently researched through MAYSI-2 inquiries as it only validated though males. The thought disturbance subscale also holds the lowest reliability score of a all MAYSI-2 subscales.

Somatic Complaints. Much like the thought disturbance category, minimal research is present on somatic complaints with respect to juvenile offenders. Bisbee (2010) reported low levels of somatic complaints were related to recidivism in female offenders; however, this subscale was predictive for males, as few somatic complaints related to high levels of re-offense. However these results have not been duplicated in any other studies.

Promotive Factors

Protective and promotive factors are similar notions, in that they increase the likelihood of resiliency in juveniles. However, there are key differences in their designation. Protective factors regulate the effects of risk on delinquent behavior (Fergusson & Lynskey, 1996; Pollard et al., 1999; Rutter 1987, 2003). Additionally, protective factors lower the probability of dereliction when hardship is presented (Rutter, 1987). Divergently, promotive factors are linked to better outcomes in any situation (Stouthammer-Loeber et al., 2002). Promotive factors enrich development and encourage pro-social interactions (Fergus & Zimmerman, 2005; Ostaszewski & Zimmerman, 2006; Stouthammer-Loeber et al., 2002; Vanderbilt-Adriance & Shaw, 2008).

Factors that have been found to be promotive on an individual level include social skills, academic achievement, affiliations at school, purposefulness and hope (Borowsky, Widome, & Resnick, 2008; Cedeno et al., 2010; DuRant, Cadenhead, Pendergrast, Slavens, & Linder, 1994; Farrell, Henry, Schoeny, Bettencourt, & Tolan, 2010; Resnick et al., 2004; Stoddard et al., 2012). Additional factors that have been shown to be protective against persistent delinquency are easy temperament, high IQ, and good family management (Condly, 2006; Herrenkohl et al., 2001; Vanderbilt-Adriance, & Shaw, 2008).

Hartman, Turner, Daigle, Exum, and Cullen, (2009) reported males and females utilize different protective factors. However the accumulation of protective and promotive factors are equally important for both genders (Hartman et al., 2009).

Stouthammer-Loeber et al. (2002) examined cumulative risk as a predictor of serious delinquency. Those with a majority of promotive factors had little risk to reoffend, whereas those with primarily risk factors resulted in a high rate of delinquency. Van der Laan, Veenstra, Bogaerts, Verhulst, and Ormel (2010) proposed risk and promotive factors as part of a continuum (Stouthammer-Loeber, et al., 1993, 2002) and not separate entities.

The compensatory model suggests that promotive factors decrease delinquent behavior regardless of the amount of risk factors (Garmezy, Masten, & Tellegen, 1984; Luthar et al., 2000).

Cumulative promotive features can offset the risk for becoming seriously delinquent (Pollard et al., 1999; Stouthammer-Loeber et al., 2002). Regardless of the amount of risk present, main effects of cumulative promotive scales suppress delinquency (Van der Laan et al., 2010; Deković, 1999; Stouthammer-Loeber et al., 2002). Van der Laan et al. (2010) also noted temperament as being the strongest effect for promotive influence.

Prevention of recidivism is possible if the treatment targets the specific needs and risk presented (Andrews et al., 1990; Schumacher & Kurz, 2000). Cohen, Neumann, and Weinstein, (2008) conducted a cost- benefit analysis of chronic juvenile offenders and treatment implementation. From this analysis, Cohen et al. suggested that through appropriate intervention, over 2.3 million dollars per offender could be saved.

Although some of the variables present are static (gender, ethnicity, age) some variables can be considered dynamic, with a potential to change through intervention. (Lodewijks, Doreleijers, de Ruiter, & de Wit-Grouls, 2006; Loeber, Slot, & Sergeant, 2001; Resnick, Ireland, & Borowski, 2004). Factors such as family influence, peer interactions, effective use of leisure time, conduct problems, non-severe pathology, and substance abuse are elements in a juvenile's environment that can be targeted in risk reduction intervention planning. The inability to administer appropriate intervention exacerbates the juvenile delinquency problem (Cohen, 2008; Cullen, Myer, & Latessa, 2009).

Summary

The intention of this study is to examine protective, promotive, and risk factors that are influential in a sample of adolescents taken from a predominately Hispanic population. Moreover, the risk assessment, demographic variables, and offense variables selected for this study are termed and defined. Additionally, the data collection and analysis is explained and applied. Results from the analysis are reported in chapter 4, and implications and conclusions are presented in chapter 5.

CHAPTER III

METHODOLOGY

The purpose of this study was to examine the rate of recidivism for adolescents arrested in the year 2010, as well as identifying factors that may explain why some youth reoffend while others do not reoffend. The extent that (a) the MAYSI-2 subscale scores, (b) demographic variables, and (c) offense information, impacted recidivism was also investigated. Additionally the contribution of gender, ethnicity, guardianship, and number of siblings in influencing recidivism was examined. Quantitative data were collected and analyzed to answer the research questions.

Research Question

To what extent can status of re-offense (i.e. reoffend/did not reoffend) be correctly predicted from demographic information, offense information, and the MAYSI-2 subscale scores in a predominately Hispanic population?

Subjects Selection

This study was conducted at Nueces County Juvenile Probation department. Nueces County is a moderately sized county serving both urban and rural communities in south Texas. Total population for the county during the time of this study 337,182 of which, 302,113 live in the major city of Corpus Christi (US Census Bureau, 2011). Approximately 60% (203,085) people, residing in Nueces County identify as Hispanic or Latino (US Census Bureau, 2011).

From the data of all juvenile offenders in Nueces County, a collection of offenders from the year 2010 was selected. To avoid any self-selection biases, all juveniles arrested through the year 2010 were chosen for the study (Heppner, Kivlighan, & Wampold, 2007; Kerlinger, 1986). The initial dataset includes a total of 2,054 adolescents admitted into the Nueces County Juvenile Justice and Probation Department Facility. The sample consisted of both male and female

adolescents ranging from 10-17 in age. Due to missing data, incomplete risk assessment scores, and other or improper coding of data, the final sample size utilized in this study was 884 juveniles.

This sample of convenience was selected because of the time allotted to potentially reoffend over a three year time frame. The subjects were all 2054 juvenile offenders from Nueces County who had been administered a mental health screening tool between January 1, 2010 and December 31, 2010. For all subjects, the MAYSI-2 was completed as part of standard screening protocol during intake to the detention center.   These subjects had not necessarily received a disposition, however were charged with infractions.

Measures

Massachusetts Youth Screening Instrument – Version 2 (MAYSI-2)

The MAYSI-2 questionnaire assesses thoughts, feelings, and behaviors. The MAYSI-2 is a 52-item inventory in which respondents answer *yes* or *no* questions, regarding scenarios that may be true for the juveniles in the past few months. This inventory can be completed by the juvenile, or questions can be administered orally by staff while students circle their responses. The MAYSI-2 is available in Spanish, Korean, Flemish, Greek, Norwegian, Swedish, and Vietnamese.

The administration of the MAYSI-2 is mandated by all Texas Juvenile Probation departments. Upon intake adolescents must take the MAYSI-2 assessment within 48 hours or detention or prior to their release (Texas Administration Code, Title 37). The MAYSI-2 is given to each individual every time they are referred to juvenile probation office, regardless of the last administration.

The MAYSI-2 has seven subscales, for each *yes* response, a point is added to the appropriate subscale. The seven subscales for the MAYSI-2 are Alcohol/Drug use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicide Ideation, Thought Disturbance, and Traumatic Experiences. Each of the scales contain between five and nine questions that correspond to the scales. Some of the questions contribute to more than one scale, and a few of the items contribute to no scale (Grisso et al., 2012). Questions are written at a fifth grade reading level, and are written in short direct sentences. In heterogeneous, juvenile justice settings, the alpha coefficients for scores on the MAYSI-2 ranged from .54 to .90, whereas the majority rating above .70 (Grisso et al., 2012).

Scores on the *Alcohol/Drug Use* scale had internal consistency of .86 (Grisso & Barnum, 2003). This scale is comprised of 8 questions that identify the frequency and pervasiveness of substance use (Grisso et al., 2012). Sample questions include, "Have you used alcohol and drugs at the same time?" and "Have you been so drunk or high that you couldn't remember what happened?" (Grisso & Barnum, 2006).

Scores on the *Angry-Irritable* scale had internal consistency of .80 (Grisso & Barnum, 2003). Nine questions are used to identify feelings of preoccupying anger and vengefulness or irritability (Grisso et al., 2012). Sample questions from this scale include, "Have you felt angry a lot?", "Have you lost your temper easily, or had a "short fuse"?" and "Have you hurt or broken something on purpose, just because you were mad?" (Grisso & Barnum, 2006).

Scores on the *Depressed-Anxious* scale had internal consistency of .73 (Grisso et al., 2001). This scale has nine questions geared at identifying depressed or anxious feelings (Grisso et al., 2012). Sample questions from this scale include, "Have you felt lonely too much of the

time?" and "Have nervous or worried feelings kept you from doing things you want to do?" (Grisso & Barnum, 2006).

Scores on the *Somatic Complaints* scale had internal consistency of .77 (Grisso & Barnum, 2003). The six questions on this scale are used to assess bodily aches and pains that are often related to depressed or anxious feelings (Grisso et al., 2012). Sample questions from this scale include, "When you have felt nervous or anxious: has your stomach been upset?" and "Have you had bad headaches?" (Grisso & Barnum, 2006).

Scores on the Suicide Ideation scale had internal consistency of .83 (Grisso & Barnum, 2003). There were five questions designed to evaluate thoughts and intentions about self-harm, and feelings of hopelessness (Grisso et al., 2012). Sample questions from this scale include, "Have you felt like life was not worth living?" and "Have you given up hope for your life?" (Grisso & Barnum, 2006).

Scores on the *Thought Disturbance* scale had internal consistency of .61 for males only (Grisso & Barnum, 2003). This scale was not found to be stable with females, and is therefore only used to assess altered perceptions of reality in males (Grisso et al., 2001). Due to validity of scale scores only pertaining to men, the Thought Disturbance scale was removed from the analysis of this study. Five questions are utilized to pinpoint areas in which things do not seem "real" (Grisso et al., 2012). Sample questions from this scale include, "Have you seen things other people say are not really there?" and "Have other people been able to control your brain or thoughts?" (Grisso & Barnum, 2006).

Scores on the *Traumatic Experiences* scale had internal consistency of .63 for males and .70 for females (Grisso & Barnum, 2003). The five questions on this scale are designed to track self-reported exposure to events that have potentially traumatizing effects (Grisso et al., 2012).

Sample questions from this scale include, "Have you ever IN YOUR WHOLE LIFE had something very bad or terrifying happen to you?" and "Have you ever been raped, or been in danger of being raped?" (Grisso & Barnum, 2006).

For each question that an adolescent answers yes to a numerical value of one is added to the corresponding scale score. Each scale has cautionary and warning cutoff points, with the exception of traumatic experiences. *Traumatic Experiences* scale measures the individual's history, not current symptoms. Continuous scale scores are used in research, but the MAYSI-2 employs cut off points developed for clinical use. The MAYSI-2 does not provide a total score.

The MAYSI-2 was initially designed as a triage tool for screening and assessing juveniles, therefore the cautionary and warning cutoff points are more utile in implementation. A *cautionary* score signifies that the score accumulated by the individual may have clinical significance. A *warning* score informs the proctor that the individual's score is identified as the highest 10% in all youths screened in normative samples (Grisso et al., 2012). Within the juvenile justice system, the MAYSI-2 is used to identified youth that may have mental health needs and need to receive services.

Independent Variables

The independent variables for the study were identified as MAYSI-2 subscale scores, demographic variables, and offense information. MAYSI-2 subscales were Alcohol/Drug use, Angry-Irritable, Depressed/Anxious, Somatic Complaints, Suicide Ideation, and Traumatic Experiences. Demographic variables included juvenile age, juvenile gender, juvenile ethnicity, type of school enrolled in, gang affiliation, legal guardianship, and number of siblings. Offense information included offense level/degree, previous violent offenses, and whether the current offense was violent in nature.

Juvenile age was measured using the juvenile's age at the time of offense. This variable was a numeric value that ranged from ages 10-17.

Gender was collected and coded into dummy variables. As reported in prior studies, males were more highly represented in this sample size as compared to females (592:297)

Juvenile ethnicity was collected and coded into dummy variables. Only Hispanic and Non-Hispanic ethnicities were examined in this study. Race was not a variable assessed during this investigation.

School type was measured using the last known school that the juvenile was enrolled in. This variable was divided into three categories: middle/elementary school, high school, and alternative (disciplinary) schools.

Guardianship was assessed using two measures. Data regarding the juvenile's legal guardian was nominally collected. This variable was tracked in this study on three levels: whether the juvenile lived with two parents or guardians, a household with only a single parent or guardian, and those that lived with a relative or some other family associate.

The *Previous Violent Offense* variable was measured using two scales. A nominal sale was used in order to track whether the juvenile had committed a violent offense previously using a *yes* or *no* scale. Additionally, the number of violent offenses were collected using continuous (numerical) values.

Dependent Variable

The re-offense dependent variable was measured using numerous different scales. *Re-offense* was tracked nominally using a *yes* or *no* response. In addition, the re-offense variable was tracked using time (number of days) lapsed from the current offense to any subsequent offenses. Any post offenses that the juvenile matriculated were tracked numerically.

Furthermore, the degree of post offense (e.g. supervision offenses, violent offenses, criminal) was tracked.

Procedure

Data Collection

The researcher used existing data that was gathered from the Nueces County Juvenile Probation Department using the Juvenile Case Management System (JCMS). Data were combined from individual case files and spreadsheets onto one database. To maintain confidentiality, subjects were given a Personal Identification Number (PID) by a staff member of the juvenile probation department, none of whom were affiliated with Texas A&M University – Corpus Christi. No identifying information remained on the database. The cleaned database was input into Microsoft Excel and converted to SPSS for data analyses.

Before conducting analyses, data was cleaned for incomplete or invalid data. Data on adolescents missing MAYSI-2 scores were removed. Additionally, juveniles with apparent recording errors for other variables were removed from the dataset. If a subject matriculated more than one offense during the 2010 year, only the first offense was used in this study. The researcher aimed to have a final sample of juvenile offenders ranging from 500-1000 adolescents. The final audited dataset utilized in the analysis consisted of 884 cases.

Analysis

Research Design

The study was ex post facto. *Ex post facto* refers to studies in which examinations are conducted after the fact and seek to explore causal relationships (Gall, Gall, & Borg, 2007). In addition, this study utilizes a longitudinal design. Data were gathered on juveniles during the time period of January 1, 2010 through December 31, 2010. Analyses examine the data through

the next three years (December 31, 2013) to determine recidivism. This project was approved by the Texas A&M University – Corpus Christi Institutional Review Board.

Data Analyses

Data were coded and entered into the computer using Microsoft Excel. The Statistical Package for the Social Sciences (SPSS) version 22 was used for the purpose of data entry, manipulation, and analysis. Descriptive statistics were used to summarize and organize the data.

When implementing a logistic regression, there are several advantages over similar analyses. Assumptions over distributions and independent variables do not need to be made by the researcher (Tabachnick & Fidell, 1996). Logistic regression does not produce negative prediction probabilities as it might in multiple regression, all values will be positive and range from 0 to 1 (Tabachnick & Fidell, 1996).

A logistic regression (LR) was used to identify the predictors of recidivism using a dependent variable and one or more independent variables. Logistic regression is widely used in nonexperimental research (Vogt, 2007). Logistic regression was utilized to examine the data with the categorical nominal dependent variable: reoffend/did not reoffend (George & Mallery, 2000). The regression equation produced by logistic regression predicts the probability of whether an individual will fall into one category (re-offend) or another (did not reoffend).

CHAPTER IV

RESULTS

The purpose of this study was to examine the relationship between a risk assessment, demographic variables, and offense information and the prediction of juvenile recidivism in the Nueces County Juvenile Probation Department. A binary logistic regression analysis was conducted to explore the research question: To what extent can status of re-offense (i.e. reoffend/did not reoffend) be correctly predicted from MAYSI-2 subscale scores, demographic information, and offense characteristics in a predominately Hispanic population? A hierarchical logistic regression was conducted to examine the contribution of each factor independently. An alpha level of .05 was utilized in all three analyses. The first step in the logistic regression examined the predictive qualities of the MAYSI-2 subscales. Additionally steps in the binary logistic regression analyses were conducted with the addition of demographic variables, and offense information.

From the null model, an overall predictive percentage based on the dichotomous dependent variable was calculated. The odds ratio calculated for this model is 1.476. Given the model, approximately 59.6% of cases can be predicted correctly for identifying juvenile recidivism. Overall, 527 juveniles of the 884 examined committed an additional offense within the three year time frame. Re-offense, total sample size, and rate of re-offense for the sample are reported in Table 1.

Table 1

Re-offense rate for sample

	N	Percentage
Re-offend	527	59.6
Did Not Re-offend	357	41.4
Totals	884	100

Bivariate Model: MAYSI-2 Subscales

A hierarchical logistic regression was conducted on a dichotomous dependent variable – reoffense. Predictor variables included scores form six of the MAYSI-2 subscales: Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicidal Ideation, and Traumatic Experiences. Descriptive statistics for the MAYSI-2 subscales are reported in Table 2. A total of 884 subjects were analyzed in this study. Initially 889 cases were selected. When conducting the analysis between MAYSI-2 subscales and recidivism, five cases were eliminated due to missing data. Additionally, the Thought Disturbances scale was removed from analysis, as this scale is only scored for males.

The assumption for linearity between the subscale scores and predicting re-offense was met, $\chi^2(8) = 6.439$, $p = .598$. A statistically significant model for predicting recidivism was evident, $\chi^2(6) = 37.373$, $p < .001$. The Nagelkerke R^2 ($R_N^2 = .056$) indicated that MAYSI scores have little meaningful contribution to the outcome variable: reoffending, despite the presence of a statistically significant model. Regression coefficients, Wald statistics, odds ratio, and the 95% confidence intervals for the odds ration are in Table 3.

Table 2

Descriptive Statistics for MAYSI-2 Subscale Scores

MAYSI-2 Subscales	Mean	SD	N
Alcohol/Drug Use	1.45	2.01	887
Angry-Irritable	3.66	2.71	889
Depressed-Anxious	1.79	1.80	888
Somatic Complaints	2.28	1.87	888
Suicidal Ideation	.73	1.41	888
Thought Disturbance [a]	.51	.90	591
Traumatic Experiences	1.20	1.34	889

[a] Thought Disturbance only used for Males

Scores on the Depressed-Anxious scale, Suicidal Ideation, nor Traumatic Experiences scale are statistically significant predictors of recidivism. Alcohol/Drug Use and Angry-Irritable sub scale scores were significant predictors. For each single point increase in Alcohol/Drug Use, there is a 1.10 (10%) greater likelihood to reoffend. Furthermore for each single point increase in the Angry-Irritable subscale, there is a 1.17 (17%) greater likelihood to reoffend. Somatic Complaints subscale was also a significant predictor. For each unit increase on the Somatic Complaints subscale, there is a .88 less likelihood to reoffend. Lower scores on Somatic complaints scale reflect a 12% increase in the likelihood to reoffend.

Table 3

Logistic Regression Analysis of Re-offense as a function of MAYSI-2 Subscale Scores

				95% Confidence Intervals for Odds Ratio	
Variables	B	Wald[a]	Odds Ratio	Lower	Upper
Alcohol/Drug Use	.10	5.88*	1.10	1.02	1.19
Angry-Irritable	.15	18.45*	1.17	1.09	1.25
Depressed-Anxious	-.04	.45	.96	.86	1.08
Somatic Complaints	-.13	8.61*	.88	.81	.96
Suicidal Ideation	-.08	1.82	.92	.81	1.04
Traumatic Experiences	-.03	.29	.97	.86	1.09

[a] Wald ($df = 1$).

*$p < .05$

Bivariate Model: Demographic Variables

In step 2 binary logistic predictor variables included the MAYSI-2 subscales scores (Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicidal Ideation, and Traumatic Experiences) and demographic variables. Demographic predictor variables included juvenile age, gender, number of siblings, ethnicity, gang affiliation, type of school, and legal guardian. Descriptive statistics for demographic variables are reported in Table 4. Juvenile age ranged from 10 to 17 years old. The median age for this sample was 15, and the most frequent age 16. The approximate average age for youth in this study is 14 years, $5 \frac{1}{2}$ months old ($M = 14.46$, SD = 1.47). The number of siblings each juvenile has ranged from 0 to 10 siblings.

The median number of siblings in this study is 1.00, and the most frequent number of siblings is 0 (32.5%) (M = 1.65, SD = 1.62).

The assumption for linearity between the combination of predictor variables and the natural odds for relapse was met, $\chi^2(8) = 5.33$, $p = .721$. A statistically significant model for predicting reoffense was evident, $\chi^2(16) = 151.20$, $p < .001$. The Nagelkerke R^2 ($R_N^2 = .212$) indicated demographic variables in conjunction with MAYSI-2 scores have a meaningful effect on predicting juvenile recidivism. Regression coefficients, Wald statistics, odds ratio, and the 95% confidence intervals for the odds ratio are in Table 5.

From the MAYSI-2 subscales, the Alcohol/Drug Use, Angry-Irritable, and Somatic Complaints scales were statistically significant predictors of re-offense. For each unit increase in Alcohol/Drug Use, there is a 1.16 (16%) times greater likelihood of reoffending. Furthermore, for each unit increase in the Angry-Irritable scale, there is a 1.16 (16%) times greater likelihood of re-offense. For each single point increase in Somatic Complaints, there is a .89 (11%) times less likelihood to re-offend. Neither the Depressed-Anxious scale, Suicidal Ideation, nor Traumatic Experiences scale were statistically significant predictors of re-offense.

Table 4

Descriptive Statistics for Juvenile Demographics

Demographic Variables		N	Percentage
Gender	Female	297	33.4%
	Male	592	66.6%
		889	100%
Ethnicity	Hispanic	691	77.7%
	Non-Hispanic	198	22.3%
		889	100%
Gang Affiliation	No Gang Affiliation	547	61.5%
	Gang Affiliation	57	6.4%
	Suspected/Unknown	285	32.1%
		889	100%
School Type	High School	522	58.72%
	Alternative School	91	10.24%
	Middle/Elementary	276	31.04%
		889	100%
Legal Guardian	Two-Parent Household	364	40.94%
	Single-Parent Household	467	52.54%
	Relatives or Others	58	6.52%
		889	100%

In regards to the demographic variables, gender is not a statistically significant predictor of re-offense. Juvenile age, number of siblings, ethnicity, gang affiliation, type of school, and legal guardian were all significant predictors of re-offense. For each unit increase in the number of siblings, there is a 1.18 (18%) greater likelihood of re-offense. Hispanic juveniles have a 1.85 (85%) greater likelihood to reoffend than non-Hispanic juveniles. Gang affiliation also has a significant contribution; juveniles who are affiliated with a gang have a 2.82 (182%) greater likelihood of reoffending than those who are not affiliated with a gang. Legal guardianship was a significant contributor; juveniles that live with relatives or other family associates have a 2.60 (160%) greater likelihood of re-offense when compared to the constant (two parent household) and 1.40 (40%) greater likelihood than juveniles in a single parent household.

Juvenile age and school type both had an inverse relationship with re-offense. For each unit increase in juvenile age, there is a 1.38 times greater likelihood to reoffend for each unit of decrease in age. Additionally, juveniles in high school are 1.63 (63%) more likely to reoffend than juveniles in middle school.

Table 5

*Logistic Regression Analysis of Re-offense as a function of MAYSI-2 Subscale Scores
and Demographic Variables*

Variables	B	Wald [a]	Odds Ratio	Lower	Upper
Alcohol/Drug Use	.14	10.67*	1.16	1.06	1.26
Angry-Irritable	.15	14.87*	1.16	1.07	1.25
Depressed-Anxious	-.07	1.2	.93	.83	1.06
Somatic Complaints	-.12	6.53*	.89	.81	.97
Suicidal Ideation	-.06	.74	.94	.83	1.08
Traumatic Experiences	-.01	.03	.99	.87	1.12
Juvenile Age	-.48	55.29*	.62	.55	.70
Number of Siblings	.16	10.53*	1.18	1.07	1.30
Female	-.13	.58	.88	.64	1.22
Hispanic	.62	11.79*	1.86	1.30	2.64
Gang Affiliated	1.04	7.11*	2.82	1.32	6.04
Unknown/Suspected Affil.	-.02	.02	.98	.71	1.35
Alternative School	.51	3.23	1.67	.96	2.91
Middle/Elementary School	-.96	26.54*	.37	.26	.54
Single Parent Household	.18	1.24	1.19	.88	1.62
Relative or Other	.95	7.79*	2.60	1.33	5.07

[a] Wald (*df* = 1).

*p < .05

Bivariate Model: Offense Information

For the third step predictor variables included MAYSI-2 subscale scores (Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicidal Ideation, and Traumatic Experiences), demographic variables (juvenile age, gender, number of siblings, ethnicity, gang affiliation, type of school, and legal guardian), and offense information. Offense variables included level of offense (CHINS, misdemeanor, felony), violent offense history, and if the current offense was violent. Descriptive statistic for offense variables are found in Table 6.

Table 6

Descriptive Statistics for Juvenile Offense Information

	Offense Variables	SD	N	Percentage
	CHINS	.00	103	11.6%
Offense	Misdemeanor	.46	624	70.2%
Level	Felony	.39	162	18.2%
			889	100%
History of	Yes – Prior History	.41	185	20.8%
Violent	No Violent History	.41	704	79.2%
Offense			889	100%
Current	Yes- Current Violence	.42	201	22.6%
Offense	No Current Violence	.42	688	77.4%
Violent			889	100%

The assumption for linearity between the predictor variables and the natural odds for re-offense was met, $\chi^2(8) = 4.64$, $p = .796$. A statistically significant model for predicting

recidivism was evident, $\chi^2(20) = 192.007$, $p < .001$. The Nagelkerke R^2 ($R_N^2 = .26$) indicated MAYSI-2 subscale scores, demographic variables, and offense information have a meaningful effect on predicting re-offense in juveniles. Regression coefficients, Wald statistics, odds ratio, and the 95% confidence intervals for the odds ratio are in Table 7.

The MAYSI-2 subscale scores on the Alcohol/Drug Use, and Angry-Irritable scales are statistically significant predictors of re-offense. However, Somatic Complaints ($p = .07$) was not a significant variable in this model. Additionally, the Depressed-Anxious, Suicidal Ideation and Traumatic Experiences scales were not statistically significant predictors of re-offense. For each unit increase in the Alcohol/Drug Use scale, there is a 1.14 (14%) increased likelihood of re-offense. Moreover, for each unit increase in the Angry-Irritable scale, there is a 1.15 (15%) greater likelihood of re-offense.

The demographic variables contributed similar figures to the previous model. Juvenile age, number of siblings, ethnicity, gang affiliation, school type, and legal guardian were all statistically significant predictors of recidivism. Gender is not a statistically significant predictor of recidivism. For each unit increase in juvenile age, there is a .58 greater likelihood of re-offense; inversely stated, there is a 42% greater likelihood to not reoffend for each unit of age increased. For each unit increase in number of siblings, there is a 1.18 (18%) greater likelihood of re-offense. Hispanic juveniles, as compared to non-Hispanic juveniles are 1.83 (83%) more likely to reoffend. For juveniles affiliated with a gang, there is a 2.20 (120%) greater likelihood to reoffend than juveniles that do not have gang affiliations. Juveniles who are in high school have a 1.69 (69%) greater likelihood to reoffend than juveniles in middle or elementary school. Additionally juveniles who live with a relative or other family associate have a 2.27 (127%) greater likelihood of reoffending than those who live with both parents.

The offense variables contributed statistically significant data for level of offense and history of violent offense. However whether the current offense was violent or not was not a statistically significant predictor of recidivism. Although juveniles that commit felonies is not shown to be a significant predictor of re-offense ($p = .07$), juveniles who commit misdemeanors is statistically significant. When compared to the control group (juveniles with current CHINS offenses), juveniles that commit misdemeanors have a .43 (57%) less likely than juveniles with CHINS offenses to reoffend. Juveniles with a felony offense are .56 (44%) less likely to reoffend than juveniles who have been arrested for a CHINS (supervision) offense. Juveniles with a prior violent offense have a 3.09 (210%) greater likelihood of re-offense compared with juveniles who do not have a violent offense history.

Table 7

Logistic Regression Analysis of Re-offense as a function of MAYSI-2 Subscale Scores, Demographic Variables, and Offense Information

Variables	B	Wald[a]	Odds Ratio	95% Confidence Interval for Odds Ratio	
				Lower	Upper
Alcohol/Drug Use	.13	8.33*	1.14	1.04	1.25
Angry-Irritable	.14	13.37*	1.15	1.07	1.25
Depressed-Anxious	-.06	.91	.94	.83	1.07
Somatic Complaints	-.09	3.28	.92	.84	1.01
Suicidal Ideation	-.04	.41	.96	.84	1.10
Traumatic Experiences	-.03	.14	.98	.86	1.11
Juvenile Age	-.55	66.26*	.58	.50	.66
Number of Siblings	.16	9.76*	1.18	1.06	1.30
Female	-.19	1.17*	.83	.59	1.17
Hispanic	.61	10.64*	1.83	1.27	2.64
Gang Affiliated	.79	3.90	2.20	1.01	4.82
Unknown/Suspected Affil.	-.13	.52	.88	.63	1.24
Alternative School	.31	1.05	1.36	.76	2.44
Middle/Elem. School	-1.16	34.41*	.31	.21	.46
Single Parent Household	.11	.50	1.12	.82	1.54
Relative or Other	.82	5.47*	2.27	1.14	4.50
Felony	-.58	3.20	.56	.30	1.06
Misdemeanor	-.84	10.21*	.43	.26	.72
Prior Violent Offense	1.13	26.04*	3.09	2.00	4.76
Current Violent Offense	-.34	2.94	.71	.48	1.05

[a] Wald (*df* = 1).

*p < .05

Summary

The initial model, without any predictor variables included, correctly identifies juveniles that reoffend 59.6 percent of the time. With the inclusion of MAYSI-2 variables, the predictive qualities increased to 62.9 percent. Although there are statistically significant contributions from three of the six MAYSI-2 subscales, the overall meaningful contribution of the risk assessment is small ($R_N^2 = .056$).

The inclusion of demographic variables increased the overall percentage identified correctly in the model to 67.6%. This change is noted in the Nagelkerke R^2, wherein $R_N^2 = .212$. The demographic variables included in the second binary model increases the R^2 by approximately .156. With the exception of gender, all of the demographic variables: juvenile age, number of siblings, ethnicity, gang affiliation, type of school, and legal guardian are significant at the $p < .01$ level.

Information collected from offense variables also contributed to the model. The addition of 1) level of offense, 2) history of violent offense, and 3) if the current offense was violent increased the overall predictive qualities of the model to 70.7%. Moreover, the inclusion of offense variables improved the amount of meaningful contribution associated with the model as observed by $R_N^2 = .264$.

Each of the three variable components (MAYSI-2 subscales, demographic variables, and offense information) provide statistically significant contributions to the prediction of the dichotomous dependent variable: re-offense. However, the most powerful contribution to predicting juvenile recidivism is from examining the demographic characteristics.

CHAPTER V

DISCUSSION

The primary purpose of the present study was to determine if data commonly collected from juvenile offenders upon intake could be used to accurately predict recidivism. More specifically MAYSI-2 subscales, demographic variables, and offense information were evaluated to assess the extent to which re-offense could be predicted in the juvenile offenders from the year 2010. Six of the seven subscales employed by the MAYSI-2 risk assessment were included in the analysis: Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicidal Ideation, and Traumatic Experiences. Demographic variables chosen to examine this relationship were: juvenile age at the time of offense, gender, ethnicity, gang affiliation, type of school juvenile attends, and legal guardianship. Additionally offense information was collected to investigate the research question. Offense variables utilized were level of offense (e.g. CHINS, misdemeanor, felony), history of violent offense, and current violent offense.

MAYSI-2 Scales and Recidivism

Alcohol/Drug Use. Youths that scored high on the Alcohol/Drug Use scale were consistently correlated to high recidivism rates. Through all three of the logistic regression analyses, this subscale of the MAYSI-2 proved to be statistically significant in predicting juvenile re-offense. This finding is consistent with prior research (McReynolds et al., 2010; Shubert et al. 2011; and Hoeve et al., 2013), all of whom reported an increased likelihood of re-offense in juveniles who use substances.

Angry-Irritable. The Angry-Irritable scale was predictive of juvenile recidivism in all three of the logistic regression analyses. High scores on the Angry-Irritable scale were expected due to risk factors associated with aggression and violence (Bolland, McCallum, Lian, Bailey, &

Rowan, 2001; Bolland, 2003; Brookmeyer et al., 2006; Cedeno et al., 2010; Stoddard et al., 2012).

Somatic Complaints. The Somatic Complaints scale was predictive of juvenile recidivism in the first two models. However, with the incorporation of offense variables, the statistically significant contribution of Somatic Complaints was reduced. The lower the score on the Somatic Complaints scale, the higher the likelihood of the juvenile to reoffend.

Non-Significant Scales. The four other scales used in the MAYSI-2 were not significant predictors of juvenile recidivism. Although in some studies (Marczyk, 2002; Vasquez, 2010) these subscales are shown to have some predictive qualities, none of these scales were found to be predictive of recidivism in the present study. Additionally these scales had a negative correlation to juvenile recidivism.

Conclusions from the current study are similar to the results from similar prior studies. Bisbee (2010) reported two scales to be predictive for both males and females (Alcohol/Drug Use, Angry-Irritable). Marczyk (2002) reported correlations to recidivism on the Suicide Ideation, Angry-Irritable Scale, and Depressed-Anxious Scale. Marczyk also reported negative relationships to recidivism on the Alcohol/Drug Use scale, Somatic Complaints, Thought Disturbance, and Traumatic Experiences Scale. Vasquez (2010), whose sample size was most similar to the current study, found that high scores on the Alcohol/Drug Use scale, and Angry-Irritable scales were predictive of higher rates of recidivism in Hispanic youth. Additionally, Vasquez reported higher scores on the Traumatic Events scale to be highly correlated to re-offense.

Demographic Variables

Age. In the current study, age is a significant predictor of juvenile recidivism. This finding is consistent with prior literature (Mulder, et al., 2011; Cottle et al., 2001; Loeber et al., 2008; Loeber, Stouthammer-Loeber, 1998). Younger juveniles were more likely to reoffend than older juveniles. As in previous literature, younger age of delinquent behavior may be reflective of continual engagement in the juvenile justice system (Loeber, Stouthammer-Loeber, 1998).

Gender. Gender was not found to be a significant predictor of juvenile recidivism. Barrett, Katsiyannis, and Zhang (2006) reported that gender was not predictive of any subsequent offenses. However, consistent with other literature (Agnew, 2001; Stouthammer-Loeber, 1998), males were found to be more likely to offend than female adolescents.   Similar demographic properties were found in the current study: males accounted for 67% of the sample size, whereas females only accounted for 33%.

Ethnicity. Ethnicity was found to be a strong predictor of recidivism in juveniles. Snyder & Sickmund (2006) reported an overrepresentation of minorities within the court system. Additionally, this finding in the current study is consistent with previous studies that assert juveniles that are a minority are twice as likely to commit violent acts as white juveniles (Jenson et al., 2001; Maschi, 2006).

Gang Affiliation. Gang affiliation was predictive of juvenile recidivism throughout each regression analysis. Peer influences such as those received from gang membership can be indicative of violence and criminal activity (Mulder, et al., 2011; Dahlberg & Potter, 2001; Meehan, 2010). This finding corresponds to prior studies that have examined the role of negative peer influences in a juvenile's life. Gang affiliation is a negative social influence that is indicative of future criminal activity.

Siblings. The number of siblings an adolescent has is a statistically significant predictor of juvenile recidivism. The more siblings that juveniles have, the more likely that they will re-offend. This demographic analysis was not found to be examined or reported in prior studies, but in the present study, this variable is found to be reflective of subsequent offending.

School. A juvenile that is in Middle or Elementary school is less likely to reoffend than a juvenile in either High School or an alternative (disciplinary) school. Moreover, although not statistically significant, alternative schools are more predictive of re-offense than merely attending a high school. This finding is also consistent with research suggesting low attachment to school is a predictor of delinquency (Smith et al., 2006; Loeber et al., 208; Valois et al., 2002). Alternative schools are a temporary placement and thus, would minimize the amount of stability a juvenile could receive or perceive from it.

Legal Guardian. Differences in a two parent household, single parent household, and juveniles that lived with another relative or family associate were examined. Living with a single parent or living with both parents were not predictive of recidivism. This finding is confirmatory of prior research that negated the influence of single parent homes to be influential to juvenile delinquency (Myner et al., 1998; Niarhos & Ruth, 1992).

However if a juvenile is living with a relative, or some other person, other than a parent, the likelihood to reoffend was high. This finding corresponds with the research suggesting that family influences such as poor parenting, neglect, insecure attachment, and stress can contribute to delinquency (Henry, et al., 1996; Hoeve, et al., 2008, 2009; Sentse et al., 2009).

Offense Information

Level. Adolescents who are arrested for supervision violations (CHINS) are more likely to reoffend than those who commit misdemeanors and felonies. Misdemeanor crimes are less predictive of re-offense than those who commit felonies or CHINS offenses, respectively.

History of Violence. A history of violent offenses is shown to predict recidivism in this study. Stoddard et al. (2012) reported violence to be more prevalent in younger juveniles, but the amount of violence exhibited decreased by age. White et al., (2001) reported a correlation between violence and substance use. Additionally, youth with substance use disorder are more likely to commit future offenses (Collins et al., 2011). Therefore identifying youth with a history of violent offenses as a precursor to re-offense in this study, corresponds to previous literature.

Current Violence. Current violent offenses were not statistically significant. Although juveniles that had a current offense that was violent reoffended more than those that did not have a violent offense, it was not necessarily predictive of re-offense. The amount of violence displayed by a juvenile is shown to decrease with age (Stoddard et al., 2012), and insignificance of this variable reflective of this facet. Moreover this insignificance may be accounted for through placement or other treatment programs.

Implications

The MAYSI-2 risk assessment administered in this study had minimal contribution to the prediction of recidivism. Although this assessment is utilized for screening individuals for serious pathologies upon entry into the juvenile justice system, it had minimal relevance in this study. One contribution that this assessment does provide (MAYSI-WARE was not administered in this study), is a face to face interaction with the probation staff. This interaction may be more helpful in identifying whether a juvenile is likely to reoffend versus relying on psychometric instrumentation.

The contribution of offense information in this study, although statistically significant, was minor. Juveniles with minor violations (supervision offenses) are at the highest risk to reoffend, but are not juveniles identified as participating in risky behaviors (violence). Although the information gathered from this information can be useful in identifying juveniles with a high probability of violence, the contribution to identifying youth at risk for reoffending is marginal.

The demographic information collected contributed the most significant amount of meaning when predicting juveniles who reoffend. Both the static and dynamic variables contributed significance in identifying at risk youth. This study indicates demographic factors as the dominate factor in predicting re-offense. However, an attempt to categorize individuals based on demographic characteristics could end in mislabeling, stereotyping, and inaccuracies. Still, there are many benefits to knowing the demographic contribution to juvenile recidivism.

Knowing these factors about the present study can assist counselors and other helping professionals in developing programming, treatment plans, or assisting adjudicated youth through advocacy. For example, if a client presented with a specific profile (e.g. Hispanic, male, affiliated with a gang, living with a relative), statistically speaking, there is a high likelihood of the juvenile to reoffend. The knowledge of these risk factors assists the clinician in the direction of treatment. Additionally, the specific manner in which a treatment plan or program development would be implemented is influenced by these characteristics.

Counselors should not overlook the value of multicultural issues such as ethnicity, gender, age, legal guardianship, gang affiliation. Moreover, counselors should be sensitive to these issues. Counselors should keep in mind that the best interventions are empirically based, while contemporaneously addressing multiple risk factors affiliated with delinquency.

Counselor education training programs benefit from the results of this study through the preparation of students for their professional careers through knowledge of the importance of influences in juvenile recidivism. Shader (2004) noted the importance of counselor educators to be informed on risk factors contributing to juvenile delinquency.

The role of advocacy is important to consider in the development and implementation of treatment intervention plans. Integration of successful intervention requires sufficient knowledge of the static and dynamic factors that influence and effect juvenile recidivism.

Additionally, counselor educators should be aware of the role of the juvenile justice system. Programs developed for the juvenile population are geared towards rehabilitation, education, and reducing future offenses. Furthermore, counselors should understand why treatment interventions are more effective than harsher sanctions when counseling and advocating for adjudicated youth.

Limitations

The present study contributes to the empirical literature on juvenile recidivism; however, the findings from this study may have been impacted by certain limitations and therefore may hinder the generalizability of the results. The limitations associated with this analysis generally pertain to obtaining information, and the sample utilized in the examination.

The demographic group represented in this study is not consistent with the national norms. Although the intention of this study was to explore a unique subset of the population, the results may not be generalizable due to the variances of population norms. Additionally, this study only examined ethnicity without regard to race. Only 7% of the sample size identified as African American, therefore examining the ethnicity of the sample (Hispanic/Non-Hispanic) was more reflective of the local demographic profile.

A large portion of the initial dataset was either deleted due to incomplete data, or removed due to redundancies (repeat offenders within the year 2010). Cases that did not have complete data for the predictors observed in the study were removed (risk assessment, demographics, offense information). The removal of these cases infers a certain level of uncertainty, because of the subset of the entire dataset being analyzed. However, the sample size was still large (N=884), therefore suggestive of an accurate examination of the sample population.

The use of archival data does not allow the researcher to assess or determine how the variables were measured, or whether the data collection was accurate. Because of the ex post facto nature of this study, data collection procedures were not monitored, and accuracy of documenting demographic information, scoring, or interpretation of risk assessment results cannot be verified. Therefore data input by probation staff is a limitation of this study.

Administration variables, such as amount of time between the juvenile admittance and administration of risk assessment, abiding by administration standards, and disclosing uses of the assessment are also limitations. Moreover, the juvenile's exposure to the risk assessment can influence responses. Juveniles are administered an assessment upon each entry into the juvenile probation system. Therefore the frequency of administration and recency of the last administration of the exam can influence responses. Additionally, juveniles' perception of the use of the results may alter responses.

Age was also a limitation of this study. The MAYSI-2 risk assessment is normed on adolescents ages 12-16. However, this study included adolescents ranging from 10-17, as the MAYSI-2 is administered to these individuals in the juvenile probation system as well.

Therefore the entire selection of juvenile offenders, although not normed, was included in the analysis.

Additionally juveniles aged 17 years old provided limitations in this study. None of the 17 year old juveniles examined in this study reoffended. Therefore the researcher concluded that these adolescents aged out of the juvenile system during the course of this study. Although Snyder & Sickmund (2006) report over 50% of the juvenile population will be rearrested within one year, this limitation could also extend to 16 year old juveniles.

Future Directions for Research

Juveniles that committed CHINS offenses or offenses due to the lack of supervision were more likely to reoffend than juveniles that committed misdemeanor or felony offenses. Although this discrepancy could be accounted for via placement, or detention, thus inhibiting the juvenile from reoffending, it is an area that could be examined more closely. This study did not analyze the influence treatment facilities or specific placements had on recidivism. Understanding the influence of treatment programs, and long term effects for youth could prove beneficial in developing and implementing appropriate interventions, as well as reducing overall incarceration.

Gang affiliation is reflective of re-offense. An in depth investigation of the influences of gang affiliation as a juvenile may be useful in understanding the perceived beneficence juveniles experience as a member. Additionally, the gender differences in gang affiliation are underexplored and may contribute thematic information for prediction.

In this study, living with a guardian other than a parent is a statistically significant predictor of recidivism. This may be indicative of poor structure, family stress, or attachment. Further investigation of this dynamic may be instrumental in identifying the influence and

contribution of family structure. Future studies could also include family dysfunction, parental psychopathology, parent-child relational issues.

Similar studies have explored the variances in gender regarding MAYSI-2 scores as a predictor of recidivism. However few prediction examinations have focused on the demographic variances between gender as predictors of recidivism. Gender differences in re-offense are apparent throughout the court system, but are virtually unexplored as an antecedent to criminal succession.

Age is often a limitation in working with juvenile populations. However, it is commonly cited as a predictor of recidivism (Loeber, Stouhammer-Loeber, 1998; Mulder et al., 2011; Cottle et al., 2001; Loeber et al., 2008; Vasquez, 2010). Additionally, inaccurate assessments and predictions of older juveniles may be occurring due to aging out of the juvenile system. A longitudinal examination of recidivism from adolescence through adulthood could be a resolution to this discrepancy.

Demographic predictors of recidivism were the most significant contributors to juvenile recidivism. Because of this major influence on the results of this study, additional confirmatory studies should be conducted. Additionally, supplementary demographic variables not included in this study (academic performance, GPA, last grade completed, parental offense history, SES, use of time, parental influence, peer influence) could reveal more insight into this phenomena.

Conclusion

The purpose of this study was to determine if information commonly collected from juvenile offenders upon intake into a juvenile probation facility is effective at predicting recidivism. The subscales of the risk assessment: MAYSI-2, demographic variables, and offense information were assessed to examine the research question. Although each of these elements

contained variables that were statistically significant predictors of juvenile recidivism, demographic variables contributed the most weight with regards to meaningfulness to the model. The results of this study are valuable to staff in juvenile justice settings, practitioners working with the juvenile population, and for the general population, as many of the significant demographic factors employ dynamic characteristics.

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