WHAT'S SCHOOL GOT TO DO WITH IT?

IMPACT OF SCHOOL ATTITUDES, ACHIEVEMENT, AND BEHAVIOR

ON RECIDIVISM FOR JUVENILE OFFENDERS

by

CHRISTINA LYNNE WISE

(Under the Direction of Georgia B. Calhoun)

ABSTRACT

As a response to the needs of judicial officers to correctly predict juvenile offender recidivism, the current study sought to create a prediction model of recidivism based on academic factors. The current study included analyses of 61 youth and examined current grade in school, last semester grade point average, and their average number of suspensions and absences per month for the previous academic year. The study found that the model using these four factors statistically significantly predicted the likelihood of recidivism and was able to significantly predict those whom did not recidivate. In follow up analyses, the average number of suspensions per month was statistically significantly related to recidivism. Other factors examined include: gender of offender, offense severity, attitude to school and teacher, and tardies. Future research examining the overall prediction model and the impact of suspensions is recommended.

INDEX WORDS: Juvenile Offenders, School Factors, Recidivism, Academic Factors, Suspensions

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DEDICATION

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CHAPTER 1

INTRODUCTION

The study of juvenile offenders is crucial in the United States due to the increasing number of adolescents involved in the juvenile justice system and the limited funding available to serve their needs (DeMichele & Payne, 2007). In 2008, according to the U. S. Office of Juvenile Justice and Delinquency Prevention (OJJDP), 16% of the violent crime arrests and 26% of the property crime arrests were juveniles (Slowikowski, 2009). Juvenile offenders accounted for 2.11 million arrests in 2008 (Slowikowski, 2009).

It is integral to understand the profile of a typical juvenile offender when determining the appropriate interventions to pursue. Data indicates that the typical juvenile offender is male (30% of juvenile arrests in 2008 were female) (Slowikowski, 2009). The limited numbers of female offenders in the system receive preferential treatment, with 61% of female offenders not placed in detention for offenses similar to their detained male counterparts (Katsiyannis & Archwamety, 1997). Black youth are overrepresented in the juvenile arrests when compared to the compositions of the community (Slowikowski, 2009). The OJJDP reported that in 2008 the U.S. population from 10 to 17 years of age was 78% White, 16% Black, 5% Asian/Pacific Islander, and 1% American Indian (most juveniles identifying as Hispanic were included in the White racial category) (Slowikowski, 2009). However, Black juveniles were involved in 52% of violent crime and 33% of property crime arrests committed by juvenile offenders. Incarcerated youth have a high occurrence of mental health diagnoses. Youth who meet the criteria for at least one mental health diagnosis accounted for 90% of incarcerated juvenile offenders in one

study, 72% of incarcerated youth in another study, and a third study reported that two-thirds of male and three-fourths of female incarcerated youth had at least one mental health diagnosis (Rozalski, Deignan, & Engel, 2008; Atkins et al., 1999; Odgers, Burnette, Chauhan, Moretti, & Reppucci, 2005). Also, past research indicates that offenders have lower IQ scores compared to their peer group (scoring approximately 6 points below the peer group mean on intelligence measures) (Moffitt & Silva, 1988). In the United States, 8.8% of youth who are school-aged have a diagnosed disability compared to 32% of the youth involved with the juvenile justice system with a diagnosed disability (Rozalski et al., 2008). Academic measures were lower for juvenile offenders compared to their non-offending peer group (Archwamety & Katsiayannis, 2000). Typical juvenile offenders have many factors impeding their ability to choose more adaptive coping responses to risk factors.

In recent years, the legal and institutional landscape for juveniles involved in the court system has changed. The Gun Free Schools Act of 1994 imposed a "zero tolerance" policy for youth carrying weapons into the school setting (Rozalski et al., 2008). This law forced adolescents with weapons violations out of school. Dodge (2008) identified a media trend pairing youth and guns that led to 40 states changing laws to accommodate more juvenile offender transfers to adult courts for adjudication. This simultaneously resulted in harsher punishments and a focus on gun violence prevention (Dodge, 2008). In 1996, the Violent Youth Predator Act was passed, which mandated that chronic offenders arrested for violent crimes be tried as adults and raised mandatory prison sentences for juvenile crimes that involve a gun (Dodge, 2008). Many juveniles serve their sentences in overcrowded facilities with worsening conditions (Katsiyannis & Archwamety, 1997). However, research does not support detention as a means of rehabilitation for juvenile offenders (Katsiayannis & Archwamety, 1997).

Unfortunately, funding for prevention programs and focused interventions is not the current focus of policymakers (Katsiyannis & Archwamety, 1997; Dodge, 2008).

The academic landscape has also changed since the early 1990s. In 2003, 70% of schools reported using a security guard, a police officer, or both (Rozalski et al., 2008). Three out of four schools identified locking or supervising their doors (Rozalski et al., 2008). Youth who display deviant behaviors are increasingly being segregated from the mainstream population (Dodge, 2008). Methods employed to separate youth with behavioral problems include alternative schools, boot camps, and in-school suspension (Dodge, 2008). Research shows that grouping youth displaying deviant behaviors together can increase negative behaviors (Dodge, 2008).

The academic environment is integral for children and adolescents. An adolescent is mandated to be in the school environment for six or more hours at least 160 days per year (Council on Chief State School Officers, 2009). Due to the significant time spent in-school and out-of-school on academics and extracurricular activities, children and adolescents are greatly impacted by many factors related to the school setting. Behavioral problems at school can result in suspensions, expulsions, or grade retention (Aud, Fox, & KewalRamani, 2010). Recent statistics from the Department of Education for 2007 indicate that 22% of 6^{th} through 12^{th} graders were suspended and 3% expelled in the past. Out-of-school suspensions and poor attendance rates create risks for children and adolescents due to not having at-home supervision (Dupper, Theriot, & Craun, 2009). Dupper and colleagues (2009) stated that students have a higher likelihood of using substances, smoking, becoming sexually active, being involved in physical altercations, committing an offense that results in detention, and having lower academic achievement rates when not in school. Research shows a relationship between higher adolescent

school attachment and lower rates of violent crime, higher academic motivation, and higher academic achievement (Frey, Ruchkin, Martin, & Schwab-Stone, 2009; Lecroy & Krysik, 2008). Overall academic satisfaction and a feeling of belongingness in the school setting have a positive relationship to academic achievement (LeCroy and Krysik, 2008).

In the United States education system, there are discrepancies in academic outcomes and behavioral interventions between White and non-White students (Aud, Fox, & KewalRamani, 2010). There are a larger amount of African American and Latino children suspended compared to their White peers (2.3 times the rate of White students) (Dupper, Theriot, & Craun, 2009). Also, African American or Latino students are more likely to be suspended for "discretionary offenses, such as 'defiance of authority' and 'disrespect of authority'" (Dupper et al., 2009). Black students had a higher rate of being suspended than any other race or ethnicity for 6th through 12th grades based on 2007 data (Aud et al., 2010). Students identified as low-income receive harsher punishments that are often more degrading (being yelled at in front of peers) compared to their peers (Dupper et al., 2009). There is a larger percentage of non-White children living in poverty when compared to White children (34% of Blacks, 33% of American Indians/Alaska Natives, and 27% of Hispanics compared to 10% of Whites) (Aud et al., 2010). Schools primarily composed of non-White youth do not have the same accessibility to competent educators and college preparatory programs (Bailey & Paisley, 2004). During the 2007 to 2008 academic year, 25% of math instructors in schools with over 50% Black enrollment lack any specific math certification or an undergraduate math major, compared to 8% of math instructors serving schools with over 50% White enrollment (Aud et al., 2010). Male African American youth are three times more likely than White youth to be placed in special education courses or receive remediation (Bailey & Paisley, 2004). Also, Black students had a higher grade retention

rate (21%), compared to their peers, in 2007 (Aud et al., 2010). These studies illustrate the discrepancies in educational opportunity for non-White and low income populations.

Research on recidivism indicates that interventions based on family, peer, or school factors are able to reduce recidivism rates (Katsiyannis & Archwamety, 2008; Dodge, 2008). Studies examining chronic offenders indicate that most juvenile offenders do not become adult offenders (Natsuaki, Ge, & Wenk, 2008). Completion of a high school diploma is a critical component to offending into adulthood (Natsuaki et al., 2008). Past research shows that the likelihood of a juvenile to be involved in the juvenile justice system is lower for youth enrolled in a school with higher attendance rates, lower rates of behavioral problems, higher academic achievement, and a higher sense of school attachment (Frey, Ruchkin, Martin, & Schwab-Stone, 2009; LeCroy & Krysik, 2008; Dupper, Theriot, & Craun, 2009). Dupper and colleagues (2009) report that there are many negative effects, which can arise from out-of-school suspensions, including incarceration, substance use, carrying a weapon, and committing crimes. One reason for the relationship between negative effects and out-of-school suspensions is that students who have higher likelihood of being suspended have lower rates of at-home supervision (Dupper et al, 2009.).

Recidivism and the interventions necessary to curb the risk of reoffending are expensive. Cohen and Piquero (2009) estimated that effectively intervening with a 14-year-old high risk offender will save between $2.6 and $5.3 million. The period of time following juvenile offenders' first offense is the most influential in determining if offenders will recidivate (Gavazzi et al., 2008). It is integral for judicial officers to have a proven prediction method to determine what interventions are necessary after the initial offense. Gavazzi and colleagues (2008) reported that it is imperative to identify offenders correctly into high risk and low risk categories.

Juvenile offenders placed into interventions with other offending youth have a higher rate of increasing their offending outside of the intervention (Dodge, 2008). Dodge (2008) explained that youth who are not chronic offenders, but who are involved in the juvenile justice system nonetheless, have the highest risk of being influenced when placed with other offenders, specifically older offenders with similar offenses. Further research shows that misplacing low-risk youth into high-risk services can increase the likelihood of recidivism and antisocial behaviors (Krysik & LeCroy, 2002; Gavazzi et al., 2008). It is integral to study predictors of recidivism and to develop a method for correctly identifying interventions for juvenile offenders beginning after their first offense.

Statement of the Problem

Judicial officers do not have reliable methods of determining appropriate placement and services for juvenile offenders to reduce the likelihood of reoffending. It is integral for research on juvenile offenders to designate risk factors, which will allow judicial officers to spend increasingly limited resources on the youth who are at the highest risk for reoffending. Identifying the highest risk youth is a burdensome and complicated task. Currently there are no easy-to-implement methods for judicial officers. The stakes are raised due to the potential risk of misplacement. By misplacing low-risk youth in services with high-risk youth, the judicial officer may be increasing the likelihood of reoffending (Gavazzi, et al., 2008; Dodge, 2008). Judicial officers are responsible for the welfare of large caseloads of youth and are not given the financial resources or time to provide extensive services to all the youth on their caseloads (DeMichele & Payne, 2007). High turnover and demand for judicial intervention limits the amount of time that can be allocated for training on potentially complicated risk assessments. The situation is exacerbated by continued offending patterns by youth on caseloads. Recidivism

costs time and money for judicial officers to attend to new charges, sanctions, and probation requirements set forth by the court. Further research that identifies factors related to risk level for juvenile offenders is needed to ensure ease of use for the judicial officers and their implementation of the assessment tool.

Increased recidivism rates also impact the court system (through increased numbers of cases, court sanctions and difficulty with placement decisions), detention centers (serving larger loads of youth), and the taxpayers (through higher costs associated with increased services and incarceration). The consequences of delinquency can have long-term and long-lasting effects for a youth. In particular, they can be removed from environments that enable growth (such as the academic environments) and placed in detention centers. It is in the best interest of the youth, judicial officers, the courts, and taxpayers to reduce recidivism. However, this is particularly complicated by an over-burdened judicial system, which lacks the financial resources and effective and efficient methodologies. This study seeks to address this problem by examining the relationship among specific academic factors and offender risk of recidivism to provide a foundation for judicial officers to assess risk and appropriately assign youth to services.

Purpose of the Study

The purpose of the study is to provide a predictive tool to judicial officers to facilitate resource allocation and placements for juvenile offenders. Recidivism and the interventions necessary to curb the risk of reoffending are expensive. Estimates indicate that intervening with a 14-year-old high risk offender may save between $2.6 and $5.3 million (Cohen & Piquero, 2009). This high cost means that monitoring juvenile offenders after the first offense is the most influential with regards to recidivism (Gavazzi et al., 2008). Gavazzi and colleagues (2008) reported that it is imperative to identify offenders correctly into high risk and low risk categories

to provide the appropriate services for individuals. Therefore, it is important for judicial officers to have a proven structure to determine what interventions are necessary after the initial offense.

Research Questions

The current study examines variables related to school achievement, behavior and attitude in relation to recidivism. School has an important impact on delinquency rates and rates of re-offense, as evidenced by research. Recidivists and non-recidivists were separated within the *Juvenile Counseling and Assessment Program* (JCAP) program. Factors of school behavior (suspensions and expulsion), school achievement, school attendance and school attitude (attitude toward teacher and school) are examined between the two groups.

Research question 1. Does school achievement, behavior, and attitude predict whether a juvenile offender will recidivate?

Null hypothesis 1. School achievement, behavior, and attitude factors make no difference on the likelihood of juvenile offenders recidivating.

Research question 2. Will juvenile offenders with higher school achievement be less likely to reoffend?

Null hypothesis 2. There is no difference between the likelihood of reoffending for juvenile offenders with low school achievement or high school achievement.

Research question 3. Will juvenile offenders with higher attendance rates be less likely to reoffend than juvenile offenders with low attendance rates?

Null hypothesis 3. There is no difference between the likelihood of reoffending for juvenile offenders with low attendance and higher attendance rates.

Research question 4. Will juvenile offenders with higher rates of behavioral problems be more likely to reoffend than juvenile offenders with lower rates of behavioral problems?

Null hypothesis 4. There is no difference between the likelihood of reoffending for juvenile offenders with different rates of behavioral problems.

Operational Definition of Key Terms

Academic achievement. Academic achievement is defined as the outcomes received in a school setting, which includes grade point average (GPA), grade passage, graduation test passage, and a high school diploma.

Adjudication. An adjudication is a judicial hearing to determine the appropriate legal disposition of a criminal charge.

Adolescent. An adolescent is a youth between the ages of 12 and 17 years of age.

Behavioral problems. Behavioral problems are defined as school sanctions of warnings, detentions, in-school or out-of-school suspensions, and expulsions for the infringement of school policy.

Felony. A felony is a considered to be a more serious crime than a misdemeanor and is punishable by a one-year or more jail term.

Gender. Gender is defined as a social concept differentiating men and women based on a group of characteristics, including genetically-determined sex, gender-identity, and social function.

In-school suspension. An in-school suspension is a school disciplinary action, which requires that a youth attend a separate classroom or building during a set time of school days or periods and work on schoolwork individually. An in-school suspension allows youth to complete schoolwork at their pace and is considered less severe that an out-of-school suspension.

Juvenile offender. A juvenile offender is a youth 17 years of age and below who has been charged with an offense by the Department of Juvenile Justice or the Department of Justice.

Juvenile delinquent. A juvenile delinquent is synonymous with juvenile offender.

Misdemeanor. A misdemeanor is a crime that is considered less severe than a felony and is typically punishable by a fine or other minor court sanctions. A misdemeanor normally has less than a one-year maximum jail term.

Out-of-school suspension. An out-of-school suspension is a school disciplinary action, which requires that a youth does not enter school property for a set number of school days. Out-of-school suspensions are considered more severe than in-school suspensions. Some school policies do not allow youth to make-up missed school work during the out-of-school suspension period.

Race. Race is defined as a social concept created to classify humans based on perceived physical traits and self-identification.

Recidivism. Recidivism is the incidence of juvenile offenders reoffending.

Reoffending. Reoffending is when a juvenile offender adjudicated of one crime is subsequently adjudicated for a new offense.

School attachment. School attachment is defined as the amount of belonging or connection to the school setting, the instructors, and peers a student identifies.

Status offense. A status offense is a charge that can solely be given a youth rather than an adult. Status offenses include charges of unruly, ungovernable, runaway, truancy, and curfew violations.

System. A system is defined as a group of people or organizations that exist within a structure, where a change in one part of the system changes the other elements in the system.

CHAPTER 2

LITERATURE REVIEW

"Contextual factors may predict who benefits from interventions, and contextual factors may predict how effectively interventions can be disseminated," (Lochman, 2004, pg. 316). Judicial officers in the juvenile justice system are required to allocate appropriate resources to a large caseload of adolescent offenders with limited funds and time (DeMichele & Payne, 2007). DeMichele and Payne (2007) report the growing offender population supervised in the community as a result of prison overcrowding problems. The growth in community-based supervision of offenders resulted in a shift in the nature of the offender on probation (DeMichele & Payne, 2007). In recent years, the offender on probation moved from offenders who had a low-risk of reoffending to more high-risk offenders, with reports of more than 50% of the probation population with felony offenses (DeMichele & Payne, 2007). More high-risk offenders require more supervision and resources provided by the Department of Juvenile Justice (DeMichele & Payne, 2007). The shift in population on probation required an adjustment to the methods, which includes using evidence-based methods to accurately predict offender risk level and allocated resources. Eaker, Allen, Gray and Heckel (1983) identified the importance of predicting offender's response to intervention through identifying offender types. Further research into the contextual and personal factors related to increased risk for reoffending is vital to facilitate assigning appropriate interventions to adolescent offenders.

Judicial officers are placed in the difficult position of working towards three main goals, identified by DeMichele and Payne (2007) as rehabilitation, punishment, and a commitment to community safety. The three goals provide a unique challenge to judicial officers due to the

goals' competing nature, the limited funds available to meet the goals, and the sizeable caseload judicial officers must manage. In the last three decades the courts ordered more community-based interventions and stricter supervision requirements for offenders, which translated into more supervision necessary by the judicial officers (DeMichele & Payne, 2007). Though the number of offenders on a probation officer's caseload increased, the funds accessible decreased (DeMichele & Payne, 2007). The limited financial resources and increased supervision create the necessity for evidence-based methods to identify resources that meet offenders' probation requirements and facilitate rehabilitation and community safety. It is integral that judicial officers accurately identify high-risk offenders to provide resources to offenders on their caseload with the highest likelihood of reoffending. Gavazzi and colleagues (2008) identified the need to create tools to facilitate judicial officers with resource allocation and community referrals. When considering the shifting landscape of the probation population, it is integral for judicial officers to have evidence to base their decisions (DeMichele & Payne, 2007).

Accurately identifying high-risk offenders facilitates community safety and rehabilitation of the offender. However, there is also a cost savings to the community when the likelihood of a juvenile offender recidivating is decreased (Cohen & Piquero, 2009). Cohen and Piquero (2009) predicted that providing appropriate services that prevented a high-risk adolescent delinquent at 14 years old from continuing to reoffend into adulthood could save between $2.6 and $5.3 million. Recidivism is costly for the community with the costs of court, judicial officers, detention, programs, lack of productivity of the offender and community damage (Cohen & Piquero, 2009). Dodge (2008) reported that studies have shown that due to the high costs of the legal system ($1 trillion expenditure per year related to crime) the American public are willing to fund prevention programs that would curb the likelihood of recidivism. However, Dodge further

states that the majority of funds are currently focused on punishment, such as increased detention and harsher laws directed towards youth.

While it is integral to consider the costs and safety concerns for the community, it is also vital to consider the long-term effects of crime on an adolescent offender. One study examining long-term results of adolescent offending by Ramchand, Morral and Becker (2009) provided insight into the possible outcomes of offending. This study followed a group of adolescent offenders in Los Angeles detention centers for 7 years and 3 months to determine group outcomes. The study found a mortality rate 500% higher than the peer cohort. Two out of three participants indicated illegal activities (other than substance use) in the past year. Almost one out of two participants was in jail in the past 90 days and only 45% were employed or unemployed and seeking employment (Ramchad et al., 2009). The high mortality rates found were consistent with other long-term studies of offenders (Ramchad et al., 2009). One in five of the respondents indicated positive outcomes of not having been incarcerated or engaged in illegal activities in the past 90 days and did not state that they were incarcerated or unemployed (Ramchad et al., 2009). Ramchad and colleagues (2009) determined that legal involvement in adolescence and subsequent detention impedes the likelihood of connecting to positive educational and vocational networks that increase positive outcomes in adulthood. They further stated that the results of the study indicated a need to change juvenile justice procedures, which are not currently providing successful rehabilitation to juvenile offenders.

Providing appropriate services early in an offenders' pathway has a higher likelihood of impeding an adolescent offender's likelihood of continuing on into adulthood (Gavazzi, et al., 2008). Gavazzi and colleagues (2008) concluded that the most integral period to differentiate recidivists from non-recidivists is what transpires after the first offense. Here, subsequent

intervention is essential to reduce recidivism rates. Recidivism is expensive, as are necessary interventions to reduce the number of re-offenses in high-risk juveniles. It is imperative to accurately identify youth needing more services to limit cost and reduce recidivism rates (Gavazzi et al, 2008.). Also, it is imperative to begin appropriate services early on an offender's pathway to ensure more positive response from interventions.

Inaccurately assessing adolescent offender need may result in negative outcomes for juvenile offenders. Research shows that misplacing low-risk youth into high-risk services can increase the likelihood of recidivism and antisocial behaviors (Krysik & LeCroy, 2002; Gavazzi et al., 2008). Dodge (2008) indicated that placing an adolescent offender into inappropriate services may result in *Deviancy Training*, where youth are trained in criminal behavior via therapeutic groups, school classrooms, and detention centers by other offenders. The types of offenders with an elevated risk of being influenced by other offenders are those who are not dedicated to the criminal pathway yet (Dodge, 2008). This risk increases if these youth are placed with older peers with similar types of offenses (Dodge, 2008). Dodge reports that the trend for separating deviant youth in schools and placement into detention centers increases the likelihood that these youth in the early stage of their pathway will choose to reoffend. Dishion, Poulin, and Burraston (2002) examined the cyclical relationship of research on development and intervention. The study further clarified the effects of group interventions with high-risk offenders and determined that during early adolescent development offenders are susceptible to negative peer group influence. A positive relationship was found between parent intervention and reduction in drug use behavior and antisocial behaviors. However, group-based interventions with an offender's peers were related to higher cigarette use and reported

wrongdoing from teachers. This study underlies the need for appropriate services to reduce offending behavior in youth, rather than solely focusing on pursuing any services available.

Currently, the trend in evidence-based practice for judicial officers is to focus on high-risk offenders (DeMichele & Payne, 2007). The evidence-based practices are founded on risk assessment instruments based on factors relating to family, peers, personality, values and attitudes, and substance abuse (DeMichele & Payne, 2007). A national survey conducted on the American Probation and Parole Association (APPA) indicated that current evidence-based practices for designating risk level of juvenile offenders can be difficult to apply (DeMichele & Payne, 2007). Krysik and LeCroy (2002) examined one risk assessment instrument, authored by the National Council on Crime and Delinquency (NCCD), used in the Arizona Justice System. They found that the instrument was seldom used by judicial officers due to the complexity of the assessment and the lack of validity it showed in research. The research concluded that the judicial officers' calculation of the risk of recidivism was more accurate than the predictive instruments (Krysik & LeCroy, 2002.). Identifying easily measurable risk factors, such as academic achievement and behaviors, becomes important in light of the weaknesses of risk-factor instruments to assist in the assignment of appropriate resources to youth.

Juvenile Offenders

According to the Office of Juvenile Justice and Delinquency Prevention, juvenile offenders accounted for 2.11 million arrests in 2008 for the United States (Slowikowski, 2009). The current trends in the media's portrayal of juvenile offenders proliferates a negative and violent image of gun violence in the schools, gang involvement, and murder (Snyder & Sickmund, 2006; Dodge, 2008). This portrayal has resulted in no tolerance gun laws and the ability to move adolescents into adult courts more easily (Dodge, 2008). Overcrowding in the

detention centers is driving high-risk offenders into the community and creating difficulty for judicial officers to manage larger caseloads with more supervision needs (DeMichele & Payne, 2007). Also, detention centers do not have the funds available to provide adequate education and rehabilitation to offenders, resulting in *Deviancy Training*, instead of reducing delinquent behavior.

Snyder and Sickmund (2006) analyzed a number of self-report measures to determine the number of juvenile offenders who are not arrested or part of the juvenile justice system. The study determined that court records are an underrepresentation of adolescent criminal activity. These findings are supported by reports of victimizations, which are considerably more than violent crime arrests. The examination by Snyder and Sickmund (2006) indicated some of the protective and risk factors for adolescent offenders. Two biological parents in the household decrease the likelihood that a youth was involved in a gang, substance use, running away, property crime, and assault. Close relations involved in a gang increases the likelihood (by 3 times) of run away, substance use, stealing, assault, and property crime. Also, the study determined that attachment to school or a job decreased incidences of run away, gang membership, weapon carrying, and stealing or assault.

The Office of Juvenile Justice and Delinquency Prevention reported that in 2008 the U. S. adolescent population was composed of 78% White, 16% Black, 5% Asian/Pacific Islander, and 1% American Indian (Slowikowski, 2009). However, Black adolescent offenders accounted for 52% of violent crimes and 33% of property crimes committed by juvenile offenders (Slowikowski, 2009). Snyder and Sickmund (2006) reported that non-White adolescents are involved in every level of the juvenile justice system at higher rates than expected when compared to rates of the overall adolescent population. Further research on the

overrepresentation of non-White youth indicated that the most severe discrepancies in the juvenile justice system occur at arrest (Snyder & Sickmund, 2006). The disparity in number of arrests for non-White youth results in an increase in the disparity for all of the subsequent stages in the juvenile justice process. Snyder and Sickmund (2006) provide one explanation for the ethnic/racial disparity in the juvenile justice system. The research indicates that urban areas are more likely to assign harsher punishments (placement in detention before court, placements outside of the home) than suburban and rural areas. Urban areas have a higher non-White adolescent population compared to rural and suburban areas (Snyder & Sickmund, 2006). Although this may be one explanation, it is clear from the research that there is a difference in the experiences of non-White adolescent offenders compared to their White counterparts within the juvenile justice system.

Martin, Martin, Dell, Davis, and Guerrieri (2008) examined groups of incarcerated adolescent delinquents to determine a profile for juvenile offenders. Past research indicates delinquency is associated with higher incidences of trauma, mental health diagnoses, and academic failure (Martin et al., 2008). Traumatic events may diminish social cognitive functioning for offenders. Early on-set offending is associated with negative home situations, including foster care. Increased rates of substance use are also associated with delinquency (Martin et al., 2008). Offenders who commit violent crimes are more likely to demonstrate antisocial behaviors, impulsive actions, and little guilt (Martin et al., 2008). Martin and colleagues (2008) found in their study that the offender sample was mainly African American and low socioeconomic status. The participants for Martin and colleagues' study were typified by truancy, difficulty completing probation requirements, and one in four participants indicated a

desire to harm others. However, the majority of adolescent offenders do not continue to engage in illegal activities into adulthood (Snyder & Sickmund, 2006).

Research shows that female and male juvenile offenders have distinguishing patterns. Martin and colleagues (2008) produced distinct profiles for male and female adolescent delinquents. Male juvenile offenders who commit violent crimes are two times more likely to be non-White youth than White youth and are more likely to have increased levels of anxiety, difficulty with controlling anger, impulsive behaviors, and low self-worth. Neglect or abuse in childhood is common among male offenders who begin offending prior to 12 years old. Depression is common in male offenders and a risk-factor for reoffending. One study indicated that male offenders were five times more likely to continue delinquent behaviors when diagnosed with depression (Martin et al., 2008). Juvenile offenders are often concentrated in neighborhoods defined by poverty. Past research indicated that 41% of the youth in low socioeconomic status areas are juvenile delinquents. In general, male offenders commit more violent offenses and are more likely to reoffend in shorter intervals than female offenders (Martin et al., 2008).

The Office of Juvenile Justice and Delinquency Prevention reported that in 2008 30% of juvenile offenders arrested were female (Slowikowski, 2009). However, female offending rates are continually increasing at a substantial rate (Martin et al., 2008). Martin and colleagues (2008) describe the typical female offender as low socioeconomic status, non-White, with limited education, and substantial trauma and abuse in childhood. One study indicated that the preponderance of female offenders have lower academic achievement, feelings of self-worth and future orientation. Female delinquency was also associated with early pregnancy and antisocial behaviors (Martin et al., 2008). Mental health diagnoses, such as depression and anxiety, and

suicidal risk are also associated with female offenders. Abuse is associated with female offenders more often than male offenders, with one study indicating that 85% of female offenders have endured physical abuse and 61% endured sexual abuse (Martin et al., 2008). Martin and colleagues (2008) illustrated the high percentage of underprivileged groups overrepresented in the juvenile justice system.

Developmental Taxonomy Model

A distinct theory pertaining to the developmental pathway of an offender is the Developmental Taxonomy Model. Moffitt (1993) examined the early years of persistent offenders to understand the environment of the offender and the differences that predict offenders' pathways. An offender's unsupportive environment and heritability of antisocial traits are causes of delinquency according to Moffitt's Developmental Taxonomy for juvenile offenders. Moffitt (1993) further reflected on the developmental period an offender begins to engage in criminal activities.

There are two unique classifications of offenders in Moffitt's (1993) Developmental Taxonomy: life-course persistent and adolescence-limited. Life-course persistent offenders are characterized by continuous antisocial behaviors throughout the lifespan and an onset of criminal behaviors in childhood. Moffitt described the trajectory of a life-course persistent offender as beginning with a set of neuropsychological deficits, a likelihood of an unhealthy environment and poor social support and role modeling. The heritability of traits associated with antisocial behaviors lends itself to parents with a poor ability to provide support and a healthy environment, including positive schools, homes and neighborhoods. In later years, Moffitt and Caspi (2001) indicated that life-course persistent offenders will begin to have negative relationships with peers and teachers. Also, there is a higher likelihood of the life-course persistent pathway including

school dropout and limited family attachment. Life-course persistent offenders are more likely to have low IQ, verbal and math deficits, disabilities, and other cognitive impairments (Moffitt, 1993; Moffitt & Caspi, 2001). The accumulation of negative life factors for life-course persistent offenders in their early years shapes aggression and antisocial behavior that endures into adulthood (Moffitt & Caspi, 2001). Life-course persistent offenders are considered to be a smaller contingent with pathological features (Moffitt & Caspi, 2001).

Adolescence-limited offenders are characterized by the onset of their offenses after puberty, modeling of delinquent peers and healthy developmental progression. Adolescence-limited offenders are considered to be more common than life-course persistent offenders and their behavior largely impacted by their offending peers (Moffitt & Caspi, 2001). Moffitt and Caspi (2001) showed the similar pathways for females and males, with females more likely to be in the adolescence-limited offender classification. Adolescence-limited youth are categorized as part of the normative population, are more likely to have nonviolent offenses and more apt to change their behavior after intervention (Moffitt, 1993; Moffitt & Caspi, 2001). Moffitt explained that adolescence-limited offenders are more likely to commit non-violent crimes due to their motive for engaging in criminal activities, which is to differentiate from their parents and experience adult activities (substance use, runaway, and theft). In a study conducted by Natsuaki, Ge and Wenk (2008), youth with a later age of first offense were more likely to reduce the number of offenses after high school graduation. Natsuaki and colleagues (2008) explained that high school graduation was seen as a turning point and subsequently changed behavior. Unfortunately, adolescence-limited offenders may have long-term impacts due to their offending, including ruptures in academics, school dropout, substance use, risky sexual behavior, criminal records, and incarceration (Moffitt & Caspi, 2001). However, adolescence-limited offenders are

associated with a more positive response to intervention due to not having the low IQ, reading difficulty, inadequate parental support, limited healthy relationships, and pathology that are characteristic of life-course persistent offenders (Moffitt & Caspi, 2001).

Deficits in verbal functioning prohibit academic success and subsequently job placement. These deficits are typical of life-course persistent offenders. Moffitt states "if social and academic skills are not mastered in childhood, it is very difficult to later recover lost opportunities," (1993, pg. 684). Katsiyannis, Ryan, Zhang and Spann (2008) identified past research that examined the effects of the frustration of academic failures and learning disabilities as a factor in recidivism rates for offenders.

According to Moffitt (1993), the Developmental Taxonomy Model provides a framework to view juvenile offenders and their behaviors through a distinguishing lens that allows adolescence-limited and life-course persistent offenders to be identified and provided the appropriate resources. Moffitt contends that due to the accumulation of negative factors early in development for life-course persistent offenders the offending behavior will not diminish during the transition into adulthood, as it does for the majority of offenders. According to the *Juvenile Offenders and Victims: 2006 National Report*, only about 25% of adolescent delinquents who have an offense from the ages of 16 to 17 years old will offend during the period between 18 to 19 years old (Snyder & Sickmund, 2006). In the Developmental Taxonomy Model, Moffitt normalizes adolescent offending and explains that although criminal activity in adulthood and aggressive behavior in childhood have a genetic basis, criminal activity in adolescence does not. Identifying adolescence-limited offenders will increase the likelihood for effective interventions due to their more positive response and will ensure that *Deviancy Training* does not result from

placing an adolescence-limited offender into a setting with offenders committed to a lifetime of antisocial behavior. This model provides a framework to accurately distinguish offender risk.

Ecological Model

The Ecological Model has provided an effective structure for studies examining child behavior and the factors influencing it. Gavazzi and colleagues (2008) used the ecological systems perspective when creating their Global Risk Assessment Device (GRAD) for use with judicial officers. In the Ecological Model, development occurs in the context of family, personal factors, and environmental variables (Brofenbrenner, 1986). Brofenbrenner's (1986) ecological perspective provides a basis for examining the many systems able to impact a child's functioning. The foundations of the Ecological Model are based on youth needs to encourage healthy development (Brofenbrenner, 1979). These foundations include adult models to encourage learning, time to practice learned tasks, adults who engage learning rather than disrupt it, and the connections between the various systems in a youth's life (Brofenbrenner, 1979). Brofenbrenner (1979) argues that the trend to move children into larger schools with more children per class is isolating the school setting from the home setting, which disrupts learning and development.

Three systems that can influence a child's development, according to Brofenbrenner (1986), are the Mesosystem, the Exosystem, and the Chronosystem. A child's Mesosystem is comprised of the settings where growth occurs, including the family and school. In the Mesosystem, there is an interplay that occurs among the child's settings, such as a child's home life impacting academics and school life impacting the family. Brofenbrenner (1986) explained the nature of how youth are impacted by their peer group and the often conflicting messages youth receive from peers and parents. One study Brofenbrenner (1986) discussed displayed the

methods for improving academic achievement by creating home and school-based interventions. The Exosystem is comprised of the settings where significant members of the child's life are influenced and bring that influence back to settings with the child, such as a parent's work environment or the community. Finally, the Chronosystem is the period in time the person is in, including the major life stages (beginning school, retirement, or marriage) and unexpected critical events (death of a loved one, divorce, or new occupation). Brofenbrenner (1986) identified one study that examined negative factors often associated with juvenile delinquency (low socioeconomic status, family volatility, parents with mental health disorders or little education, and biological risks) and the youth who were unaffected by the presence of these factors. The study discovered that these resilient youth were distinguished from youth from similar backgrounds due to low incidences of unexpected critical events and a supportive network of relations.

When examining factors that influence recidivism with juvenile offenders, the Ecological Model provides a perspective that incorporates all of the systems that influence the youth. Within this model, it is integral to examine factors related to peers, family, community and school. The model enables an understanding of the past recidivism research, which examines many factors related to the youth to determine if the juvenile offender will recidivate (Dodge, 2008; Gavazzi et al., 2008; Archwamety & Katsiyannis, 2000; Levine, 2009).

School Factors

In recent years, discipline practices have changed in school systems (Dupper, Theriot, & Craun, 2009). Students are more likely to be removed from the classroom and the school environment as a result of problem behaviors in the school setting. Aud and colleagues (2010) identified that suspensions, expulsions and being retained in a grade are possible outcomes of

behavioral problems in the school. When youth are not in school there is higher risk for negative behavioral outcomes (Dupper et al., 2009). Continued absences are related to academic difficulties and a higher likelihood of dropping out of school (Aud, Fox, & KewalRamani, 2010). Snyder and Sickmund (2006) found that overall juvenile crime statistics differ depending on the time of day, with afterschool hours having a significant peak on days when school is in session. After -school programs are identified by Snyder and Sickmund (2006) as the most effective place to intervene in order to decrease juvenile crime.

"Schools are unique because they are the one place that teachers and students spend a significant amount of time together in both structured and unstructured contexts thereby creating numerous intervention-related opportunities," (Gresham, 2004). The school setting is integral for mental health treatment for youth (Walker, 2004). Walker identifies that 20% of the youth in schools meet the *DSM-IV-TR* criteria for a mental health diagnosis. There are currently 16% of the youth who are receiving services for a mental health diagnosis, with the majority (70% to 80%) being served in school. Unfortunately, Walker identifies that schools are often unable to provide evidence-based treatments. Youth with mental health problems, who represent a significant student group, are not receiving the most effective or appropriate services in the school setting. When considering the high number of youth incarcerated with mental health diagnoses, it is important to intervene at the school level before a juvenile begins to offend.

The transition from middle school to high school is a critical developmental event in an adolescent's life (Frey, Ruchkin, Martin, & Schwab-Stone, 2009). Brofenbrenner (1979) identified the importance of a positive relationship between the school and home settings. In his research, Brofenbrenner reported that the school setting would ideally be a smaller school that encouraged positive school identity. Middle schools and elementary schools are typified by

smaller buildings, longer periods with one teacher, and established peer groups in the classroom (Frey et al., 2009). However, high school often requires youth to move to larger buildings, further from home with different students and teachers in each class period (Frey et al., 2009). The move from middle school to high school is associated with decreased attendance and school attachment. Also, students are more likely to have difficulties with peers and a perception of less support after the transition (Frey et al., 2009). This transition occurs during early adolescent development when youth are already at higher risk for choosing destructive behaviors. Frey and colleagues (2009) found that youth have better outcomes during the transition from middle to high school if they perceive that teachers support them, parents monitor their behaviors, and that the youth have limited exposure to violence.

Youth who are motivated to achieve in school and feel a connection to school are more likely to have positive school outcomes (LeCroy & Krysik, 2008). White youth are more likely to receive higher academic achievement scores when there is an expectation of success and a perception that education is important (LeCroy & Krysik, 2008). However, in one study Latino/a youth reported lower perceptions of the importance of education and expectations for personal success in the school setting. School attachment or a feeling of belonging to the school environment has been associated with positive academic outcomes. Higher levels of school attachment related to higher value placed on academics, motivation, and energy directed towards academics (LeCroy & Krysik, 2008). Belongingness corresponded in one study to higher academic achievement and degree completion (LeCroy & Krysik, 2008). Research illustrates that when determining the appropriate interventions for adolescents it is important to foster motivation for academics and attachment to school.

Research shows that critical relationships in a youth's life impact academics. Family is one critical relationship that influences youths' school outcomes. LeCroy and Krysik (2008) found that the structure at home impacts achievement in math and reading based on family socioeconomic status, accessibility to resources, and family values around education. Perceived teacher support has a positive relationship with academic outcomes with non-White, low-income, urban elementary school children (Elias, & Haynes, 2008). One study by Pianta and Stuhlman (2004) examined the impact of teachers on skill development in elementary school. This study was founded on past research that indicated one significant area that impacts academic performance is youths' relationships and ability to monitor within the relationships. Past research indicates that teachers play a significant role in school adjustment. Pianta and Stuhlman (2004) found that teacher relationship was a significant indicator of skill development for youth. Unfortunately, due to multiple factors (less financial resources, testing focus, difficulty retaining and paying qualified educators), it is difficult for teachers to provide the attention needed to create positive, growth-oriented learning environments and build relationships with students (Sugai & Horner, 2006). This research indicates that positive relationships are a protective factor for youth.

School factors are also connected to positive adult outcomes. LeCroy and Krysik (2008) examined past research and determined a relationship among dropping out of school, low academic achievement, high rates of problem behaviors in school, and low socioeconomic status and status of work in adulthood. Non-White students are shown to have lower achievement scores and higher rates of school dropout than White students (LeCroy & Krysik, 2008). School achievement early in life determines accessibility to occupations and social networks that otherwise are not available. Interventions that focus on academics will have long-term effects.

Recidivism

Levine (2009) examined a contingency framework to determine the factors that increased risk of recidivism. In the study, many factors were analyzed to predict participants' risk of recidivating, including intelligence factors (IQ), symptoms related to mental health status, records of past hospitalizations for mental health, parenting factors, and social groups. This study highlighted the importance of mental health diagnoses on prediction. Also, Levine (2009) cautions on using this framework to predict risk in the context of other data points to ensure the most accurate assessment of offender risk.

Living in an area with neighborhood violence and living in disadvantaged neighborhoods was found to be a risk factor for recidivism with female offenders in a study conducted by Chauhan, Reppucci, and Turkheimer (2009). Also, the study found that Black female participants reported higher levels of living in disadvantaged neighborhoods. Black female participants were found to have higher recidivism rates when they reported observing violence in their community, whereas White female participants were found to have higher recidivism rates when they reported physical abuse by a parent. Chauhan and colleagues (2009) surmised that female offenders who live in disadvantage neighborhoods and do not witness violent acts may have a host of protective factors shielding them. The protective factors Chauhan and colleagues (2009) indicated include: peer groups, school belongingness, and parental monitoring.

Higher school attendance rates reduced the number of offenses in males in a study conducted by Henry, Caspi, Moffitt, Harrington and Silva (1999). Henry and colleagues (1999) identified school attendance as a protective factor for male offenders, specifically for males with unstable home environments. Interventions that focus on school success are proposed by Katsiyannis and colleagues (2008) as a way to reduce recidivism and delinquency. Research

indicates a link for offenders between increased incidences of recidivism and denying that an offense occurred, which is a consideration for intervention (Nunes, et al., 2007; Zgoba & Levenson, 2008).

In a review of the current literature, Vacca (2008) found that low academic achievement, low IQ, poor verbal ability and the presence of learning disabilities are associated with higher rates of recidivism. Katsiyannis and Archwamety (1997) compared recidivist and non-recidivist groups and found statistical differences in reading, writing and math skills, and participation in special education programs. A follow up study by Archwamety and Katsiyannis (2000) found that offenders placed in verbal or math remediation groups during incarceration were more likely to recidivate (remediation signified deficiencies in math or verbal skills). Moffitt and Silva (1998) ran a series of analyses to confirm the association between low IQ and delinquency in order to discredit a hypothesis. This hypothesis stated that the association between low IQ and delinquency is due to offenders with low IQ ratings having a higher likelihood of adjudication than offenders with higher IQs. Moffitt and Silva's (1998) analyses discredited the previous hypothesis. In their review of the past research, Archwamety and Katsiyannis (2000) found that delinquency was associated with lower academic achievement, high school dropout rates, and presence of disabilities.

Intervention after the first offense and programs that promote school achievement are two important areas that decrease recidivism rates (Katsiyannis et al., 2008; Gavazzi et al., 2008). The Juvenile Counseling and Assessment Program (JCAP) intervenes on behalf of the Georgia Department of Juvenile Justice to provide psychological services to court mandated juveniles involved in the Juvenile Court of Clarke County, Georgia. Treatments provided include group counseling, individual counseling, referrals for community programs and assessments. Therapy

is conducted in environments most convenient for the client, including the detention center, the youth's home and school. The intervention is an interactive process with the school faculty and counselors. Faculty members at The University of Georgia in the Department of Counseling and Human Development Services direct the program. Interventions are provided by doctoral and masters students within the department and supervised by faculty members. More information on the JCAP program can be found in Calhoun, Glaser and Bartolomucci (2001).

Behavior Assessment System for Children, Second Edition

The *Behavior Assessment System for Children, Second Edition, Self-Report of Personality-Adolescent* (BASC-2 SRP-A) is a self-report questionnaire designed to assess the self-perspective and personality of adolescents ages 12 through 21 years old. There are also parent-report and teacher-report forms of the *Behavior Assessment System for Children, Second Edition,* which enable multiple perspectives on child behavior and personality. The assessment includes three lie indexes to enable increased validity in the self-report measure. The measure has high internal reliability. Past research indicates that the measure is founded on empirical data, clinical expertise, and knowledge of the literature (Scarborough, Glaser, Calhoun, Stefurak, & Petrocelli, 2004). One study by Scarborough and colleagues (2004) used the *Behavior Assessment System for Children* to group male offenders in order to assist in clinical evaluation and subsequent treatment choices. A study conducted by Peterson, Hamilton, and Russell (2009) used the teacher report form of the BASC-2 to examine youth's response to a particular intervention over a period of time. The BASC-2 provides a reliable and valid measure that is proven to have high correlations with the *DSM-IV-TR* criteria and other child behavior measures, such as the *Connor's Rating Scales* (Peterson et al., 2009).

Conclusions

Juvenile offenders are costly to society in terms of juvenile justice personnel, targeted interventions, damage to communities, and impeding success outcomes in adulthood. Past research illustrates the importance of identifying appropriate interventions for adolescent offenders early in their criminal pathway. Adolescents spend several hours each week in school and are greatly impacted by many factors within the academic setting. Youth disciplined for problem behaviors in school are often removed from the mainstream academic environment and sent home or to environments with negative peer influences. Problems with attendance, suspensions, expulsions, and high school dropout are associated with a higher risk for criminal behavior and recidivism. The current study examines variables related to school achievement, behavior and attitude in relation to recidivism. Research has shown that school has an important impact on rates of delinquency and rates of re-offense.

CHAPTER 3

METHOD

The research question of the present study seeks to determine if school factors can be used to create a predictive tool for recidivism with juvenile offenders. The study applied a predictive discriminant analysis to determine if the school factors are able to effectively predict group membership of recidivists and non-recidivists (Huberty& Lowman, 1998). Results from the research will provide further knowledge of the effectiveness of academic factors as a means of prediction for juvenile justice officials.

Participants

Data for this study were collected as part of a longitudinal research project examining interventions with juvenile offenders. Participants for this study are juvenile offenders in a ten-county area of Northeast Georgia referred for mental health counseling as a condition of their probation. In the study, participant selection was chosen based on the availability of their academic and court records and completion of the intake questionnaire and assessments. The study included a sample size of 61 participants for the restricted model (No recidivism = 38; Yes recidivism= 23) and 58 participants for the full model. Participants ranged in age from 12 to 17 years old (mean age of 14.6) and enrolled from the 6^{th} through 10^{th} grades (mean grade of 8.8). The study predominantly compromised female (54.1%, N=33; Male: N=28) and African-American (80%) participants. The participants in this study had a record of adjudicated offenses ranging from Status Offenses to crimes against persons. An insufficient amount of time between intake and the review of data (i.e., fewer than 12 months) resulted in participant removal from the study. Participants who had not yet completed one full grading period in their current school

were not included in the study due to unavailable academic data. Thus, the analysis is confined to participants with complete records who meet the timing criteria between adjudication and data gathering.

Procedures

Participants completed the measures described below during the initial intake appointment. Graduate students trained to administer the intake questionnaire and the required assessments conducted the intake appointments. The data collected was part of a longitudinal study on interventions with juvenile offenders. All participants provided assent and their parent or guardian completed consent forms to obtain information and conduct research and were apprised of the purpose of the information provided. Court records collected from the local Department of Juvenile Justice office as part of the longitudinal study provided the necessary information about participant recidivism.

A behavioral detail report, academic transcript, and attendance summary for each participant was collected from the current school of enrollment by the participant's assigned clinician or graduate student trained to collect data. The assessment measures were scored using computer software and all scores are cross-validated through a double-entry system. All variables were entered into a program database and analyzed using PAWS 18.0 software.

Measures

The *Behavior Assessment System for Children, Second Edition, Self-Report of Personality-Adolescent* (BASC-2 SRP-A) was administered to all of the participants during the initial intake interview. The BASC-2 SRP-A is a 176-item, self-report questionnaire designed to assess the behavior, attitudes and personality of adolescents ages 12 through 21 years old. The first 69-items are True/False and the remaining 107-items are scales ranging from N (Never) to

A (Almost Always). There are 22 scales included on the BASC-2 SRP-A. The assessment incorporated three lie indices used in this study, the *F*, *L* and *V* indices. On the BASC-2 SRP-A T-scores above 70 are considered Clinically Significant, between 60 and 69 are considered At-Risk, and scores 59 and below are considered Within Normal range.

The two scales examined in this study were Attitude to Teachers and Attitude to School. Low scores on the Attitude to Teachers scale indicate that teachers are held in high regard by the participant. The Attitude to Teachers scale has a high internal reliability, with coefficient alpha reported as .84, and a high test-retest reliability of .73. Sample Attitude to Teachers scale items are: "My teacher cares about me," "Teachers make me feel stupid," and "My teachers want too much from me." Low scores (T-scores below 41) on the Attitude to School scale indicates overall satisfaction and contentment with school. The Attitude to School scale has high internal reliability, with coefficient alpha reported as .85, and a high test-retest reliability of .84. Sample Attitude to School scale questions are: "I hate school," "My school feels good to me," and "My school is boring." The two scales are highly correlated (.60).

The School Problems composite Scale, which is comprised of the Attitude to Teacher, Attitude to School, and Sensation Seeking scales, was examined to compare participants across categories. The School Problems composite scale measures overall school adjustment. Clinical Significance on this scale indicates a youth with significant discontent with the school environment and school officials. The School Problems Composite Scale has a high internal reliability, with coefficient alpha reported as .86, and a high test-retest reliability of .84.

Only BASC-2 SRP-A administrations determined to be valid were used in this study. Scores were not recorded for significant *F*, *L*, and *V* indices or if the instrument was not completed by the participant.

School behavior. Participants' parents or guardians signed a consent form to allow the study to obtain academic, behavioral and attendance records from the participant's school during the initial intake interview. This study analyzed participants' school records for the period of time prior to the intake interview date. Academic transcripts from the previous grading period enrolled for the current school of attendance determined the last semester GPA variable, which is reported on a 100-point scale. Behavioral Detail Reports from the current school district reviewed for the study documented the number of total suspensions (in-school and out-of-school). The total number of suspensions was divided by the months the youth was enrolled in the current school year, which provided an average suspensions-per-month for each youth. Attendance summaries reviewed for the study documented the numbers of absences from the current academic school year. A youth was considered absent if he or she was not in attendance for any period during the school day. Absence calculations did not take the number of periods the youth did not attend into account. An average absences-per-month score was calculated by dividing the total absences for the current academic year by the number of months the student was enrolled for the academic year prior to the intake interview date. The number of tardies for the academic year was recorded for each participant. The attendance summaries indicated an overall number of tardies for the participant. The total number of tardies may have included multiple tardies-per-day, due to participants enrollment in several classes in a given day. An average number of tardies-per-month score for each participant was calculated by dividing the overall number of tardies by the number of months the participant was enrolled for the current academic year,

Recidivism. The study examined court documents from the local Department of Juvenile Justice Office to assess adjudicated offenses in the 12-month-period after the initial intake.

Participants were coded "Yes" on recidivism if they had one or more adjudicated offenses in the 12-month-period following intake. Participants were coded "No" on recidivism if charges on their record were dismissed, had not been assessed in court, or if their records were clear of charges. The number of offenses during the 12-month period and the most severe adjudicated offense was documented. Only the most severe offense type was coded, No offenses were coded "0", Status Offenses were coded "1", Misdemeanor offenses were coded "2", and Felony Offense were coded "3" for each participant. The coding system represents the order of offense severity from no offense to Felony Offense.

Statistical Analyses

A predictive discriminant analysis (PDA) was conducted to examine the effects of the grouping variable (Huberty & Lowman, 1998). A PDA determines if a particular construct (measured by school behavior, grade in school, academic achievement and attendance) is able to predict group membership on a designated grouping variable, in this case recidivism (no recidivism and yes recidivism). The PDA was chosen as a statistical analysis method due to the nature of the study, which was to determine an effective predictive model for judicial officers. The PDA is effective in determining if a particular model is able to correctly classify participants into designated groups, in this case no recidivism and yes recidivism (Huberty & Lowman, 1998).

PAWS Statistics 18.0 was used to run a PDA by running a discriminant analysis through Analyze, Classify, and then Discriminant. The analysis was based on group sizes and included: group means and Univariate Analyses of Variance (ANOVAs) for each of the variables and a leave-one-out classification. The Univariate ANOVAs were used due to the two levels of the independent variable (no recidivism and yes recidivism), which allowed for a between group,

one-way analysis. The PDA was employed to answer the following research question: Can membership be predicted between juveniles who recidivate and those who do not based on the youth's attitude to teacher, school behavior, academic achievement and attendance?

After the initial PDA was run, an external analysis was completed to examine the results more in-depth (Hubert, 1994). The external analysis resulted in a leave-one-out classification table that demonstrated the effectiveness of the model to correctly classify participants in the appropriate group. The leave-one-out classification was cross-validated to ascertain the accuracy of the model. The findings of a leave-one-out classification are reported in a table that indicates actual group membership compared to the model's predicted group membership.

Univariate ANOVAs analyzed if there were significant group differences on the academic variables examined. A Univariate ANOVA is a one-way analysis (one independent variable with two levels) that has a criterion variable and results in *F*-tests that assess the null hypotheses (Hummel & Sligo, 1971). The univariate design was conducted on a single independent variable (Recidivism: yes recidivism or no recidivism). A Univariate ANOVA was conducted for each of the dependent variables examined [average number of suspensions per month, average number of absences per month, average number of tardies per month, the last semester's grade point average (GPA), grade in school, the Teacher Attitude subscale on the BASC-2 SRP-A, the School Attitude subscale on the BASC-2 SRP-A, and School Problems composite scale on the BASC-2 SRP-A]. Due to the number of statistical analyses conducted, a Bonferroni adjustment was completed to determine an appropriate level to determine statistical significance. There were eight statistical analyses conducted (Bonferroni adjustment: .05/8=.00625), which requires that $p < .00625$ to reject the null hypotheses.

Also, means and standard deviations were computed for the recidivism and non-recidivism groups across the academic variables examined. Following the planned statistical analyses, the means and standard deviations were computed to appraise the gender differences across the variables for recidivism and non-recidivism groups. In addition, means and standard deviations were computed for the number of offenses and the most severe offense type.

Limitations

The sample for this study is based on juvenile offenders referred from the Department of Juvenile Justice in a limited region. Also, there is a small sample size. This limited sample makes it difficult to generalize the results to other areas of the country. Also, the Department of Juvenile Justice may have criteria for referral which affects the type of participant referred. This sample of juvenile offenders was taken from a longitudinal study examining the effectiveness of treatment interventions. Due to the reliance on historical data from a longitudinal study, including academic and court records, there are several limitations for this study. Recidivism rates were observed in a narrow time period (12-months) after intake and juvenile offenders involved in the study may recidivate outside of the 12-month period. Participants that did not have a complete academic record available within the study were not used, which may have resulted in an unexpected sampling bias. The school records were also difficult to code due to the distinct recording procedures among schools and the number of participants who moved between school institutions from one year to another or within the same year (i.e., traditional school to alternative school or middle school to high school). Finally, the specific research design used for this study has some limitations. There are no controls for this study nor was a randomized sampling procedure used. However, the study methods were effective in accessing a population

of juvenile offenders that were of interest in this study, specifically a range of ages, gender, offense severity and total number of offenses.

Assumptions

The youth in this study were all mandated to undergo counseling, which may have led to a social desirability bias or opposition to the assessments administered. However, the assumption in this study is that the lie indices incorporated into the BASC-2 SRP-A effectively identified the participants who answered the questions accurately. All of the school records collected as part of this study are assumed to have the same basic parameters for what constitutes grade point average, a tardy, absence, in-school and out-of-school suspension. The court records collected are assumed to demonstrate the most up-to-date and accurate information.

Research Questions

This study focused on whether school factors could be used to predict group membership in recidivism or non-recidivist categories for juvenile offenders. Four research questions resulted. First, do school achievement, behavior, and attitude predict whether juvenile offenders will recidivate? Second, will juvenile offenders who have higher school achievement be less likely to reoffend? Third, will juvenile offenders who have higher attendance rates be less likely to reoffend than juvenile offenders with low attendance rates? Finally, will juvenile offenders with higher rates of behavioral problems be more likely to reoffend than juvenile offenders with lower rates of behavioral problems?

Null hypothesis 1. School achievement, behavior, and attitude factors make no difference on the likelihood of juvenile offenders recidivating.

Null hypothesis 2. There is no difference between the likelihood of reoffending for juvenile offenders with low school achievement or high school achievement.

Null hypothesis 3. There is no difference between the likelihood of reoffending for juvenile offenders with low attendance and higher attendance rates.

Null hypothesis 4. There is no difference between the likelihood of reoffending for juvenile offenders with different rates of behavioral problems.

CHAPTER 4

RESULTS

The present study examined the differences between juvenile offenders who reoffend and juvenile offenders who do not reoffend to facilitate the formation of a predictive model for recidivism. School attitudes, behavior, and achievement were analyzed between the two groups 8to distinguish any group differences for adolescents who reoffended compared to the adolescents who did not reoffend. The Department of Juvenile Justice records were analyzed for the 12-month period post-intake for the participants and adjudicated offenses were recorded. A predictive discriminant analysis was conducted to determine if a model based on school factors was an effective tool in predicting group membership. Univariate Analyses of Variance (ANOVAs) were employed to examine if there was a significant difference between groups on individual school attitude, behavior, and achievement variables.

Predictive Discriminant Analysis

Research question 1. Do school achievement, behavior, and attitude predict whether a juvenile offender will recidivate?

Null hypothesis 1. School achievement, behavior, and attitude factors make no difference on the likelihood of juvenile offenders recidivating.

A predictive discriminant analysis (PDA) was conducted to analyze the difference for the grouping variable (Recidivism: no recidivism or yes recidivism) on academic constructs (measured by school behavior, attitude, academic achievement and attendance) (Huberty & Lowman, 1998). This statistical analysis was employed to answer the following research

question: Can membership be predicted between juveniles who recidivate and those who do not based on the youth's school attitude, school behavior, academic achievement and attendance?

The PDA explored the significance of the relationship among designated variables (grade, average number of suspensions-per-month, average number of absences-per-month, and the last semester's GPA) and the participants' reoffending patterns (yes recidivism or no recidivism). Those designated variables constituted the restricted model. The analysis investigated whether there was a means of predicting participants recidivism behavior based on these variables. Table 4.1 and Figure 4.1 and 4.2 reports the means for these variables (grouped by yes recidivism and no recidivism). After the full PDA and the Univariate ANOVAs were computed, the restricted model reported above was computed using four predictor variables, which eliminated four of the variables in the full model (Morris & Huberty, 1995). The relative weights of the full model are reported in Table 4.2. Once the full model was analyzed variables identified as having modest weight were eliminated (average number of tardies-per-month, School Attitude scale on the BASC-2 SRP-A, Teacher Attitude scale on the BASC-2 SRP-A, and School Problems composite on the BASC-2 SRP-A). A correlational analysis indicated a strong correlation among the BASC-2 SRP-A scales and composite. This further supported eliminating the BASC-2 SRP-A scales due to the replication demonstrating the insignificant addition of more than one of the BASC-2 SRP-A variables.

An external analysis was conducted to further examine the findings of the PDA (Huberty, 1994). The external analysis findings were cross-validated using a leave-one-out classification analysis detailed in Table 4.3. The findings displayed an improved prediction over chance (72.1% of cross-validated grouped cases correctly classified; $z = 3.0$, $p = .001$). As reported in Table 4.2, there were improvements over chance with regard to the prediction of No Recidivism

(33/38 for 86.8% prediction rate; z = 3.16, *p*= .001) and there were not improvements to the prediction of Yes Recidivism (11/23 for 47.8% prediction rate; z = .97, *p* = .166).

The outcome of these results indicates that the variables of Grade, Suspensions, Absences, and Last Semester GPA provide an incremental increase in predicting recidivism group membership over chance.

Table 4.1

Means and Standard Deviations for Yes Recidivism and No Recidivism Participants on Grade, Suspensions, Absences, and Last Semester GPA

	No Recidivism (n=38)		**Yes Recidivism (n=23)**	
	M	**SD**	**M**	**SD**
Grade	8.9	1.1	8.5	1.1
Last Semester GPA	67.8	19.4	72.2	10.9
Suspensions Recalculated	.3	.3	.7	.5
Absences Recalculated	3.1	3.5	4.1	4.3

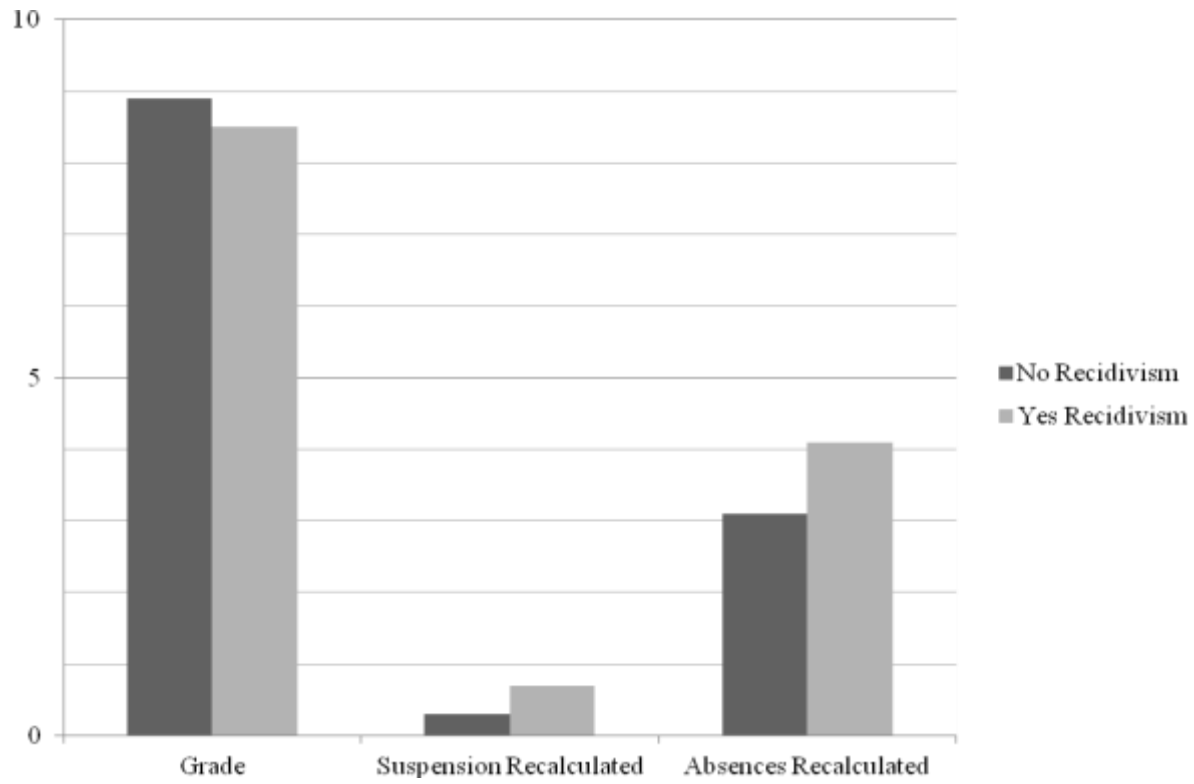


Figure 4.1: Group Means for Recidivism on Grade, Suspensions, and Absences

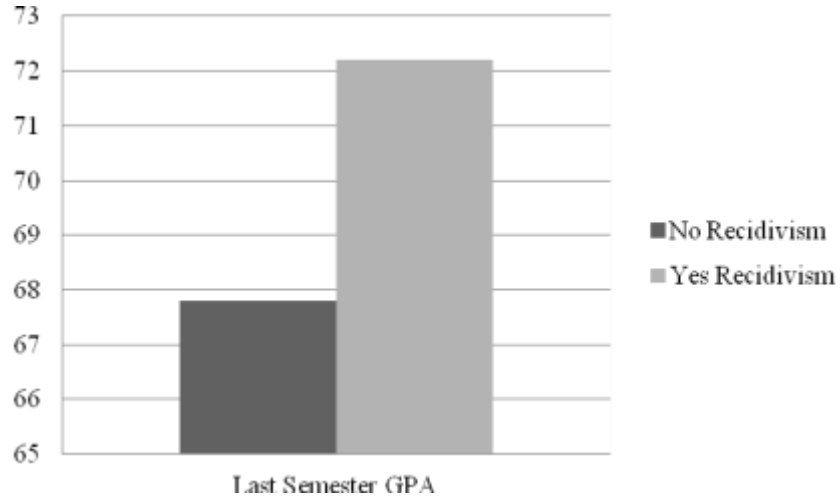


Figure 4.2: Group Mean for Recidivism on GPA

Table 4.2
Structure Matrix

Predictor Variable	Pooled Within-Groups Correlations
Recalculated Suspensions	.786
Grade	-.336
Last Semester GPA	.252
Teacher Attitude BASC-2 SRP-A	.169
Recalculated Absences	.157
School Attitude BASC-2 SRP-A	-.101
School Problems Comp BASC-2 SRP-A	.066
Tardies Recalculated	.034

Note: Variables ordered by absolute size of correlation within function

Table 4.3
Cross-Validated (Leave-One-Out) Classification Analysis for the Construct (Grade, Last Semester GPA, Suspensions, and Absences) to Predict Recidivism Behavior (No Recidivism or Yes Recidivism)

		Predicted Group Membership	
Actual Group Membership	**N**	**No Recidivism**	**Yes Recidivism**
No Recidivism			
N	38	33	5
%		86.8	13.2
Yes Recidivism			
N	23	12	11
%		52.2	47.8

Note: Overall percentage of correctly classified cross-validated cases = 72.1%

Univariate ANOVAs

Eight Univariate ANOVAs were conducted to determine the between-group differences for the Recidivism variable (no recidivism or yes recidivism) on the dependent variables examined (academic factors: grade in school, average number of suspensions-per-month, average number of absences-per-month, average number of tardies-per-month, Teacher Attitude scale, School Attitude scale, School Problems composite, and the Last Semester GPA). There are two levels examined for the one independent variable, yes recidivism and no recidivism, which indicates a one-way analysis. The Bonferroni adjustment was used in order to address the potential for a Type I error. After the Bonferroni adjustment was made to the significance level, a *p*-value less than .00625 (.05/8) indicates significance. Table 4.5 notes the results of the separate analyses completed for the dependent variables.

Research question 2. Will juvenile offenders with higher school achievement be less likely to reoffend?

Null hypothesis 2. There is no difference between the likelihood of reoffending for juvenile offenders with low school achievement or high school achievement.

In order to address Null Hypothesis 2, a Univariate ANOVA was conducted to determine if there is a significant group difference for recidivism (yes recidivism compared to no recidivism) on an achievement measure (the participants' last semesters GPA measured on a 100-point scale). The outcome of the ANOVA indicated that academic achievement in the previous semester for participants who did not recidivate (M=66.8, SD=19.9) did not differ significantly from participants who did recidivate (M=72.2, SD=10.9) [F (1, 56) = 1.396, p=.242; as reported in Table 4.4 and 4.5]. The outcome of this analysis demonstrates that juvenile

offenders who recidivate and those that do not recidivate maintained similar academic performance for the previous semester and the null hypothesis is retained.

Research question 3. Will juvenile offenders with higher attendance rates be less likely to reoffend than juvenile offenders with low attendance rates?

Null hypothesis 3. There is no difference between the likelihood of reoffending for juvenile offenders with low attendance and higher attendance rates.

In order to address Null Hypothesis 3, a Univariate ANOVA was conducted to determine if there is a significant group difference for recidivism (yes recidivism compared to no recidivism) on attendance measures (the calculation of the participants' average number of absences-per-month and average number of tardies-per-month). The outcome of the ANOVA indicated that the average number of absences-per-month for participants who did not recidivate (M=3.3, SD=3.6) did not differ significantly from participants who did recidivate (M=4.1, SD=4.3) [F (1, 56) = .544, p=.464; as reported in Table 4.4 and 4.5]. The outcome of this analysis demonstrates that juvenile offenders who recidivate and those that do not recidivate maintained similar numbers of absences-per-month on average. For the second attendance measure, the outcome of the ANOVA indicated that the average number of tardies-per-month for participants who did not recidivate (M=2.7, SD= 3.5) did not differ significantly from participants who did recidivate (M=2.9, SD=4.7) [F(1,56)=.025, p=.88; as reported Table 4.4 and 4.5]. The non-significant results for the attendance measures indicate that the null hypothesis is retained.

Research question 4. Will juvenile offenders with higher rates of behavioral problems be more likely to reoffend than juvenile offenders with different rates of behavioral problems?

Null hypothesis 4. There is no difference between the likelihood of reoffending for juvenile offenders with different rates of behavioral problems.

In order to address Null Hypothesis 4, a Univariate ANOVA was conducted to determine if there is a significant group difference for recidivism (yes recidivism compared to no recidivism) on a behavioral measure (the calculation of the participants' average number of suspensions-per-month obtained from school records). The outcome of the ANOVA indicated that the average number of suspensions-per-month for participants who did not recidivate (*M*=.3, *SD*=.3) did significantly differ from participants who did recidivate (*M*=.7, *SD*=.5) [*F* (1, 56) = 13.6, *p*=.001; as reported in Table 4.4 and Table 4.5]. The outcome of this analysis demonstrates that juvenile offenders who recidivate have significantly higher numbers of suspensions-per month than those who do not recidivate and the null hypothesis is rejected.

Full Model Univariate ANOVAs

In order to examine the full prediction model, four other school factors were analyzed using Univariate ANOVAs to compare the group variable differences (Recidivism: no recidivism or yes recidivism). The first factor is current grade in school for the participants at the time of the initial intake. The outcome of the ANOVA indicated that the participant's grade in school for those who did not recidivate (*M*=8.9, *SD*= 1.1) did not differ significantly from those who did recidivate (*M*=8.5, *SD*=1.1) [*F*(1,56)=2.481, *p*=.12; as reported in Table 4.4 and Table 4.5]. The outcome of this analysis demonstrates that juvenile offenders who do not recidivate and those who do recidivate do not differ significantly on what grade in school they are when referred for mandatory mental health counseling through the courts.

The BASC-2 SRP-A Attitude to School and Attitude to Teacher scales and the School Problems composite are the final three factors compared using Univariate ANOVAs. A score 59

and below indicates a score Within Normal limits for a participant. A score of 60 to 69 indicates a score in the At-Risk range and a score 70 and above indicates a Clinically Significant score. For the Attitude to School scale, the outcome of the ANOVA indicated that the participants' scores on this scale for those who did not recidivate (M=51.4, SD=11.0) did not differ significantly from those who did recidivate (M=50.0, SD=11.3) [F (1, 56) = .222, p=.64]. This means that participants who did not recidivate report similar attitudes to school as those who recidivate. The participants who did recidivate reported minimally more positive feelings about school compared to those who did not recidivate.

For the Attitude to Teacher scale, the outcome of the ANOVA indicated that the participants' scores on this scale for those who did not recidivate (M=51.9, SD=9.2) did not differ significantly from those who did recidivate (M=54.1, SD=54.1) [F (1, 56) = .624, p=.43; as reported in Table 4.4 and Table 4.5]. This means that participants who did not recidivate reported similar attitudes about their teachers compared to those who recidivate. The participants who did not recidivate reported minimally more positive feelings about their teachers compared to participants who did recidivate.

For the School Problems composite scale, the outcome of the ANOVA indicated that the participants' scores on this composite for those who did not recidivate (M= 51.7, SD=9.7) did not differ significantly from those who did recidivate (M=52.6, SD=10.4) [F (1, 56) = .094, p=.76; as reported Table 4.4 and Table 4.5]. This means that participants who did not recidivate report similar school problems compared to those who recidivate. The participants who did not recidivate reported minimally less school problems compared to participants who did recidivate.

Table 4.4
Means and Standard Deviations for Yes Recidivism and No Recidivism Participants on Grade, BASC-2 SRP-A Scales, Last Semester GPA, Suspensions, Absences, and Tardies

	No Recidivism		Yes Recidivism	
	M	**SD**	**M**	**SD**
Grade	8.9	1.1	8.5	1.1
School Attitude Scale (BASC-2 SRP-A)	51.4	11.0	50.0	11.3
Teacher Attitude Scale (BASC-2 SRP-A)	51.9	9.2	54.1	12.4
School Problems Composite (BASC-2 SRP-A)	51.7	9.7	52.6	10.4
Last Semester GPA	67.8	19.4	72.2	10.9
Suspensions Recalculated	.3	.3	.7	.5
Absences Recalculated	3.1	3.5	4.1	4.3
Tardies Recalculated	2.7	3.5	2.9	4.7

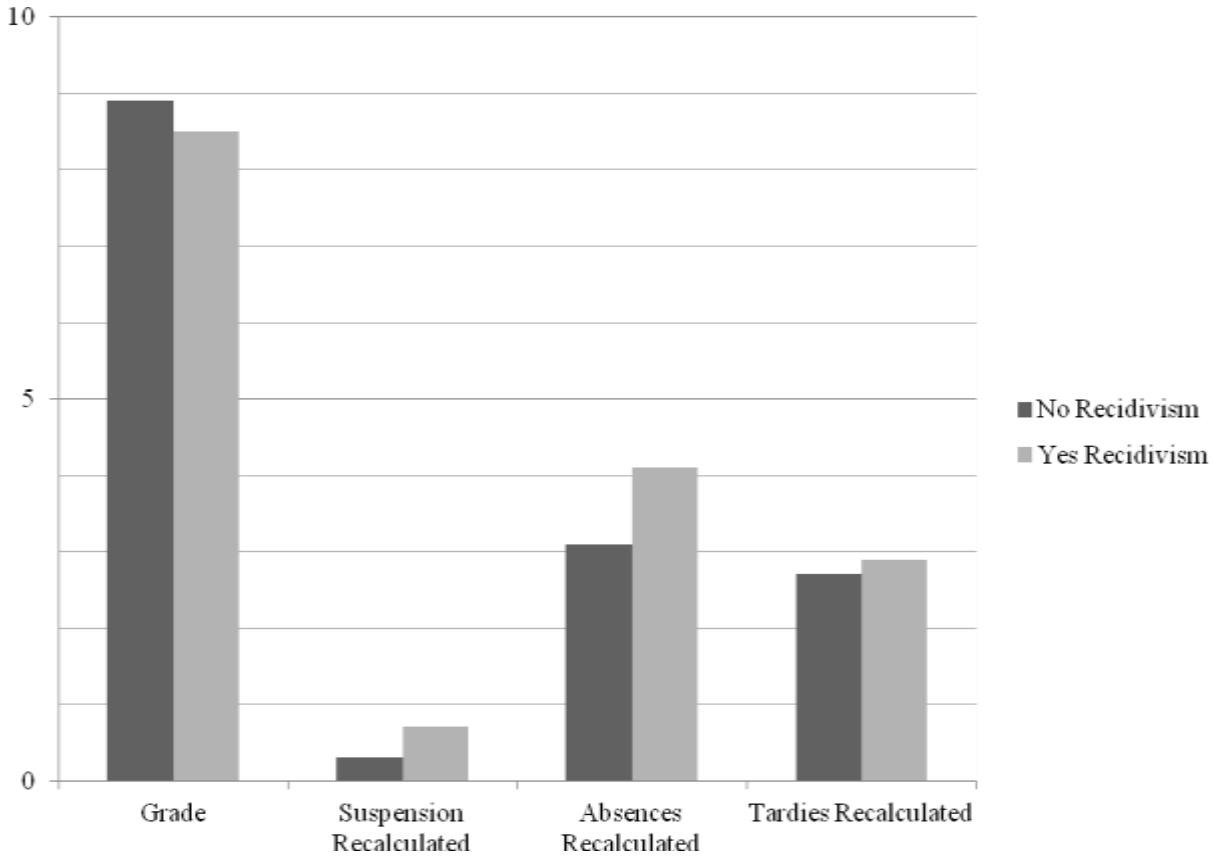


Figure 4.3: Means of Recidivism Groups on Grade, Suspensions, Absences, and Tardies

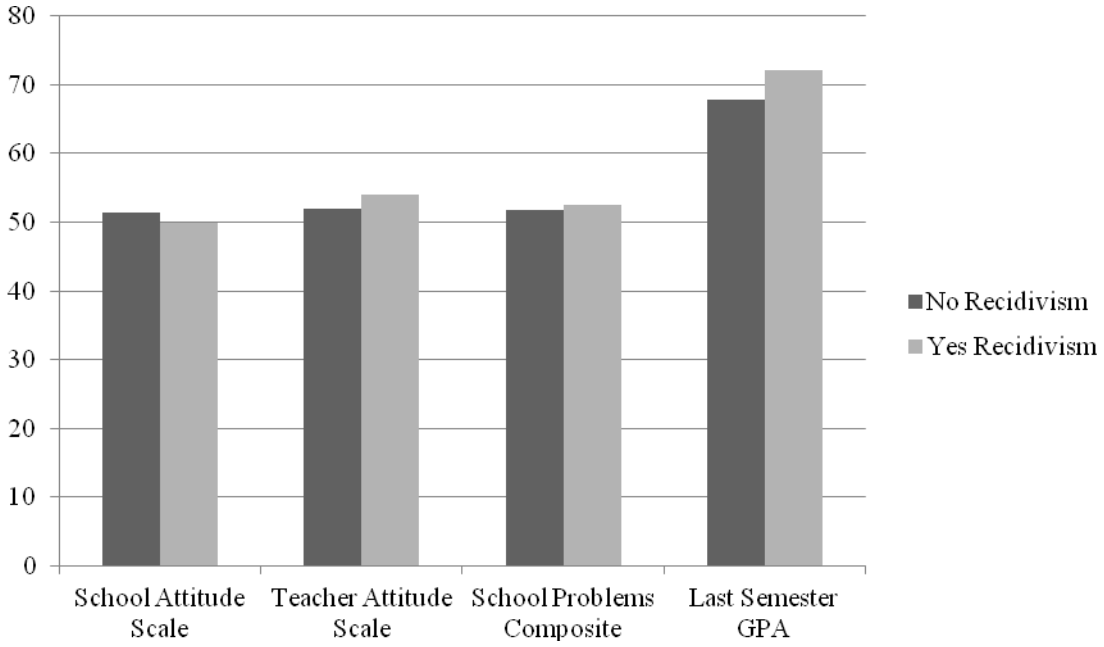


Figure 4.4: Means of Recidivism Groups on School Attitude, Teacher Attitude, School Problems, and Last Semester GPA

Table 4.5
Tests of Equality of Group Means for Participants on Grade, BASC-2 SRP-A Scales, Last Semester GPA, Suspensions, Absences, and Tardies

	F	df1	df2	Sig
Grade	2.481	1	56	.12
School Attitude Scale (BASC-2 SRP-A)	.222	1	56	.64
Teacher Attitude Scale (BASC-2 SRP-A)	.624	1	56	.43
School Problems Composite (BASC-2 SRP-A)	.094	1	56	.76
Last Semester GPA	1.396	1	56	.24
Suspensions Recalculated	13.569	1	56	.001*
Absences Recalculated	.544	1	56	.46
Tardies Recalculated	.025	1	56	.88

Note: * indicates significance at the $p < .00625$ level.

Descriptive Statistics of Gender

The means and standard deviations were computed to examine gender differences for the Recidivism variable (yes recidivism or no recidivism). The gender variable was determined through self-report of the participant during the intake interview. The analysis was conducted for the two levels of the Recidivism variable for each of the dependent variables (grade in school, average number of suspensions-per-month, average number of absences-per-month, average number of tardies-per-month, School Attitude scale, Teacher Attitude scale, School Problems composite and Last Semester GPA). Table 4.6a and Figure 4.3 note the means and standard deviations for male participants and Table 4.6b and Figure 4.3 note the means and standard deviations for female participants.

Female participants who reoffended had higher means for average numbers of absences-per-month (*M*= 5.7, *SD*=5.1) and Last Semester GPA (*M*= 74.4, *SD*= 11.0) compared to female participants who did not reoffend and male participants. However, the standard deviations for these measures were large, which displays a large variance within groups. Female and male participants who reoffended had the same mean average number of suspensions-per-month (*M*=.7), as did female and male participants who did not reoffend (*M*=.3). Male and female participants had a mean current grade enrollment of 8th through 9th grade.

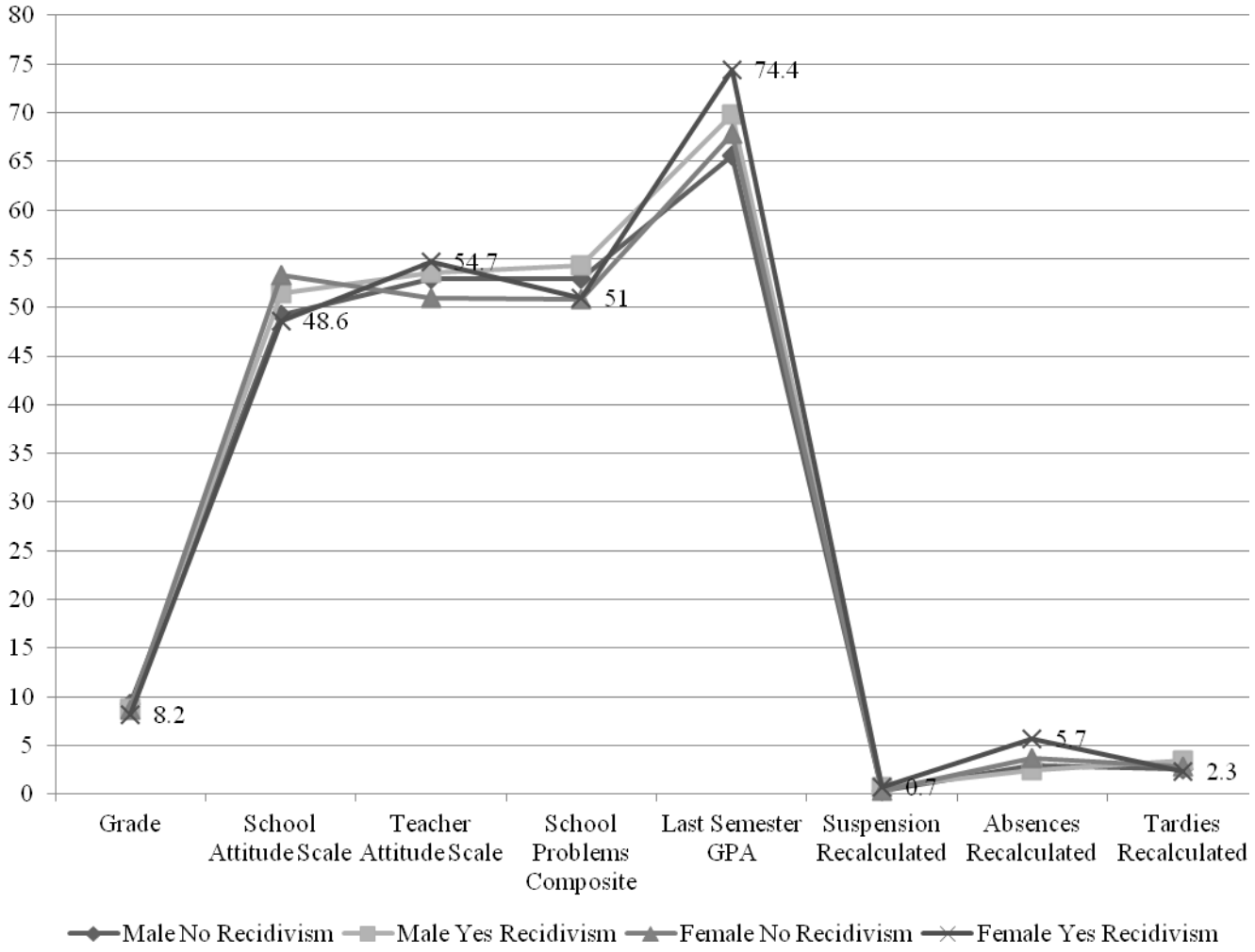
Table 4.6a
Means and Standard Deviation for Male Yes Recidivism and No Recidivism Participants on Grade, BASC-2 SRP-A Scales, Last Semester GPA, Suspensions, Absences, and Tardies

	No Recidivism			Yes Recidivism		
	N	**M**	**SD**	**N**	**M**	**SD**
Grade	16	9.3	.8	11	8.8	1.1
School Attitude Scale (BASC-2 SRP-A)	16	49.2	8.7	11	51.5	11.0
Teacher Attitude Scale (BASC-2 SRP-A)	16	52.9	9.2	11	53.5	15.3
School Problems Composite (BASC-2 SRP-A)	16	52.9	8.2	11	54.3	11.0
Last Semester GPA	16	65.6	19.6	11	69.8	10.9
Suspensions	16	.3	.3	11	.7	.5
Recalculated Absences	16	2.9	3.9	11	2.4	2.2
Recalculated Tardies Recalculated	16	2.6	2.6	11	3.4	6.2

Table 4.6b
Means and Standard Deviation for Female Yes Recidivism and No Recidivism Participants on Grade, BASC-2 SRP-A Scales, Last Semester GPA, Suspensions, Absences, and Tardies

	No Recidivism			Yes Recidivism		
	N	**M**	**SD**	**N**	**M**	**SD**
Grade	19	8.6	1.2	12	8.2	1.1
School Attitude Scale (BASC-2 SRP-A)	19	53.3	12.5	12	48.6	11.8
Teacher Attitude Scale (BASC-2 SRP-A)	19	51.0	9.4	12	54.7	9.8
School Problems Composite (BASC-2 SRP-A)	19	50.8	10.9	12	51.0	10.2
Last Semester GPA	19	67.8	20.6	12	74.4	11.0
Suspensions	19	.3	.3	12	.7	.6
Recalculated Absences	19	3.7	3.4	12	5.7	5.1
Recalculated Tardies Recalculated	19	2.8	4.1	12	2.3	3.0

Figure 4.5
Means of Female and Male Participants for Recidivism: Yes Recidivism and No Recidivism



Note: The Female Yes Recidivism Group's means are delineated on Figure 4.3.

Means and Standard Deviations for Recidivism Offenses

The means and standard deviations of severity of recidivism offense and the number of offenses the participants were adjudicated for after the intake interview. The severity of offenses were coded "0" for no offense, "1" for Status Offense, "2" for Misdemeanor, and "3" for Felony. For the 28 male participants in the study, there was a range of offense types from no offense to Felony offense (*M*=.79, *SD*=1.10). The number of offenses during the 12-month period after the

intake interview for male participants ranged from zero offenses to seven offenses (*M*=1.25, *SD*=2.03). For the 33 female participants in the study, there was a range of offense types from no offense to Felony offense (*M*=.67, *SD*=.96). The number of offenses for female participants ranged from zero offenses to six offenses (*M*=.88, *SD*=1.53). Overall, male participants had an elevated severity of offense type when they recidivated and more offenses.

CHAPTER 5

DISCUSSION AND SUMMARY

Summary of the Study

Statement of the problem. Juvenile offenders who recidivate drain the juvenile justice system of capital resources devoted to monitoring costs, support services, coordinated prevention programs, court administrative costs, and cost of incarceration. Resources available for juvenile offenders are not appropriate for all youth. Youth incorrectly placed into services may have a higher potential of reoffending (Gavazzi, et al., 2008; Dodge, 2008). Research shows that offenders with the highest risk of being influenced by being misplaced in high-risk services are offenders who have not yet committed to the delinquent lifestyle (Dodge, 2008). Miscalculation of the risk of an offender may result in an increased offending pattern of a lower risk offender or a high risk offender without the needed support. The current study examines specific factors to facilitate the prediction of high risk and low risk offenders. Tools that provide a risk assessment of juvenile offenders enables judicial officers to correctly match their limited resources with the offender whom can be most benefitted by the resource. Therefore, judicial officers must have sound methodologies for identifying offenders based on the likelihood of recidivism.

Statement of the procedures. Participants of this study were part of a longitudinal study examining the effectiveness of the *Juvenile Counseling and Assessment Program* (JCAP; Calhoun, Glaser, & Bartolomucci, 2001). The 61 participants from the JCAP program included in the study were chosen based on the availability of academic and court records, valid BASC-2 SRP-A administration, and a 12-month time period following the intake date before data compilation. Participants were court-referred from a 10-county area in Northeast Georgia and

were permitted to remain in the community. The youth were court-referred for individual counseling services provided by JCAP. Each participant was required to complete an intake interview, which included consent from the parent/guardian to conduct research and obtain youth records, youth research assent, and an in-depth interview of the youth and his or her parent/guardian. The *Behavior Assessment System for Children, Second Edition, Self-Report of Personality-Adolescent* (BASC-2 SRP-A) was administered to each of the youth during the initial intake interview. School records were collected from the participant's current academic institution. Each participant's behavioral detail report, attendance summary, and academic transcript were collected as part of the program's procedures. This information was collected to better inform the clinicians about clients' needs and as a means to research the efficacy of JCAP through client behavior changes.

School records prior to the intake interview were analyzed and coded. The behavioral detail report was examined for in-school and out-of-school suspensions for the current year of academic enrollment (or the last year of enrollment if the intake interview occurred during the summer session). The number of suspensions were counted and divided by the number of months the student was enrolled for the academic year (from 1 to 10 months) to determine an average number of suspensions-per-month score. The attendance summary was examined and the number of absences and tardies for the current academic year (or the last year of enrollment if the intake interview occurred during the summer session) were recorded. The number of absences was counted based on a maximum of one absence-per day (rather than per period). An average number of absences-per-month was calculated by dividing the total absences by the number of months the participant was enrolled for the current school year. The number of tardies was counted based on the overall number of tardies the youth accrued (with no maximum

per-day value). An average number of tardies-per-month was calculated by dividing the overall number of tardies by the number of months the youth was enrolled for the current academic year. The academic transcript was examined to record the grade point average (GPA) for the previous grading period on a 100-point scale.

At the time of data compilation, the court records were collected from the Department of Juvenile Justice for the participants. The participants were coded as yes recidivism or no recidivism based on the 12-month period after the intake interview. If a youth did not have any adjudicated offenses during the 12-month period after the intake interview, then the youth would be counted in the no recidivism group. If a youth had an adjudicated offense during the 12-month period, the youth would be placed in the yes recidivism group and the youth's number of offenses and the most severe offense type during that 12-month period were recorded. The most severe offense type was coded based on increasing weight (Status Offenses, Misdemeanor Offenses, and Felony Offenses). A participant's offense severity was coded by the uppermost level of offense in the 12-month period post-intake.

A predictive discriminant analysis (PDA) was conducted to determine if the school factors examined successfully predicted group placement for the Recidivism variable (no recidivism or yes recidivism) (Huberty & Lowman, 1997). Eight Univariate Analyses of Variance (ANOVAs) were conducted to examine specific significance of the school factors on the Recidivism variable. The PDA and Univariate ANOVAs were conducted to answer the following research questions.

Discussion

Research question 1. Do school achievement, behavior, and attitude predict whether a juvenile offender will recidivate?

A restricted model of school factors successfully predicted group classification for the Recidivism variable (no recidivism or yes recidivism) 72.1% of the time (cross-validated). The restricted model used four dependent variables to predict group classification, which were as follows: grade in school, average number of suspensions-per-month, average number of absences-per-month, and last semester GPA. This restricted model was significant (z= 3.0, p=.001), which indicated that these four variable predicted group membership for Recidivism (no recidivism or yes recidivism) statistically significantly better than chance. The model was statistically significantly (z= 3.16, p= .001) able to predict participants in the no recidivism group, which is also better than chance. However, the model was not able to predict group membership in the yes recidivism group at a significant level (z=.97, p=.166). This indicates that these four variables are more effective at predicting participants with a low risk for recidivating compared to those that are at high-risk for recidivating. The participants who recidivated reported enrollment in lower grade levels than those who did not recidivate. This is consistent with the tenants of the Developmental Taxonomy Model, which indicates earlier offender patterns for persistent offenders. The overall model reaching significance enabled the null hypothesis to be rejected.

The prediction of participants into the yes recidivism group was not significant. However, the number of participants in the yes recidivism group was less than the no recidivism group. The smaller group size could have led to non-significant results.

Implications for future research and practice. The overall prediction model for Recidivism (no recidivism or yes recidivism) using the four variables (grade in school, average number of suspensions-per month, average number of absences-per-month, and last semester GPA) was statistically significant. It would be beneficial for judicial officers to have a simple

model (such as one with four easy-to-acquire items from the school institution) to determine the risk for each youth before the juvenile offenders are assigned to services. DeMichele and Payne (2007) indicated that it is difficult for probation officers with an increasingly high-risk caseload to handle providing all of the supervision the courts require. "What is often a 'one-size-fits-all' decision-making style has the potential to foster rather standard conditions being applied to offenders, with little consideration of individual offender characteristics," (DeMichele & Payne, 2007, pg. 30). This means that high-risk offenders do not receive the supervision they need and low-risk offenders receive more than needed. If judicial officers had research to provide that supported their supervision decisions to the courts, this would enable them to tailor supervision requirements for each youth and to ensure that youth are correctly placed in services without overloading the system. This model provides a basis for future research on predicting recidivism risk using school factors. Academic records are easily accessible and evaluated by judicial officers. This initial study provides a foundation for continued exploration of the relationship among school achievement, behavior, and attendance factors with the likelihood of a youth reoffending.

Since school factors were shown to have a significant relationship to recidivism, it is important to determine effective interventions for juvenile offenders for which school behavior and achievement can be addressed. Future research examining the appropriate school-based interventions funded by the judicial system focusing on risk factors, would be beneficial for determining a larger systems approach to addressing school problems. More research basis for encouraging positive behaviors, attendance, and achievement to reduce likelihood of recidivism is an important next step.

The overall predictive model also provides a practical means for judicial officers to identify the risk potential for an offender. The model was most significantly able to predict youth in the no recidivism group, which is important for judicial officers to stop providing services to juvenile offenders whom are not likely to commit another offense. Research shows that there is a risk of increased offending patterns when low-risk youth are placed in services for high-risk youth (Gavazzi et al., 2008; Dodge, 2008). Once further research is conducted, this model can be used to decrease this risk and the financial resources and time allocated to low-risk youth, rather than applying the same model to all youth (a method research shows is common) (DeMichele & Payne, 2007).

Future Research. This study contained a small sample size from a limited geographic region. In future research, it will be necessary to have repetition of these results to further define the model with various samples from other geographic areas. The development of an easy to administer and score assessment for judicial officers derived from the further defined models, would be the follow-up study once the model is confirmed. The assessment must also require limited training and time to administer to ensure judicial officer implementation.

Research question 2. Will juvenile offenders with higher school achievement be less likely to reoffend?

The school achievement variable examined in the present study was the last semester GPA for the participants. There was not a significant difference ($F(1,56)=1.396$, $p=.242$) found between the two groups (no recidivism or yes recidivism) on the achievement variable (last semester GPA), which means that the null hypothesis was retained. This indicates that last semester GPA as a single variable does not significantly differ between juvenile offenders who recidivate and those who do not. The means of the two groups were not statistically different.

However, the unexpected finding for last semester GPA was that the mean for offenders who recidivate (*M*= 72.2, *SD*=10.9) was higher than the offender who did not recidivate (*M*= 66.8, *SD*=19.9). These results are not consistent with the literature about successful high school achievement as a protective factor for adolescent offenders (Henry et al., 1999; Aud et al., 2010). This result could be due to the high standard deviation for both groups, which indicates a high-level of within-group variance. Also, this research did not examine difficulty of the participants' course load (i.e., advanced placement, college prep, or remediation), which may explain the increased last semester GPA for juvenile offenders who recidivated if they were enrolled in less challenging courses. The narrow scope of school achievement, only the previous academic grading period, could have resulted in an uncharacteristic account of participants' school achievement compared to a more stable overall GPA. However, with the limited number of participants in advanced grades, a more stable school achievement variable was not accessible.

Future Research. It would be beneficial in future studies to examine a more stable achievement variable in addition to the variable analyzed to determine if overall achievement is a predictor of recidivism. In the current study, the last semester grade point average of the participants may not have been an accurate indicator of overall achievement. However, the last semester GPA variable provided a useful picture of the youth's achievement in the time period before beginning the JCAP program.

Research question 3. Will juvenile offenders with higher attendance rates be less likely to reoffend than juvenile offenders with low attendance rates?

The attendance variables examined in this study were the average number of absences-per-month and the average number of tardies-per-month for the participants. There was not a significant difference (F (1, 56) =.544, p=.464) found between the two groups (no recidivism or

yes recidivism) on the average number of absences-per-month variable. This demonstrates that the average number of absences-per-month as a single variable does not significantly differ between juvenile offenders who recidivate and those who do not. There was also not a significant difference (F (1, 56) = .025, p=.875) found between the two groups on the average number of tardies-per-month variable. This indicates that regardless of whether participants are in the no recidivism or yes recidivism group, they have about the same average number of tardies-per-month (no recidivism: M = 2.7, SD = 3.5 ; yes recidivism: M=2.9, SD = 4.7) [F(1,56)=.025, p=.88]. Thus, the null hypothesis that there are not group differences for recidivism on attendance variables is retained.

The non-significant results for the attendance variables are partly due to some of the offenses that result in attendance issues. Some of the participants involved in the study had Truancy Offenses, which resulted in large numbers of absences. These participants did not reoffend and therefore had an impact on the outcomes of these variables.

Future Research. It would be beneficial in future research to remove offenders whom solely had truancy violations. This examination in the future would facilitate an understanding of whether attendance is an integral individual predictor of recidivism. Research shows that not being in school has negative impact and higher incidences of risky behavior, including criminal behavior.

Research question 4. Will juvenile offenders with higher rates of behavioral problems be more likely to reoffend than juvenile offenders with lower rates of behavioral problems?

The measure for behavioral problems is the average number of suspensions-per-month for the participants. A statistically significant difference was found between the groups (no

recidivism or yes recidivism) for the average number of suspensions-per-month variable (F (1, 56) =13.57, p=.001). This demonstrates that participants in the yes recidivism group accrued more suspensions-per-month on average (M=.7, SD=.5) compared to the no recidivism group (M=.3, SD=.3). Since there is a 10-month period for the academic year, at the end of a year, the yes recidivism group would have seven suspensions on average compared to three suspensions on average for the no recidivism group. This means that the yes recidivism group would have on average 4 more periods of in-school or out-of-school suspensions than the no recidivism group per year.

Implications for future research and practice. The statistically significant relationship between number of suspensions juvenile offenders accrue and their likelihood of recidivating indicates that research examining the relationship between recidivism and suspensions is important. There are studies that display racial discrepancies in suspension numbers and the types of behaviors that result in suspension (objective versus subjective suspensions) (Dupper et al., 2009; Aud et al., 2010). Objective suspensions are dispensed for reasons that follow clear violation of school policies, i.e., drug or weapons possession, fighting or threatening others. Subjective suspensions do not have a clear school policy that details the procedure for handling a situation, i.e., displaying a negative attitude to teachers or administrators, tardies, or foul language. Research demonstrates an imbalance for African American youth, who receive higher numbers of subjective suspensions and more grade retentions (Aud et al., 2010; Dupper et al., 2009). Research also shows the need for African American youth to engage with school to succeed. Continued academic obstacles due to discrimination can result in school disengagement and poor school outcomes (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008). This study can provide a foundation to examine school policies and determine what

changes, if any, are needed to encourage youth engagement and overall success, especially for African American youth.

The local school district labels a youth "chronic" after repeated behavioral violations, which increases the severity of punishment and, in turn, the likelihood of having an out-of-school suspension rather than an in-school suspension. The chronic label also impacts teacher and administrator attitude toward the youth. This means that not only do more suspensions increase the quantity of academic instruction missed by the youth, but it also indicates that on subsequent school policy violations the student will have a higher probability of serving the suspension out-of-school. The *Office of Juvenile Justice and Delinquency Prevention* (OJJDP) 2006 National Report, indicated that juvenile offending patterns change depending on the daily school schedule, change on school versus non-school days and peak during after-school hours, which emphasizes the importance of school as a structured environment for youth to be monitored (Snyder & Sickmund, 2006, pg. 85). This is consistent with the reports that school attendance can be a protective factor and that absences can lead to school drop-out (Henry et al., 1999; Aud et al., 2010). The chances that a youth will turn to delinquent behaviors increases if the youth is at home without monitoring by educators or administrators and potentially without parental monitoring (if a parent or guardian is unavailable during the day). There is also a degree of difficulty for youth to catch-up on academic work following an out-of-school suspension. Katsiyannis and colleagues (2008) identified the increased drop-out rate of juvenile offenders compared to the general population [citing Maguire & Pastore (1995)'s estimate of a 70% drop-out rate]. School drop-out leads to higher likelihood of pursuing adult offender patterns (Henry et al., 1999).

This study has an 80.3% African-American participant population, which puts this population at higher risk for suspensions. The *U.S. Department of Education's Report* on the Status and Trends in the Education of Racial & Ethnic Groups found that Black students represented the highest percentage of youth (6^{th} through 12^{th} grade) who had been suspended and retained in a grade (K through 12^{th} grade) when compared to all other races/ethnicities (Aud et al., 2010). "[It has] been reported that the punishment that African American students receive is more frequent, harsher, and for more subjective reasons," when compared to other races/ethnicities (Dupper et al, 2009, pg. 7). This research study did not examine the suspension type for the participants (subjective versus objective). However, this is an area to be cognizant of when advocating for youth in the schools.

The significant relationships between suspensions and recidivism underlie the importance of judicial officers advocating for alternative disciplinary approaches, which keep the youth on their caseloads in school and reduce the likelihood of reoffending. In Dupper and colleagues' (2009, pg. 13) article, attitudes of school principals were shown to change the suspension outcomes for a school and the authors encouraged advocating for alternatives to suspensions for behavioral violations. Also, it is integral for judicial officers to understand the risk factors that suspensions represent for a youth and intervene before a re-offense occurs. This factor may help facilitate action by judicial officers prior to the youth accruing new charges, which may take the youth out of the community and reduce potential for rehabilitation.

Future Research. Since suspensions are a key factor in determining the likelihood of adolescents reoffending, an examination of how to change behavioral consequences without removing youth from the classroom is critical. Judicial officers must have an alternative disciplinary approach to propose to school officials when advocating for the youth on their

caseload. Taking the youth out of the academic environment has long-term consequences and alternative disciplinary approaches and teacher training models need to be researched to change this practice. Also, the current and past research demonstrates the importance of a positive engagement in the school environment. Future research that examines how to engage youth in the school environment would be a means of reducing school behavioral problems and therefore reduce the need for disciplinary approaches.

Further Results. The analyses of the BASC-2 SRP-A Attitude to Teacher and Attitude to School scales and the School Problems composite showed no statistical significance between the no recidivism and yes recidivism groups and these variables (Attitude to Teacher: F (1, 56)= .624, p=.433; Attitude to School: F (1,56)= .222, p=.640; School Problems: F (1, 56)= .094, p=.760). This indicates that there is not a difference in the participants' self-reported attitude to their school and their teachers, and their overall school problems for the no recidivism and yes recidivism groups on the instrument. The non-significant results were surprising due to the research that indicates the importance of engagement for school achievement and success. "Connectedness to school and/or work also was related to juveniles' self-reported law-violating behavior," (Snyder & Sickmund, 2006, pg. 72). One reason for the non-significant results could pertain to adolescent development and the reluctance to report positive or negative feelings toward their school or teachers.

The means and standard deviations reported for gender differences in the no recidivism and yes recidivism groups indicated many similarities on the dependent variables. Also, the number of offenses and severity of offenses were increased for male participants over female participants.

Future Research. This study provided a cursory analysis of gender differences among school factors for juvenile offenders. Further examination of the differences between male and female juvenile offenders for recidivism risk, appropriate interventions, and academic engagement would be useful in determining effective approaches for male versus female offenders.

Finally, an analysis of offense severity was limited in this study. Future research on the differences among juvenile offenders who do not recidivate, and those that have Status Offenses, Misdemeanor Offenses, and Felony Offenses would be useful in determining if there is a means for tailoring their interventions or predicting juvenile offenders who are likely to commit a more severe offense.

Conclusions

Recidivism is costly to the community and to the offending youth. Youth in the judicial system have higher mortality rates, unemployment rates, increased involvement in illegal activities, and reduced educational options (Ramchad et al., 2009). In the last 3 decades, judicial officers have larger caseloads with increased supervision and community service ordered from the courts, which means more work. Judicial officers are forced to navigate a difficult system with competing interests to rehabilitate and punish offenders, while maintaining a focus on community safety (DeMichele & Payne, 2007). Current risk assessments are not accurate and research shows that judicial officers' individual calculation is more effective than the available instruments (Krysik & LeCroy, 2002). Youth are not being effectively served and judicial officers do not have the appropriate tools to meet the increasing need.

School is where youth spend at least 6 hours per day for at least 160 days per year (Council on Chief State School Officers, 2009). The academic environment is an important

gauge of the youth experience and their potential risks. School achievement is highly associated with positive outcomes into adulthood and can serve as a protective factor for youth involved in the judicial system (LeCroy & Krysik, 2008).

Understanding offender patterns and factors that impact reoffending behavior are useful in determining the most effective interventions for individual youth. Moffitt's Developmental Taxonomy Model identifies two trajectories of offending patterns (Moffitt, 1993; Moffitt & Caspi, 2001). The life-course persistent offenders are more likely to have neuropsychological deficits, academic difficulty, unhealthy home environments, poor social support and higher rates of recidivating. The adolescent-limited offenders are more likely to find interventions impactful and have a healthy developmental history. However, adolescent-limited offenders are still at risk of substance use, developing a criminal record, risky sexual behavior, school dropout, and ruptures in academics due to their offending (Moffitt, 1993; Moffitt & Caspi, 2001). It is integral to intervene with these youth in a timely manner to reduce these risks. However, Moffitt identifies increased protective factors for the adolescent-limited offender compared to the life-course persistent offender, which likely results in fewer resources necessary to have an impact on their offending behavior.

This study examined academic factors to determine if a model based on aspects of the school experience would be able to predict the likelihood of a youth reoffending. Overall, the model examined was able to predict the likelihood of youth reoffending. However, the model was more effective at predicting low-risk youth than youth that were likely to reoffend. These findings point to the importance of school factors on the juvenile offenders' experiences and more research needs to be completed to find a model that successfully predicts high-risk and low-risk youth. The participants who were in younger grade levels at intake were found to be

more likely to reoffend than participants in older grade levels at intake. This is consistent with Moffitt's model, which indicates that earlier offending patterns are typical of life-course persistent offenders and academic difficulties experienced by life-course persistent offenders would have a high likelihood of resulting in grade retention.

The most significant finding of this study was in the relationship of suspensions and likelihood of recidivating. For each suspension accrued, youth were 16 times more likely to reoffend. This underscores the impact of suspensions on youth. Research shows that African American and Latino/a youth have a higher likelihood of receiving discretionary suspensions, such as defiance or disrespect of authority (Dupper et al., 2009). The majority of participants in this study are African American (80%). Research shows racial disparities in the number of suspensions, number of discretionary suspensions, and grade retentions for African American and Latino/a youth (Aud et al., 2010). This study points out the significant impact that these disparities can have on youth in an academic environment, i.e., patterns of reoffending. The long-term impact on youth can be considerable. Studies completed on school attachment and disengagement demonstrate the struggles that African American youth have when there are racial group barriers in the school environment (Chavous et al., 2008). African American youth who recognize the disparities in punishment type and severity may disengage from the school environment to maintain a positive self-identity (Chavous et al., 2008). School involvement and academic achievement are protective factors for youth in the judicial system. If African American and Latino/a youth are not provided a school environment that they want to attach to this can result in increased offending, attendance problems, risky sex and drug behaviors, and school dropout, which can all have long-term impact. The current discipline practices of schools are heavily focused on removing youth from the classroom through suspensions (in-school and

out-of-school), which have a potential result of limited parental monitoring, academic rupture, and negative feelings about the school environment. Dupper (2009) found that when not in school, adolescents have an increased likelihood of using substances, smoking, being sexually active, physical altercations, offenses that result in detention, and lower academic achievement.

There is an importance for schools to reconsider school disciplinary policies and determine if there are discipline methods that do not disrupt the youth's academics and are not based solely on an individual. Research has shown that discipline approaches that remove the children from the school may not have the intended impact. Some schools are currently using alternative approaches to suspensions effectively to address this research (APA Zero Tolerance Task Force, 2008). It is integral for judicial officers and educators to advocate for a clear understanding of discipline in the academic environment and disciplinary approaches that positively impact the youth.

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