EDUCATIONAL RISK AND RECIDIVISM: AN EXPLORATORY ANALYSIS OF COURT INVOLVED YOUTH

DISSERTATION

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By

Christiana M. Russell, B.A., B.S., MSW

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Dissertation Committee:

Professor Stephen M. Gavazzi, Advisor
Professor Dana L. Haynie
Professor Michael Glassman

Approved by

Stephen M. Gavazzi
Advisor
College of Human Ecology
ABSTRACT

This present study examined a sample of 675 court involved youth from an urban county of a major metropolitan city. The purpose of this study was to determine whether educational risk was predictive of recidivism and additionally, the extent to which neighborhood income, neighborhood racial mix, ethnicity and gender are able differentiate re-offenders from non re-offenders.

Six specific hypotheses were examined: (1) Youth from low income neighborhoods will be significantly more likely to score higher on educational risk and will also be more likely to re-offend than youth from more affluent neighborhoods, (2) Youth coming from black/racially mixed neighborhoods will score higher on educational risk and be more likely to re-offend than youth coming from white homogenous neighborhoods, (3) Black youth will be more likely to score higher on educational risk and re-offend than white youth, (4) Males will be more likely to score higher on educational risk and re-offend than their female counterparts, (5) Educational Risks will be predictive of recidivism such that youth who score high on educational risks will be more likely to re-offend, and lastly (6) Neighborhood income will attenuate the relationship between educational risk and recidivism.
The results of Kruskal-Wallis and Binary Logistic regression analyses indicated that youth coming from low income neighborhoods were significantly more likely to have higher educational risks and were significantly more likely to re-offend than youth coming from more affluent neighborhoods. The second hypothesis regarding neighborhood racial mix was not supported in this present research effort. The results of hypothesis three concerning individual ethnicity were mixed in that the hypothesis was not supported for educational risks but was supported for recidivism. Gender was not predictive of educational risk or recidivism.

Binary logistic regression procedures revealed that youth who had higher educational risks were significantly more likely to re-offend than youth who had lower educational risks. The results also revealed that there was a significant interaction between neighborhood income, educational risks and recidivism such that youth from medium/high income neighborhoods displayed higher educational risks and were more likely to re-offend than youth coming from the low income neighborhoods. Implications, findings and limitations of the study are discussed.
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VITA

October 18th, 1973....................................................... Born – Washington, DC

1995.................................................................B.A. Psychology
                            The Ohio State University

1998.................................................................B.S. Criminal Justice
                            Georgia State University

2001-2002........................................................Student Therapist Intern
                            Lutheran Social Services

2002.................................................................Family Service Specialist
                            Youth Advocate Service
                            Ohio Help Me Grow Program

2002.................................................................Master of Social Work
                            The Ohio State University

2003.................................................................Research Assistant
                            HDFS Extension Department

2004.................................................................Research Assistant
                            Public Policy and Health

2004-2006........................................................Teaching Assistant
                            HDFS 364
                            The Ohio State University

FIELDS OF STUDY

Major Field: Human Ecology
Family Science – Adolescent Delinquency
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CHAPTER 1

INTRODUCTION

This present effort is a retrospective study that examines a sample of court involved youth in an urban county of a major metropolitan city. The purpose of this study is to determine how educational risk in a sample of court involved youth may increase the likelihood of recidivism and, additionally, the extent to which neighborhood income, neighborhood racial mix, individual ethnicity and gender help to differentiate re-offenders from non re-offenders.

In the present chapter, the author will introduce relevant studies that provide a framework for the study of educational risk and recidivistic behavior and why it is important to examine the association between these two factors. Additionally, the author will conceptually define the use of the terms recidivism, educational risk and at-risk youth for the purposes of this study. The theoretical basis for this research relies upon the work of Travis Hirschi (1969) and the basic tenants of social control theory (Hirschi, 1969) and will be expanded upon to highlight the underlying theoretical assumptions of this empirical effort. To conclude this chapter, the author will establish the relevance of this present study in focusing on the association between educational risk and recidivistic behavior among court-involved youth. A number of potential indicators can be analyzed in terms of their relationship with the variables of educational risk and recidivism.
However, for the present research effort the specific variables that will be included in the design of this study are as follows: (1) neighborhood income, (2) neighborhood racial mix, (3) individual ethnicity, (4) gender, (5) education risk and recidivism, and (6) neighborhood income, educational risk and recidivism (as an interaction effect).

*Educational Risk*

Many researchers consider child socialization and upbringing exclusively a family matter, while others have recognized the importance of school as a socializing agent (Vazsonyi & Flannery, 1997). Just like the family, schools are thought to have consistent and clear norms and rules concerning both academic and social behaviors. Schools are also important in reinforcing social norms, values, and mores and may provide additional reinforcement for encouraging prosocial behavior that would buffer deviant or negative influences or tendencies (Vazsonyi & Flannery, 1997). Jenkins (1995) argues that, after the family, the school is the next most important social institution to assume the responsibility of teaching children appropriate social behavior. Hence, schools perform a central role as agencies of socialization and social control that seriously impacts on the social development of adolescents (Farnwarth, Schweinhart, & Berreuta-Clement, 1985).

It has been extensively reported by many researchers that many children often experience significant decline in achievement over the preadolescent and adolescent periods, thus creating an “at-risk” sub-population (e.g. Yoon et al., 1996, Wigfield et al., 1991). An adolescent is labeled “at-risk” educationally once it has been established that they are prone to school dropout or failure due to unsatisfactory classroom performance or other behaviors that keep them from attending or effectively participating in the school setting.
Delinquency/Recidivism

Juvenile courts in the United States processed nearly 1.8 million delinquency cases in 1996, an increase of 49% since 1987 (Office of Juvenile Justice and Delinquency Prevention, 1999), and law enforcement agencies in the U.S. made 2.5 million arrest of persons under the age of 18 in 1999 (Office of Juvenile Justice and Delinquency Prevention, December 2001 Bulletin). Additionally, Uniform Crime Reports indicate that the arrest rates of juvenile offenders ages 10 to 17 have increased by 18.8% from 1990 to 1994 and by 67.2% from 1985 to 1994 (Federal Bureau of Investigation, 1995). While juvenile arrests more recently have leveled off (Office of Juvenile Justice and Delinquency Prevention, December 2002 Bulletin), violence, delinquency and recidivism have been a persistent concern in the United States as juveniles are at greater risk of becoming victims or perpetrators of violence than any other age group (Archwamety & Katsiyannis, 2000).

Delinquency generally is viewed as the failure of personal and social controls by many sociological theorists. Historically, criminologists have referred to delinquency as involving any and all norm-violating conduct. For present purposes, the term, “delinquent behavior” will refer to norm-violating behavior that comes to the attention of authorities. Hence, a delinquent is defined as any youth who has come in contact with law enforcement for any form of norm-violating conduct.

Recidivism is generally defined as a tendency to lapse into a previous pattern of behavior, especially a pattern of criminal habits. The recidivism rate for juvenile offenders can be as high as 90% within a 12-month period (Snyder, 1998).
Therefore, it is logical to attempt to try and forecast the risk factors that would lead an adolescent to cause more harm in the future (Book, Thomas and Steinke, 2004). For example, Speirs (1988) found that 69% of youths referred to juvenile court twice before the age of 15 continued their criminal activity. In addition, 80% referred to court for three or more offenses were arrested again. For this present study a recidivist is any youth who has been re-arrested and/or subsequently comes in contact with juvenile authorities at least one subsequent time following an initial referral.

**Association between Educational Risk and Delinquency/Recidivism**

Several studies have generated evidence regarding the significant relationship between educational factors and delinquent behavior (Smith, 2000); such that delinquent youth are significantly less likely to experience academic success and, in turn, are significantly more likely to drop out of school altogether (Smith, 2000; Lawrence, 1998). Maguin & Loeber (1996) argue that poor academic performance is related to the prevalence and onset of delinquency, whereas better academic performance is associated with non-offending. In their study, they found that the odds of delinquency for children with low academic performance are approximately two times higher than for children with high academic performance (Maguin & Loeber, 1996). Similarly, Lipton & Smith (1983) conducted a study using longitudinal data from the Youth in Transition Project in 1966, and found significant associations between academic performance and delinquency during the high school years.

Additionally, researchers have reported that repeat offenders tend to have significantly lower verbal intelligence scores and lower full scale IQ scores than non-recidivists (Denno, 1986; Moffitt, Gabrielli, & Mednick, 1981).
Further, Duncan et al. (1995) found that recidivists have lower levels of academic achievement at the time of their admittance to a residential institution, leading these researchers to conclude that level of academic achievement and attitude toward school predicted chronic offending, and that academic achievement was more important than IQ in the prediction of recidivism. Another study conducted by Cymbalisty et al. (1975) found that those offenders with average or above average IQs who were underachieving academically were more likely to re-offend than those with low IQs and high achievement.

Overall, these studies indicated that juvenile offenders who recidivate following release from an institutional setting have lower levels of intellectual functioning and lower academic achievement. Based on the data presented in these prior research studies, poor school performance is now regarded as an important predictor for delinquency (Dryfoos, 1996). On average, delinquents scored lower than non-delinquents across academic measures (Archwamety and Katsiyannis, 1999), and school dropouts are 3.5 times more likely than high graduates to be arrested (U.S. Department of Education, 1994).
Theoretical background

The theoretical basis for the present study largely involves Social Control theory as proposed by Hirschi’s (1969) *Causes of Delinquency* which is widely regarded as an important benchmark for research in delinquency. Social control theory begins with the basic assumption that all people naturally would commit crimes if left to their own devices (Vold & Snipes, 2000). Social control theorists believe that people are born immoral and are subsequently trained and reared to be moral, law abiding citizens. Other theories (such as social learning) assume that people naturally obey the law and that there are “special forces” that drive people to commit crimes. In contrast Social control theory focuses on the “controlling forces” that restrain a youth from committing delinquent acts instead of the strength of forces driving them to commit delinquent acts. The theory rests on the assumption that all human behavior is not inherently conforming (Hirschi, 1969). In control theory, the important differences between youth who commit delinquent acts and youths who do not are differences in the extent to which natural motives are controlled.

One way that control theory accounts for delinquency is to consider the effectiveness of institutions, such as the family and school, and the extent to which they work to control delinquent behavior. This paper will focus specifically on the institution of education. According to control theory, delinquency is caused by a weakening of social controls. Adolescents who are attached strongly to and committed deeply to conventional institutions such as school are less likely to engage in serious or repetitive acts of delinquency. Adolescents who are not bonded to conventional society in this manner are thus more likely to be delinquent.
Conformity is achieved through socialization, the formation of a bond between individual and social institutions, and is thought to be comprised of four major elements: attachment, commitment, involvement and belief, thus the stronger each elements of the social bond, the less likely delinquent behavior (Wiatrowsky et. al, 1981).

*Attachment* corresponds to the affective ties which the youth forms with significant others. Typically, the family environment is seen as the primary source of attachment because the parents are the role models and teach their children socially acceptable behavior (Wiatrowsky et al, 1981). *Commitment* refers to investments in conventional behavior, such the aspiration of going to college and obtaining a job with a high status. Third, *Involvement* is related to participation in conventional activities which lead toward socially valued success and status objectives. Fourth and finally, *Belief* is acceptance of the moral validity of mainstream society, such that that the more rule bound people feel, the less likely they are to break the rules (Wiatrowsky et. al, 1981, Hirschi, 1969:26).

The four components of social bonds previously mentioned also apply to education and are referred to as school social bond. Unsatisfying social interactions in school are believed to prevent some students from developing school ties of attachment (caring about others in school and their opinions and expectations), commitment (valuing educational goals), involvement (participating in school-related activities), and belief (accepting school rules as fair and legitimate). Interestingly, the commitment component of Hirschi’s school social bond has been found to be a better predictor of delinquency than the other components (Wiatrowsky et. al, 1981).
Research reporting on the linkage between low levels of school commitment and delinquency (Jenkins, 1995) have supported Hirschi’s (1969) notion that youth lacking attachments to important social contexts are significantly more likely to become involved in illegal behavior, and research has found that commitment to school is inversely related to delinquency and drug use (Johnson et al., 1988).

According to Reiss (1951), delinquent recidivists are less likely than non-recidivists to accept or submit to the control of those social groups (i.e. school) that enforce a number of physical, intellectual, and moral states. In contrast, success in school and effective remediation of academic deficits have been associated with reduced rates of recidivism and increased prosocial behavior. For instance, Archwamety & Katsiyannis (2000) compared the recidivists and non-recidivists on several independent variables (i.e. academic factors, geographic/ethnic factors, prior location of residence, and type of offense), and reported that youths in reading or remedial math groups were twice as likely to recidivate than those who had better academic scores. These findings underscore the importance of academic achievement as a significant factor associated not only with delinquency but also with recidivism. Additionally, Archwamety & Katsiyannis (2000) argue, that given the positive correlation of low academic achievement not only to delinquency but also to recidivism, further examination of this variable is important and necessary.

In addition to Social Control Theory, using both structural and ecological perspectives will be explored in order to determine the connection between neighborhood and individual educational outcomes (Sucoff & Upchurch, 1998).
The structural orientation focuses on how living in an extremely poor neighborhood increases the risk of adolescents being involved in delinquent behavior and poor academic outcomes.

On the other hand, an ecological perspective examines the “person-environment fit” – how individuals in a given neighborhood respond to the neighborhood differently depending on their individual characteristics (Sucoff & Upchurch, 1998). Hence, the structural perspective alludes to the potentially harmful effects of a poor neighborhood on adolescent educational achievement, while the ecological perspective focuses on how the impact of neighborhood is conditional on individual and family characteristics.

According to prior research, there are two central consequences of higher or lower income youth embedded in neighborhoods of varying SES which can be considered: (1) an additive component, in which youth embedded in wealthier contexts would be exposed to a higher standard of schooling and avoidance of crime regardless of their own families income level, and (2) a relative deprivation component, in which poorer youth embedded in wealthier contexts would be more conscious of their family’s lower economic position, which could lead to the youth’s greater involvement in delinquent activities or lowered educational goals (Nelson, 1971:144).

In this present research, the author will examine income at the neighborhood level using measures of neighborhood racial composition and neighborhood income that are linked to politically or administratively define geographic areas, such as zip codes through the use of census tracts (Gordon et al., 2003).
Such community characteristics are thought to benefit youths’ intellectual development through the recruitment of more experienced and better educated teachers, the presence of role models to promote high educational aspirations, and access to adequate resources through the local library and schools (Gordon et al., 2003). Additionally, broken homes, lower socioeconomic class, and high crime neighborhoods, are thought to influence delinquency by impeding the formation of strong attachments, commitments, involvements and beliefs based on certain components of social control theory (Matsueda & Heimer, 1987).

The Present Study

The central aim of this study is to investigate whether educational risks are predictive of recidivism in a group of court involved youth. The secondary aim of this study is to investigate the extent to which neighborhood income, neighborhood race, individual ethnicity and gender are significantly associated with educational risk and recidivistic behavior. The work extends prior research on educational risk and delinquency in several ways. First, it uses self-report data on educational risks from a sample of court-involved youth in combination with official documentation of offending behavior. Most prior studies use either self-report questionnaires from youth in school, or statistical reports such as Uniform Crime Reports given by the FBI, but typically do not blend such data together. Second, this research uses information about community context objective data from the US census bureau as it pertains to zip code of the youth’s residence.
Finally, the study presented here considers the effects of neighborhood factors such as neighborhood income and neighborhood racial composition in combination with youth individual factors of ethnicity and gender. Taken together six specific hypotheses on the effects of these variables on adolescent recidivism are proposed for empirical testing.

Hypotheses

The first hypothesis is that youth who come from low income neighborhoods will be significantly more likely to display higher educational risk scores and will be significantly more likely to re-offend than youth who come from neighborhoods with a higher economical position. The second hypothesis states that neighborhood racial mix will have an affect on educational risk and recidivism such that youth coming from non-white neighborhoods will score higher on educational risk assessments and be more likely re-offend than youth coming from homogenous white neighborhoods. The third hypothesis states that individual ethnicity will have an impact on educational risk, such that black youth will be significantly more likely to score higher on educational risk assessments than their white counterparts and will be more likely to re-offend.

The fourth hypothesis states that gender is an important predictor of educational risk and recidivism, and asserts that males will report significantly higher educational risks than females and males will be significantly more likely to re-offend than females. The fifth hypothesis states that youth who display high levels of educational risk will be significantly more likely to re-offend than youth who do not have high levels of educational risk. The sixth hypothesis states that there is a possibility that neighborhood income may attenuate the relationship between educational risk and recidivism. Figure 1 shows the model of the hypotheses.
Figure 1: Hypotheses Model
CHAPTER 2
LITERATURE REVIEW

Based on the 6 hypotheses developed in the preceding chapter the author will review relevant literature that provides the rationale and support for each of the six hypotheses.

*Neighborhood Income, Educational Risk and Recidivism*

The first hypothesis states that youth who come from low income neighborhoods will be significantly more likely to display higher educational risk scores and will be significantly more likely to re-offend than youth who come from neighborhoods with a higher economical position. This hypothesis is based in part on research that states that students from low-income households traditionally have been viewed as at-risk populations for academic failure, and have experienced higher rates of dropping out of school (Archwamety & Katsiyannis, 2000).

*Neighborhood Income and Educational Risk*

Neighborhoods are commonly believed to influence behavior, attitudes, values and opportunities. According to Bronfenbrenner (1989), neighborhood influences are part of ecological models that help to view individuals in the context of the environment (or ecological system) in which they reside.
These environments include: the nuclear & extended family, peer groups, neighborhoods, community, and institutions such as the school (Bronfenbrenner, 1989). Most relevant to this research are the contexts of the school environment and disadvantaged neighborhoods. Disadvantaged neighborhoods lead to economic pressures and inadequate school systems which fail to socialize and control children, who will fail to get decent educations (McGahey, 1986).

Aside from physical boundaries, the concept of neighborhood resides in actions by people that create a living space that fosters a sense of affinity, pride and comfort among its residents (Fagan, 1987). However, in many neighborhoods across the United States, these components have given way to fear, family isolation, high crime rates, physical deterioration, family crisis and poverty (Fagan, 1987). Although students in all socioeconomic groups may face some sort of difficulties in school, living in an impoverished neighborhood is thought to significantly increase the risk of school failure (Chapman, 2003). As poor youth approach their adolescent years, external factors related to living in poverty such as caring for younger siblings at home, parents who are unable to help with school work, or otherwise contribute to an unstable home environment through lack of parental monitoring and negative peer pressure can inhibit their physical, social, emotional, and intellectual development which in turn contributes to lower school achievement (Somers & Piliawsky, 2004).

In general, studies have shown that children from low-income families perform worse than children from higher income families using indicators of both academic achievement and behavior problems in the classroom (Hoeffther, et al., 2000).
Prior research has shown that poverty is one of the main factors associated with negative developmental outcomes such as low academic achievement, early school drop out, poor mental and physical health (Chung et al., 2002). Poverty can be defined as a shortage of resources necessary to maintain a minimum quality of life relative to the standards of the society in which people live (Thornburg et al., 1991). According to the Children’s Defense Fund (1989), one child in five in America lives in an economic situation officially defined as poverty and, as a result, these youth are at risk for negative educational outcomes.

Mehan (1992) argues that students from working-class families perform worse academically and drop out of school at a higher rate than do their middle-income counterparts. For example, Dooley et al., 1996 found that youth in poorer families have been found to exhibit more behavioral problems (conduct disorder, oppositional defiant disorder, and attention-deficit/hyperactivity disorder) than their higher income peers. Additionally, Garner & Raudenbaush (1991) state that youth from socially deprived areas have, on average, lower educational attainment than do their counterparts from more advantaged areas. This cumulative impact over time can wear down a student’s determination, hope and motivation to do well in school. Finally, these poor children also are over represented among early onset offenders (Chung et al., 2002).

Mayer (2002) combined Census data with data from the Panel Study of Income Dynamics (PSID) to show that an increase in economic segregation between census tracts in the same state did not greatly affect overall educational attainment of youth residing in those areas.
However, the increase in economic segregation did increase the inequality in the educational attainment of low-income and high-income children such that children coming from the most disadvantaged neighborhoods had lower educational attainment.

In another study using the PSID Ginther et al., (2000) conducted a 21-year longitudinal study using data on approximately 2,600 youth. They measured the relationship between 6 neighborhood variables (i.e. percent of households with incomes less than $10,000, percent of households with income higher than $10,000, percent of persons who are white (proxy for racial mix), percent of young adults who are high-school drop-outs, percent of female-headed household, and average adult unemployment rate.) with three outcomes – high school graduation, number of years of schooling, and teen non-marital childbearing (Ginther et al., 2000). Most relevant to this discussion are the outcomes of high-school graduation and number of years of schooling. High school graduate was measured by a dummy variable (indicating whether or not the individual completed high school by age 21) and years of schooling were measured as of age 21.

These researchers found that average adult unemployment rate, percent high-school drop outs, number of white persons (taken as a proxy indicator for racial mix of the schools in the neighborhood), and prevalence of high-income households were statistically significant in predicting high school graduation. The pattern of neighborhood effects in the regression estimates for years of schooling also indicated that prevalence of youths who were drop-outs and prevalence of whites in the neighborhood were statistically significant.
Neighborhood Income and Recidivism/Delinquency

In recent years, the impact of neighborhoods and community organizations on crime rates has received increased attention from social scientists and public officials alike (McGahey, 1986). Affluent neighborhoods or wealthy communities do not have extensive informal social networks, voluntary organizations, or ethnic solidarity, yet they also report low levels of street crime. Crime remains concentrated in a relatively small number of persistently high-crime central city neighborhoods that also have high levels of chronic unemployment and poverty, poor housing, high rate of teen pregnancy and high drug use/abuse (McGahey, 1986). The erosion of social institutions in these neighborhoods is one main source of persistent crime.

Neighborhoods with little stable adult and youth employment are vulnerable to predatory crimes because of the persistent unemployment on household stability (McGahey, 1986). A lack of legitimate neighborhood economic activity also reduces the number of older people on the streets, resulting in a domination of street life by idle youth. These impoverished neighborhoods often require an increased level of aggressiveness as a means of dealing with limited opportunity (Glasgow, 1980; Poussaint, 1983).

Cleveland (2003) argues that adolescent aggression tends to concentrate in disadvantaged neighborhoods, and residing in a disadvantaged neighborhood increases adolescents’ exposure to aggressive and delinquent peers. Researchers seeking to explain the higher levels of adolescent aggression and delinquency in disadvantaged neighborhoods have turned to Social Disorganization Theory (Shaw & McKay, 1969).
This theory states that delinquency in disadvantaged neighborhoods are not due to the structural neighborhood disadvantages themselves but to lower levels of social controls caused by these disadvantages (Shaw & McKay, 1969). Sampson (1997), among other researchers, has generated support for this theory by noting that the effects of neighborhood disadvantage on social problems are mediated by neighborhood-level measures of informal social controls. Social Disorganization theory also states that neighborhoods with structural disadvantages are riskier places for adolescents to reside because they lack the informal social controls found in more affluent neighborhoods, where socially invested adults take note of strangers, call the police, watch others’ property and help maintain social order (Cleveland, 2003).

*Collective efficacy* is the term used by researchers that refers to this neighborhood process where parents know each other, share the same norms for raising children, and are more willing to actively participate in the enforcing of social norms (Cleveland, 2003). As a result, adolescents are kept under close scrutiny by neighbors, schools and their families. Where these structural prerequisites for collective efficacy do not exist, neighborhood parents often resort to individualistic parenting designed to protect their offspring from the dangers of their neighborhoods’ unsupervised streets. The way of thinking removes the safety net of community supervision (Cleveland, 2003). As a result, adolescents who live in these neighborhoods without effective social controls are at greater risk for participating in negative behavior.
Additionally, research has shown that lower-class areas tend to be characterized by a much more active street life than middle-class areas (Sampson, 1986). Sampson and Laub (1994) argue that there are some indirect effects of poverty on delinquency among children who live in disadvantaged neighborhoods. The resulting lack of informal controls contributes to the persistence of crime in many urban neighborhoods. Property crime, drug sales, and other illegal activities provide income to youth in neighborhoods where legitimate employment options are scarce or provided low wages and sporadic hours (McGahey, 1986). The parents of these youth are often relegated to low paying, low skill jobs with long hours and poor work environments. This leaves little time for monitoring of homework, and youth activities after school hours. In spite of large-scale federal efforts in housing, education, employment, and crime control, urban poverty and related social distress crime has persisted and intensified in many communities (McGahey, 1986).

The Vera Institutes of Justice conducted a study of employment and crime patterns among “high-risk” youth living in Brooklyn, New York (McGahey, 1986). The Vera project set out to study the complex links among neighborhood poverty, unemployment and crime among adolescents. The researchers conducted an ethnographic study as well as self-report labor market information with a randomly selected cohort of arrestees, and reported that there were significant variations when comparing youth crime patterns among different demographic groups and across different neighborhoods. Among other results, findings indicated that more sustained income crimes (i.e. burglary, auto theft, grand larceny) were committed by non-whites (McGahey, 1986).
Based on these results, it was argued that youth coming from impoverished neighborhoods were caught between aspirations for legitimate success and the inability to meet those needs. Therefore, these blocked or socially unacceptable routes to legitimate or illegitimate success gave rise to new forms of delinquency.

Typically, impoverished, unstable neighborhoods with many unemployed adult residents do not have thriving retail sectors type jobs to offer teens and young adults (McGahey, 1986). Over time this lack of legitimate income opportunities becomes a driving force for re-offense as well.

For the purposes of this current research effort, this proposal will focus on the potentially harmful effects of a poor neighborhood on adolescent educational achievement which in turn affects the likelihood of their re-offending. Therefore, it is the argument of this author that youth who come from disadvantaged neighborhoods, will be significantly more likely to display higher educational risk scores than youth who come from neighborhoods, with a higher economical position, and in turn will be more likely to recidivate.

**Neighborhood Race, Educational Risk, and Delinquency/Recidivism**

The second hypothesis states that neighborhood race will have an affect on educational risk and recidivism such that youth coming from non-white neighborhoods will score higher on educational risk assessments and be more likely to re-offend than youth coming from homogenous white neighborhoods. While Social Control theory implies that the causes of delinquency (social bonding) are the same for all racial groups.
The relative importance of these bonds may vary across race due to the different emphasis on socialization practices, which in turn stems from the racial make-up of the neighborhood (Matsueda & Heimer, 1987). In turn, Pattillo (1998) argues that black middle-class neighborhoods have higher internal poverty rates and are closer to high-poverty and high-crime areas than white middle-class neighborhoods. Additionally, social disorganization theory contends that a neighborhood’s socioeconomic status is negatively related to ethnic heterogeneity and residential instability, both of which are positively related to crime (Pattillo, 1998).

*Neighborhood Racial Mix and Educational Risk*

Recent changes in the racial composition of neighborhoods add a sense of urgency to understanding the effects of neighborhood racial mix on educational risk in the lives of adolescents (Brooks-Gunn et. al, 1993). Based on information in the 2000 census report, there has been a steady increase in poor urban blacks living in high-poverty neighborhoods. This author proposes that youth coming from more racially segregated neighborhoods will display higher levels of educational risk scores than youth who come from neighborhoods that are more racially homogenous.

In a 1991 study, Crane conducted a study to determine if neighborhood characteristics (i.e. racial mix) had an effect on educational attainment for minority and non-minority male and females. Crane (1991) argued that as the quality of the neighborhood decreases (e.g. broken windows, run down buildings, and dirty streets) there will be an increase in individual social problems among adolescents, including educational attainment.
Crane (1991) found that there were no neighborhood effects for blacks in the middle of the distribution (i.e. blacks from neighborhoods with mixed populations). However, as the average percentage of high-status workers living in the neighborhood fell, the estimated drop out probabilities increased (Crane, 1991). As the percentage of high-status workers continued to drop, the estimated drop-out probabilities increased for both blacks and whites, such that the neighborhood effect on educational attainment among the worst neighborhoods was more than 50 times greater than the effect of neighborhood on educational attainment in middle neighborhoods with racially mixed population.

**Neighborhood Racial Mix and Delinquency/Recidivism**

The issue of class and race bias in the processing of juvenile offenders has generated several studies dedicated to the research of this issue (Sampson, 1986). Sampson (1986) argues that socioeconomic factors, along with race, systematically structure juvenile arrests and court referral of juvenile delinquency. As Wilson (1987) observed in his study of various police departments, the police believe that lower-class people (who typically reside in racially homogenous neighborhoods) commit more crimes, and therefore these authorities take action more often to arrest these residents. Irwin (1985) concluded that a general characterization of the lower class as disreputable and dangerous, leads the police to watch and arrest the poor more frequently than warranted based on actual criminal involvement.

This perspective suggests that the police are particularly more likely to arrest those who conform to the image of the stereotypical delinquent, especially lower-class persons and blacks (Irwin, 1985).
Sampson (1986) points out that, while individual police perceptions and labels attached to certain areas may influence police behavior, it is important to consider the ecological distribution of police work at the level of departmental concentrations of manpower. Some researchers allude to the fact that some police departments differentially allocate resources and patrol deployments to lower-class areas (Irwin, 1985). Additionally, Irwin (1985) argues that officers tend to attribute the character of disreputability to entire areas of the city perceived as part of the “ghetto, violent” class, which in turn leads to a more vigorous stance in order to maintain public order.

In a 1995 study, Liska and Bellair examined the link between race and delinquency at the macro level, asking the question – “Does an area’s racial composition influence the rate of violence?” Their research was based on the theoretical framework of social disorganization theory. Specifically, crime and delinquency are viewed as outcomes of low social control, which in turn is affected by social disorganization (Liska & Bellair, 1995). One major reason that racial minorities are linked to crime and delinquency is because they reside in socially disorganized areas. Another theory that helps to explain the link between race and delinquency is certain aspects of economic strain theory as proposed by Robert Merton in 1938. Merton (1938) proposed that the high rate of violence (crime/delinquency) among racial minorities in neighborhoods with a high proportion of minorities results from the economic deprivation associated with race in the United States.
Specifically, economic deprivation leads to frustration, which in turns leads to aggression. Liska & Bellair (1995) argued that inequality based on race is frustrating, which leads to various forms of delinquency and aggression. Liska & Bellair (1995) also contended that nearly all of the empirical research between racial composition and delinquency ignored the possibility that crime influences people’s decisions of where to play, work, and live and, as a result, may also influence the social, economic and racial composition of neighborhoods as much as they influence crime. Hence, both processes should be taken into account when examining the relationship between racial composition and delinquency (Liska & Bellair, 1995).

Building on past research, Liska & Bellair (1995) examined the reciprocal effects of crime rates and neighborhood racial composition on each other over a 40-year period (from 1980-1990), examine multiple causal lags, disaggregate violent-crime rates into murder, rape, assault, and robbery, and disaggregate change in the percentage of nonwhites into change in the white and nonwhite populations. They concluded that racial composition and violent crime rates show a strong relationship for each decade from 1980 to 1990 (Liska & Bellair, 1995).

**Individual Ethnicity, Educational Risk, Delinquency/Recidivism**

The third hypothesis states that individual ethnicity will have a significant effect on educational risk, such that black youth will be significantly more likely to score higher on educational risk assessments than their white counterparts, and thus will be more likely to re-offend.
Massey & Denton (1993) state that several studies examine the high levels of segregation and housing discrimination and the results imply that minorities, especially blacks are spatially constrained to neighborhoods of low socioeconomic status. The basic conclusion is that blacks are more likely to move into poorer and distressed neighborhoods than non-whites which causes them to be at higher risk for academic problems and thus in conjunction with the prior information about the perceptions of police, increase the likelihood of a minority youth being arrested for delinquency.

*Individual Ethnicity and Educational Risk*

According to the National Center for Education Statistics (2000), black youth receive lower grades, score lower on standardized tests of academic ability, have higher rates of grade retention, and are disproportionately assigned to low-ability groups in elementary school relative to Caucasian students. Evidence also shows that relative to Caucasian students, minority youth have higher rates of grade retention and are disproportionately assigned to low-ability groups in elementary and middle school and vocational tracks in high school (National Center for Education Statistics, 2000).

Despite those statistics, recent data from the 1999 National Assessment of Educational Progress (NAEP) showed that during the past 30 years, black students have made significant achievement gains, the average scores for these groups still remain well below that of non-Hispanic, White students (National Center for Education Statistics, 2000). Moreover, there is evidence to suggest that since the landmark 1954 Supreme Court decision in *Brown v. Board of Education of Topeka, Kansas* notable progress has been made in the educational attainment and achievement of African Americans.
More African Americans are attending elementary and secondary schools; African Americans are graduating from high school at higher rates; more African American students are attending college, graduate and professional schools; and there are more African American professionals in leadership roles as a result of expanded educational opportunities (Garibaldi, 1997).

Garibaldi (1997) reports that along with the numerous gains in educational opportunity there are also increasing signs of missed educational opportunities, declines in educational performance; and perplexing rates of re-segregation of public schools. As part of the 1997 Charles H. Thompson Lecture-Colloquium Presentation, Garibaldi presented data to show the forward and backward movement in education for African Americans. Garibaldi’s study found that high-poverty urban, suburban, and rural public schools were more likely to have larger minority student populations than low-poverty schools, with the high-poverty urban public schools enrolling larger numbers of minority students than did the lower-poverty schools. Thus, most African American and other minority students not only attended urban schools, but urban schools also had the highest concentrations of students from families with low socioeconomic backgrounds (Garibaldi, 1997). Garibaldi (1997) concludes that there has been both progress and regression with respect to African Americans’ educational attainment and achievement.

Most generally, Becker and Luthar (2002) state that during the middle school years, the teachers, classrooms, and school experiences of these adolescents have critical effects on future educational and life opportunities.
Prior research has shown that children who possess resources that they can rely on (i.e. social support, positive attitudes about school) during the transition to middle school are better prepared for a successful transition than students lacking such resources (Elmen, 1991; Kramer, 1991; Lipsitz, 1981). Therefore, because disadvantaged children show decreasing interests in academics and higher levels of emotional distress during the middle school years, the need to attend to the academic and mental health needs of these at risk students is warranted (Becker & Luthar, 2002).

Currently, however despite some progress, several challenges remain. First, although the achievement levels of minority students in disadvantaged schools have improved, these students still remain much farther behind their non-minority peers in meeting basic academic achievement levels in both reading and math. For example, in 1998 the percentage of fourth-grade students in the most impoverished public schools who met or exceeded the NAEP basic level in reading was almost half the national rate. In math, the percentage of minority students in these schools scoring at or above the basic level was only two thirds that of the national average (Becker & Luthar, 2002).

**Ethnicity and Delinquency/Recidivism**

In many theories of crime, race is viewed as a critical variable; however, little empirical research has examined the race-delinquency relationship (Matsueda & Heimer, 1987). Matsueda & Heimer (1987), state that there are three reasons for this dearth of information. The first reason is that, given the history of racial discrimination in the United States, any examination of black-white differences in unlawful behavior is likely to be controversial. Secondly, many researchers attribute the difference in criminal and/or delinquent behaviors to racial bias in the criminal justice system.
Thirdly, racial disparities in delinquency have been difficult to research because other confounding variables (Matsueda & Heimer, 1987).

Polk (1957) argues that the relationship between ethnicity and delinquency is such that crime rates in predominately minority areas are higher than the non-minority areas. The social conditions under which minorities and, especially African Americans, are forced to live are conducive to greater criminality as well as other negative life outcomes (Polk, 1957). As a result, there is a serious problem with disproportionate representation of minority individuals among the lower socioeconomic strata of the U.S. Society (Becker & Luthar, 2002).

Overrepresentation of minority youth in the juvenile justice system has been well documented. On the national level, minority youth are arrested at a disproportionately higher rate than their numbers in the general population (Bishop & Frazier, 1996). While black youth comprise approximately 15% of youth ten to seventeen years of age, they constitute approximately 28% of youths arrested (Bishop & Frazier, 1996). Additionally, minority youth constitute 62% of youths held in short-term detention facilities and approximately 60% of those committed to a long term institutional program (Bishop & Frazier, 1996).

Bishop & Frazier (1996) found that there were clear disadvantages for minority youth at different points of the delinquency case processing; while the magnitude of the race effect varies from stage to stage, a consistent pattern of unequal treatment was still present.
Nonwhite youth referred for delinquent acts are more likely than whites to be recommended for petition to court, to be held in pre-adjudicatory detention, to be formally processed in juvenile court, and to receive the most formal or most restrictive judicial disposition (Bishop & Frazier, 1996).

**Gender, Educational Risk, and Delinquency/Recidivism**

The fourth hypothesis states that gender is an important predictor of educational risk and recidivism, such that males will score higher than females on indicators of educational risk, and in turn will be more likely to re-offend than females. This hypothesis is based in part on research that suggests that early disruptive behaviors in male adolescents such as aggression lead to poor academic achievement or school failure and to future delinquency (Gruber & Machamer, 2000). Additionally, Dembo et al. (1998) argue that male gender is a relatively stable predictor of recidivism, although offending in females is increasing (in 1998, females accounted for 29% of all juvenile arrests for property offenses, compared with 19% in 1981; Office of Juvenile Justice Prevention, 1999).

**Gender and Educational Risk**

When looking at educational issues, school failure or academic problems has an impact on the social development and social adjustment of the child, and it is important to understand if girls and boys follow the same school failure pathway. In this regard many studies consistently highlight differences in the occupational aspirations and academic attainment patterns of male and female adolescents (Rojewski & Hill, 1998).
In their study Rojewski & Hill (1998) examined the main and interactive effects of academic risk status and gender on the early career development of adolescents, including career decision making. They reported that male adolescents were more likely than female adolescents to feel discouraged, lack necessary information about careers, perceive more external barriers to educational success and lack interest in making choices (Rojewski & Hill, 1998).

Previous studies have shown that female adolescents aspire to high-prestige occupations more than their male counterparts, whereas male adolescents aspire to occupations of moderate prestige in greater proportion than female peers (Rojewski & Yang, 1997).

Academic difficulties have been one of the single best predictors of delinquent behaviors for boys; however the association is less clear for girls (Tremblay et al, 1992). Some studies report that there are no significant associations between academic risk and delinquency for girls, while other studies report poor school achievement at 8 predicts later criminality in women (Tremblay et al., 1992; Cernkovich & Giordano, 1992). Therefore it is argument of this researcher that gender will have a significant effect on educational risk, such that male adolescents will be more likely to score higher on educational risk than their female counterparts.

Additionally, researchers report that male adolescents may have accurately assessed the potential problems and situations that they are likely to encounter in educational attainment. From a sociological perspective, the influence of systematic bias or structural barriers that have been erected on the basis of gender may have already led to limited educational alternatives and availability (Hotchkiss & Borrow, 1996).
The further impact of discrimination, stereotyping and expectations formed by teachers on male students may also play a significant role in shaping the adolescent’s perceptions of their academic problems (Mitchell & Krumboltz, 1996).

**Gender and Delinquency/Recidivism**

Current research states that females represented 20 percent (297,400) of all delinquency cases handled by juvenile courts in the United States (Poe-Yamagata and Butts 1996, p. 10). Additionally, cases involving females were less likely to be formally processed with the filing of a delinquency petition than those involving males (43 percent as opposed to 56 percent of all cases) (Poe-Yamagata and Butts 1996, p. 11). Of those cases petitioned that involved females, 53 percent (67,000) were adjudicated, with 60 percent (40,300) of these resulting in probation. In the same year, 59 percent (390,000) of the cases petitioned that involved young men resulted in adjudication and 55 percent (214,500) of these resulted in probation (Poe-Yamagata & Butts 1996, p. 11).

Overall, female offenders were less likely (23 percent of adjudicated delinquency cases) than male offenders (29 percent of adjudicated delinquency cases) to be ordered to an out-of-home placement following juvenile court adjudication and disposition (Poe-Yamagata & Butts 1996, p. 16). Additionally, Fleming et al., (2002) argue that while levels of delinquency may be different for boys and girls, the factors conducive to delinquency are similar. These findings seem to indicate that there is a possible interaction between gender and the process leading to delinquency.

Heimer (1996) argues that most research on the relationship between gender and delinquency attempts to explain males’ higher rates of offending as a result of familial controls or gender role orientations.
Jensen (1976) argues that intelligence and attention problems act as a common cause of poor academic performance and delinquency for boys. Based on control theories, girls are less delinquent than boys because they are supervised more closely, have stronger emotional bonds to families and thus are less free to break the law (Hirschi, 1969).

For most boys and girls, researchers argue that delinquent involvement is developmentally normative, and most adolescents tend to grow out of their destructive behavior patterns as they grow and develop into young adulthood (Mason & Windle, 2001). However, there is evidence that a growing number of individuals become involved in conduct problems and delinquency at a very early age. Mason & Windle (2001) argue that boys and girls with an early onset of delinquency are also at greater risk for school failure and job instability.

Gender is often used as a key variable in examining variations in offending trajectories of adolescents, and is often found to be one of the strongest correlates of crime and delinquency (Heimer, 1996). For many years, the study of juvenile delinquency had focused primarily on conduct disorder and aggression in males, while little attention has been paid to female offenders (Hoyt & Scherer, 1998). Historically, female delinquents were charged with immorality, waywardness, or status offenses (i.e., running away, truancy, and underage drinking) because of concern about their sexual behavior and moral depravity (Hoyt & Scherer, 1998).

Delinquency researchers often contend that the early predictors of male conduct disorders and delinquency are not as effective when applied to females (Hoyt & Scherer, 1998).
The childhood externalizing behaviors, conduct problems, and aggressiveness that predict subsequent delinquency for males do not seem to manifest themselves in female delinquents until adolescence, however others argue that the difference between aggression in boys and aggression in girls is that it is just expressed differently especially when it comes to school problems and academic risk (Hoyt & Scherer, 1998).

Chesney-Lind (1977) argues that there is some evidence to suggest that a complex double standard exists in the administration of juvenile justice for females and males. Therefore, it is difficult to determine if the gender differences found in delinquency are due to the fact that females are arrested less or the fact that female delinquents are treated more leniently in the system (Chesney-Lind, 1977). As a result, studies that attempt to explain the causes of this relationship have not been conclusive.

However, several studies have found that males and females tend to follow a similar set of trajectories in the development of crime. For example, Fergusson & Horwood (2002) found that the correlates of male and female offending trajectories appear to be very similar, suggesting that the risk factors that place males at the risk of crime also act to place females at risk of crime. Fergusson & Horwood (2002) also found that there are distinct differences in the overall offending rates among males and females in that female adolescents offend at a lower rate than males. Also, it was reported that females were more likely to follow low offending risk and early adolescent-limited pathways and males being more likely to follow chronic offending or later adolescent-limited offending pathways (Fergusson & Horwood, 2002).
Until recent years, social scientists have excluded females from their study of delinquents because they suspected that delinquency among females was simply a minor variation of delinquency among males (Calhoun, Jurgens, & Chen, 1993). Also, the pathways that bring adolescents to delinquent behavior are thought to be considerably different for females than for males. Empirical studies conducted by Chesney-Lind and colleagues (Chesney-Lind, 1997; Chesney-Lind & Okamoto, 2001; Chesney-Lind & Sheldon, 1995), have garnered both direct and indirect support for this through research that has focused on abuse in the home and the subsequent criminalization of survival reactions to those traumatic events.

More recently, Gavazzi et al. (In Press) used a sample of court-involved youth and reported that as expected, males reported more prior offenses than did females. Also as expected, females in turn scored higher than males in risk domains associated with family/parenting, mental health, traumatic events, and health-related risks. Unexpectedly, however, females also scored significantly higher than males in domains classically associated with delinquent males: psychopathy, accountability, and delinquent peer relationships (Gavazzi, In Press). Additional gender differences were found in terms of the types of offenses for the male and female adolescents. Gavazzi et al., (In Press) found that males were more likely to be charged with property crimes and person-related offenses, while females were more likely to be detained for repeat status offenses and domestic violence charges.
Educational Risk and Delinquency/Recidivism

A number of studies have concluded that educational issues are associated with both delinquent behavior and recidivistic activity in adolescent populations (Jenkins, 1995; Hirschi, 1969; Archwamety & Katsiyannis, 1999; Hawkins, Catalano, & Miller, 1992; Siegel & Senna, 1994). Based on these prior studies, this research effort also seeks to examine the overall association between educational risk and recidivism. The fifth hypothesis states that youth who display high levels of educational risk will be significantly more likely to re-offend than youth who do not have high levels of educational risk.

Cernkovich & Giordano (1992) argued that the school acts as an independent social control agent, such that different levels of school bonding may account for involvement in delinquent behaviors. The findings of this study revealed that blacks were at least as strongly bonded to the school as whites, and that the racial composition of the school was generally unimportant in conditioning the effect of school bonding on delinquency. Lending to the argument that youth who are not invested in, and committed to school, which have lower school performance or academic achievement, and who violate school norms and frequently get into trouble at school are consistently more likely to engage in deviant and delinquent behaviors (Cernkovich & Giordano, 1992). When it comes to educational attainment or school bonding the race of the adolescent did not matter. If the youth reported lower school bonding, the youth was more likely to be engaged in delinquency, regardless of racial/ethnic background.
Archwamety & Katsiyannis (2000) examined the records of 505 delinquent males committed to a state correctional facility during a 7 year period (1991-1997). For each of the 7 years, three groups were identified: one group receiving remediation in math, one group receiving remediation in reading, and one group receiving no remediation. The results indicated that members of the remedial group were twice as likely to be recidivist or parole violators as members of the non-remedial group. These findings are consistent with findings in previous studies that have documented a link between recidivism and academic achievement.

In another related study, Duncan et al. (1995) measured the contribution of multiple variables toward the prediction of recidivism in 129 male juvenile delinquents committed to a state training school. A number of variables were identified that best predicted offending, including academic achievement. They found that these repeat offenders tend to have significantly lower levels of academic achievement at the time of their admittance to a residential institution. Overall, research has indicated that juvenile offenders who recidivate following release from an institutional setting have lower levels of intellectual functioning, poor verbal abilities, and lower academic achievement (Duncan et al., 1995).
Neighborhood Income, Educational Risk and Delinquency/Recidivism

The sixth hypothesis is more exploratory, and states that there is a possibility that neighborhood income may attenuate the relationship between educational risk and recidivism. Understanding the extent to which neighborhood context (i.e. neighborhood income) increases the relationship between educational outcomes and adolescent re-offense is important in understanding the processes that reproduce social inequality for youth coming from impoverished neighborhoods. Likewise it also helps to understand the processes that discourage delinquent involvement for youth coming from wealthier neighborhoods. To that end, this current study focuses on examining the positive and negative influences of neighborhood income on educational achievement and adolescent recidivism.

Negative Aspects of Neighborhood Income

The increasing concentration of poverty in urban areas over the past thirty years has renewed interest in the effects of neighborhood level conditions on the well-being of adolescents (Ainsworth, 2002). Wilson (1987, 1996) argues that the social isolation and disorganization experienced by inner-city residents’ result in several major social problems, including a prevalence of delinquent subcultures, the weakening of basic institutions, and the lack of social control – all of which contribute to the high rate of educational failure in inner-city neighborhoods.
According to Wilson (1996), neighborhood characteristics influence collective socialization processes by shaping the type of role models youth are exposed to outside the home. He argues that children from poor neighborhoods are less likely to value education, adhere to school norms, and work hard because they do not see this behavior modeled by the adults in their neighborhood.

The significance of neighborhoods in the social life of adolescents has taken on greater importance with the spread of concentrated poverty that occurred during the 1970’s and 1980’s and the growing risk this poses for child well-being (Massey & Denton 1993; Wilson 1987, 1996; Furstenburg 1993). The deterioration of urban neighborhoods, and the associated rise in crime and youth violence, helped to fuel new research on the role of neighborhoods on various adolescent outcomes (Jencks & Mayer, 1990).

Kowaleski-Jones (2000) argues that moving successfully through adolescence is difficult even under the best circumstances. Additionally, living in a neighborhood that is plagued by poverty makes the process more of a struggle. When a neighborhood is deficient in resources such as residential stability, a strong economic base, adequate schools, and a sense of public safety, adolescents are less likely to find opportunities for personal growth or engage in healthy activities or to find positive role models. Additionally, a number of studies report that educational outcomes and delinquency are influenced by neighborhood socioeconomic status.
Sampson & Laub (1993) argue that informal social controls, such as neighborhood norms and sanctions are powerful inhibitors of adolescent deviant behavior. In their research, they studied a group of white male adolescents from poor neighborhoods and found that an absence of social control and weak ties to school accounted for much of the delinquent behavior and subsequent re-offense of these adolescents. The rationale behind this thinking is that youth who do poorly in school are more easily influenced, and have much more fluid perceptions of obligations and expectations in their decision making. In other words, a youth with high educational risk living in a poor neighborhood will have less motivation to stay out of trouble in the community.

In an later study, Sampson et al. (1997) reported that neighborhood collective efficacy, defined as “social cohesion among neighbors” connected to a willingness to intervene on behalf of the common good (or widespread trust in one’s neighbors), is linked to reduced delinquency. When living in an impoverished neighborhood, there are high levels of social disorganization and thus people are less likely to trust their neighbors or become involved in any type of informal sanctions for the good of the community. People assume an attitude of “everyman for himself”, and there is no sense of “collective efficacy” or willingness to form social relationships that facilitate and realize collective goals (Rosenfeld et al., 2001).
Wilson & Kelling (1982) propose that “broken windows” in a neighborhood has a contagious effect on crime. Wilson & Kelling (1982) suggests that signs of physical and social disorder invite criminal activity. Social disorder generally refers to abandoned cars (with broken windows), dilapidated and run down buildings (with broken windows), trash in the streets and graffiti on building walls (Wilson & Kelling, 1982). Disorder in the neighborhood indicates to law abiding citizens that their neighborhood is a dangerous place. As a result, the citizens are afraid to take an active role in promoting social order and withdraw from community life. This reduced importance of local norms can affect the motivation to avoid deviant behavior among adolescents who are high risk educationally.

As a result, poor or disadvantaged neighborhoods influence educational outcomes in that the adolescents living in these neighborhoods experience social isolation and disorganization, and a weakening of basic institutions which contribute to the prevalence of delinquent subcultures. Once these adolescents become involved in the juvenile justice system, because of low levels of collective efficacy, they are more likely to re-offend. Therefore, neighborhood income serves as a proxy variable for not only the physical amount of money that the adolescent’s family has but also the adequate (social) resources available to them (the adolescent and their family) navigate through adolescence, encourage positive academic outcomes and foster positive behavior.

**Positive Outcomes of Neighborhood Income**

Wilson (1996) argues that neighborhood income can positively influence educational outcomes and adolescent recidivism through the amount and quality of social capital (or social networks) that exist in a given community.
Social capital posits that children who live in more affluent neighborhoods are more likely to be exposed to helpful networks of adults who can provide positive resources, information, and opportunities. In other words, neighborhoods that have adequate economic resources are viewed as stable and, as a result, are able to control and or manage street crime.

Most of the writing on community context is based on Coleman’s (1988) work on social capital. The social capital that is present in a community is thought to provide a source of assistance and exchange based on (1) the strength of interpersonal ties characterized by mutual obligation and reciprocity, (2) access to information, and (3) norms and effective sanctions. Thus, social capital represents potential assistance that is developed through a conscious or unconscious investment process that draws upon various resources when needed (Coleman, 1988). All three aspects of social capital are useful in terms of understanding how living in an affluent neighborhood provides a buffer from educational risk and involvement in delinquent behavior.

First, interpersonal ties characterized by mutual obligation and reciprocity are evident in affluent neighborhoods by the amount of social interaction people have with their neighbors. In a high income neighborhood socially invested adults take note of strangers, call the police, watch others’ property, and help maintain social order. When parents know each other, share norms for raising children, and believe that their neighbors will reciprocate in enforcing these norms, they are more willing to contribute actively to informal social controls (Cleveland, 2003). The resulting scrutiny of neighbors, schools and family holds the neighborhood adolescents in check (Furstenburg, 1993).
Additionally, more affluent neighborhoods that have more extensive engagements such as neighborhood watch or subdivision civic associations and are better able to secure adequate policing and other resources relevant to the “public control” of crime.

The second form of social capital is the potential for information or access to information that is inherent in social relations. Information is important as a basis for action. Coleman (1988) argues that one way in which information can be acquired is by the use of social relations that are maintained for another purpose. If neighbors are able to maintain regular contact with one another for social reasons, they might occasionally call on each other for specific information. For example, if an adolescent begins to have trouble in school or begins to associate with negative peers, his parents might learn valuable information about services from neighbors who may have been in similar situations with their own children (Coleman, 1988). Thus, living in a more affluent neighborhood provides the adolescent and their families a rich source of information and resources.

People living in a more affluent neighborhood are more likely to feel safe, they feel at ease they are more willing to talk to one another and share ideas concerning their families and their lives. People who live in the same neighborhood are often under the assumption that their neighbors share their same value, ideas, morals and child rearing practices. As a result, there is a certain level of “social cohesion” among neighbors and which allows any potential problems that may be faced by the adolescent and their family to be addressed. This in turn prohibits the youth from engaging in further harmful or deleterious behavior.
However, it is important to note that there are some youth that may be involved in delinquent behavior from the more affluent neighborhoods. One can speculate that if a youth were to be involved in minor delinquent behavior, it is generally viewed as “normal” adolescent rebellion or just a temporary phase that the adolescent is experiencing. Families from more affluent neighborhoods may be more tolerant of this type of behavior and refer to it simply as their son/daughter “sowing their wild oats”, and is usually dealt with so that the youth will not experience any long term negative effects. This is possible because the families of this youth have the means and social networks to help their kids “get out of trouble”.

To a certain extent, family, school and the neighborhood work together as a powerful source of social control on this youth, such that when these youth get into trouble, the psychological effects of being known as a “problem child” or “trouble maker” would cause the youth to be less likely to be involved in delinquent behavior again and would be less likely to re-offend.

Thirdly, Coleman (1988) stated that the third element of social capital- the degree to which a neighborhood provides norms and sanctions for inappropriate behavior within the community - is thought to be especially important in the prevention of adolescent delinquency and also promotion of positive adolescent behavior. McGahey (1986) argues that affluent suburbs or wealthy central city residential districts often have extensive informal social networks and voluntary organizations that create environments that promote appropriate social behavior (norms and sanctions) and encourage youth to do well in school and stay out of trouble.
Adolescents residing in neighborhoods comprised of adults with higher socioeconomic status achieve better grades, higher educational attainment and are less likely to drop out of school (McGahey, 1986). Therefore it is the argument of this author that neighborhood income will attenuate the relationship between educational risk and neighborhood income. It will affect youth coming from more affluent neighborhoods in that they will have less educational risk and as be less likely to re-offend. Likewise, neighborhood income will affect youth coming from impoverished neighborhoods in that they will have higher levels of educational risk from living in bad neighborhoods and will be more likely to re-offend.
Research Note on Neighborhood Characteristics related to income and racial mix

Researchers studying neighborhood effects have used a wide variety of strategies that connote levels of aggregation thought to represent communities, with units ranging from census-tract to state-level data. For the present study, zip code was the most specific level of geographic information available for the study participants. Unfortunately, because no personal identifiers existed in the database, there was no way to obtain further address information.

According to the Office of Social and Economic Data Analysis, zip codes are a very untidy kind of geography. Zip codes were created by the U.S. Postal Service as a tool to help deliver the mail more efficiently. (“ZIP” is an acronym for “Zone Improvement Plan”, where “Zone” is a reference to the 2-digit postal zones that were used by the post office prior to implementing nationwide ZIP codes back in the early 1960’s). ZIP codes have been adopted by researchers and marketing people as a standard geographic area, like a city or a county (Office of Social and Economic Data Analysis (OSDEA), 2005).

However, information at the zip code level can provide valuable insight into the community context in which the adolescents live. Zip codes reflect a small enough area so that enough information yields systematic differentiations among zip codes (Kowaleski-Jones, 2000). Additionally, confidence in zip codes is bolstered by prior researchers (e.g. Kirby et al., 2001; Kowaleski-Jones, 2000; Ainsworth, 2002) who have demonstrated that zip codes can be used via census data to construct proxy measures for neighborhood variables or community characteristics.
Therefore, this study will also use zip codes as a proxy indicator for neighborhood income and neighborhood race given the restrictions of the current data set.

Kirby et al. (2001) used data from the 1990 census with California zip codes to understand the effects of a community’s characteristics on adolescent birthrates. Zip codes were used to obtain information about factors related to race and ethnicity, education, employment and neighborhood income/poverty. Subsequently, these factors were used to predict teenage childbearing in a California community. They found living below the poverty level was the most important predictor of the birthrate among young teenagers. Additionally, they reported that multiple manifestations of poverty, including low levels of education and employment, and high levels of unemployment, may have a large impact upon birthrates among young teenagers (Kirby et al., 2001).

In a closer related study conducted by Kowaleski-Jones (2000), data was drawn from the summary Table File 3B of the 1990 Census of Population and Housing. The census data was used to construct variables that capture various dimensions of community context by 1992 zip code. The author merged NLSY79 data with the data by the 1992 zip code. The 1990 information was matched to each adolescent’s zip code in 1992 because 1992 was the survey year from which all of the input data was drawn (Kowaleski-Jones, 2000). The basic results of her study showed that higher quality schools provide environments in which adolescents are less likely to get in trouble and also that residential stability regardless of the level of disadvantage present within the neighborhood decreases adolescent risk-taking attitudes and delinquent behaviors (Kowaleski-Jones, 2000).
CHAPTER 3
METHODOLOGY

This section of the study will explain how the data were collected, organized and analyzed. This includes a discussion about statistical procedures that were used for each hypothesis as well as why these procedures were appropriate. All data from the US Census Bureau were consistently and systematically coded before being entered into the computer using Microsoft Office Excel, and then merged into the analysis database using SAS 9.1. As a means of analyzing the data, the Kruskal-Wallis statistic and logistic regression procedures were used to carry out the analysis in this study.

Table 1 reports the variable descriptions and metrics for key measures.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Educational Total</strong></td>
<td>Global Risk Assessment Device (GRAD)</td>
<td>0=lowest score</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22=highest score</td>
</tr>
<tr>
<td></td>
<td>Composite of scores of education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Domain of GRAD</td>
<td></td>
</tr>
<tr>
<td><strong>Neighborhood Characteristics</strong></td>
<td>US Census Bureau 2000 Data Files</td>
<td></td>
</tr>
<tr>
<td>Neighborhood Income</td>
<td>Median family income from 1999,</td>
<td>$8,676.00=lowest</td>
</tr>
<tr>
<td></td>
<td>of those residing in the family’s zip codes</td>
<td>$97,002.00= highest</td>
</tr>
<tr>
<td></td>
<td>Collapsed into 3 income category</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) Low Income: 0$-$34,000;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) Medium Income: $34,001-55,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) High Income: $55,001 and Up</td>
<td></td>
</tr>
<tr>
<td>Neighborhood Racial Mix</td>
<td>Composite based on percent white individuals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 main category variables:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) Homogenous White (85%-100% white);</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) Homogenous Black (0%-49% White);</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) Racially Mixed or Heterogeneous (50%-84% white)</td>
<td></td>
</tr>
<tr>
<td><strong>Recidivism</strong></td>
<td>Non Repeat Offender -No=</td>
<td>66% Percent -non-repeater</td>
</tr>
<tr>
<td></td>
<td>Repeater -Yes =</td>
<td>34% Percent -repeater</td>
</tr>
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</table>

Table 1: Description of Variables
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<tr>
<th></th>
<th>N Statistic</th>
<th>Count Statistic</th>
<th>Percent Statistic</th>
<th>Mean Statistic</th>
<th>Std. Error</th>
<th>Std. Deviation Statistic</th>
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<tbody>
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<td>675</td>
<td>486</td>
<td>72%</td>
<td>.72</td>
<td>.021</td>
<td>.477</td>
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<td>Female</td>
<td>675</td>
<td>189</td>
<td>28%</td>
<td>.28</td>
<td>.033</td>
<td>.458</td>
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<tr>
<td>Black</td>
<td>675</td>
<td>337</td>
<td>49%</td>
<td>.49</td>
<td>.019</td>
<td>.500</td>
</tr>
<tr>
<td>White</td>
<td>675</td>
<td>338</td>
<td>51%</td>
<td>.51</td>
<td>.019</td>
<td>.500</td>
</tr>
<tr>
<td>Medium Income</td>
<td>675</td>
<td>255</td>
<td>38%</td>
<td>.38</td>
<td>.019</td>
<td>.485</td>
</tr>
<tr>
<td>Low Income</td>
<td>675</td>
<td>352</td>
<td>52%</td>
<td>.52</td>
<td>.019</td>
<td>.500</td>
</tr>
<tr>
<td>High Income</td>
<td>675</td>
<td>69</td>
<td>10%</td>
<td>.10</td>
<td>.012</td>
<td>.303</td>
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<tr>
<td>Neighborhood White</td>
<td>675</td>
<td>233</td>
<td>35%</td>
<td>.35</td>
<td>.018</td>
<td>.476</td>
</tr>
<tr>
<td>Neighborhood Black</td>
<td>675</td>
<td>95</td>
<td>14%</td>
<td>.14</td>
<td>.013</td>
<td>.348</td>
</tr>
<tr>
<td>Neighborhood Mixed</td>
<td>675</td>
<td>347</td>
<td>51%</td>
<td>.51</td>
<td>.019</td>
<td>.500</td>
</tr>
<tr>
<td>Repeater</td>
<td>675</td>
<td>225</td>
<td>34%</td>
<td>.34</td>
<td>.017</td>
<td>.472</td>
</tr>
</tbody>
</table>

Table 2: Descriptive statistics of variables
**Sample**

This study utilizes data that were collected from 695 youth who were assessed by juvenile justice professionals system in the Juvenile Detention Center of a large Mid-Western metropolitan county. These youth were classified as “1st time detention appearances”. In other words, this was the youth’s first appearance in juvenile detention. In general 34% of the youth in the sample were repeat offenders versus 66% who were not repeat offenders. Table 2 lists general descriptive statistics regarding the sample. Of this sample, 72% were males, 28 % were females, 51% were Caucasian, and 49% were Black.

The median household income was obtained from the Census website for 1999. The income levels were initially categorized into approximately 3 categories: (1) Low Income: $0-34,000, (2) Medium Income: $34,001-$55,000, and (3) High Income: $55,001 and Up. Of the neighborhoods in this sample 52% were low income neighborhoods, 38% were from median income neighborhoods and 10% of the zip codes were from high income neighborhoods.

To capture the neighborhood level of racial and ethnic diversity, the author calculated the percent of Caucasian individuals that live within a particular zip code. There are 34 different Summit County zip codes included in this analysis. The data was extracted from the SF1 data file to categorize the ethnic/racial mix of the community into three main category variables: 1= Homogenous White (85%-100% white), 2= Homogenous Black (0%-49% white), and 3= Racially Mixed or Heterogeneous (50%-84% white).
In this sample, 35% of the neighborhoods were predominantly white (homogenous white), 14% (95) were predominantly black (homogenous black), and 51% (347) of the neighborhoods were racially mixed (or heterogeneous).

**Combination Strategy**

To address the issue of inequality within the income categories, high and medium income categories were combined. The high income category is about 10% of the sample, while low and medium respectively comprise the remainder of the sample. Combining high and medium income provided more equivalent groups for the data analysis. In general, income is a variable that is not evenly distributed within the population. It is the argument of this author that the income categories within the sample groups closely resemble that of the actual population. Because in the actual population there are few wealthy people who fall in the high end of the distribution, most people fall in the low or medium categories of income.

Another issue concerning the data was the category groups for neighborhood racial mix. The current category break down is 35% White, 14% Black and 51% of the neighborhoods were mixed. For the statistical analysis the neighborhood groups were collapsed into two categories: homogenous White and Black/racially mixed. Prior research on neighborhood level variables using the census data created groups in order to normalize the data and increase the stability of the models. For example Kirby et al. (2001) used zip codes and data from the Census Bureau to create categories that contained information about the youth in their study. The zip codes were grouped and then each category was weighted according to the number of young teens within each zip code.
For this present study grouping the categories will enable the author to examine neighborhood income in high versus low income neighborhoods which is consistent with the literature and neighborhood racial mix as homogenous white neighborhoods versus black/racially mixed.

**Measures**

*Global Risk Assessment Device*

The data were drawn from version 1.0 of the Global Risk Assessment Device (GRAD). The GRAD is an internet-based instrument that has been developed as a reliable and valid tool for professionals working with court-involved youth and their families. The GRAD was originally developed in order to enhance the assessment requirements of family-based interventions in the juvenile justice realm that followed a psycho educational format (Gavazzi, Wasserman, Partridge, & Sheridan, 2000).

These interventions were developed as a continuum of services -- including diversion-oriented (Gavazzi, Yarcheck, Wasserman, & Partridge, 2000) and parole-based interventions (Gavazzi, Yarcheck, Rhine, & Partridge, 2003; Partridge, Gavazzi, & Rhine, 2001) --- that addressed the global needs of court-involved youth and their families. Hence, this instrument was built with the idea that such broadband assessment could guide and direct appropriate service delivery for family service professionals working with at-risk youth.
There are 132 items in this version of the GRAD representing eleven domains of risk. The average time that it takes to complete the GRAD is about twenty-five minutes. Respondents are asked to respond to the items by indicating on a scale of 0 to 2 (where 0 indicates “No/Never,” 1 indicates “Yes/A couple of times,” and 2 indicated “Yes/A lot”) how much each item applies to their life. Item scores are totaled together to compute a risk score for each domain. The GRAD was administered by court service professionals in an interview format so that the responses are self-reported by the adolescent.

*United States Census Bureau*

Data was also drawn from the Summary File 1 (SF1) of the 2000 Census of Population and Housing. This file presents counts and information regarding sex, age, race/ethnic origin, and household relationship collected from all people and housing units. In addition to the data of the SF1 file, data was drawn from the Summary File 3 (SF3), which details population and housing data such as place of birth, employment status, income and value of housing unit. The census information extracted from these files were used to construct variables that capture useful dimensions of neighborhood context, in particular variables of neighborhood racial mix and neighborhood income respectively.

*Neighborhood Income*

Neighborhood characteristics are developed using the 2000 U.S. Census. Previous literature suggested that a neighborhood is defined as a social-spatial unit. The construct of a neighborhood is reinforced by the name and the symbolic meaning that residents share (Chuang, 2001). Originally, census tracts were created as the geographic unit of study regarding neighborhoods.
Census tracts were defined by visible boundaries and intended to be as homogeneous as possible regarding population characteristics, economic status, and living conditions (U.S. Department of Commerce and Bureau of the Census, 1994). Median income of families residing in the study family’s census tract at the time of the most current US Census data has been used by prior researchers as a method of measuring neighborhood income (U.S. Department of Commerce and Bureau of the Census, 1994).

In this study, objective neighborhood income was measured by information obtained from the 2000 Census file. The zip codes were entered into the Census website under the section labeled geo within geo, and searched for all 5-Digit Zip Code Tabulation Area’s (ZCTA), that were fully or partially contained within Summit County. Once the list was generated, zip codes that were not at all contained in Summit were eliminated from the analysis. The youth in those specific zip codes were youth who lived in another county but were arrested in the target county.

Measures of Recidivism

The youth included in this study were those that had a 1st detention appearance. Once the juvenile has come into the juvenile detention center, a Public Safety Domain (PSD) was completed at point of entry into the system. A public safety domain contains information about the crimes, felonies/misdemeanors of the youth and expires after 6 months. Following the completion of the PSD, a GRAD was administered within 48 hours. Subsequently, of the youth that have received a PSD and a GRAD, then the number of youth that have come back to the court’s attention for a subsequent delinquent act will be included in the analysis as repeat offenders.
Youth in this data file are classified as either being a repeat offender, meaning that a PSD was conducted within a 6 month period of the initial contact with the juvenile court or as a non-repeater which is a youth who has one PSD in deck, occurring on or before 7/1/05, six months before deck terminates. Each of these youth has at least one GRAD assessment completed within 6 months of their first or only PSD.

Gender and Individual Ethnicity

Gender was a self-reported item and was coded as 1=male and 0=female. Individual ethnicity was categorized into two main categories; Black and White.

Measure of Educational Risk

The present study specifically reports on data gathered from one of the key components of the GRAD: the education domain. A high score in the education domain means that this youth is at greatest risk in falling behind their peers academically and consequently, these youth are unlikely to make the transition to adulthood as successfully. Alternatively, a low score indicates that there is less need to focus on potential difficulties in this domain, and thus may be used as part of an asset-building approach with this youth and family. Appendix A lists the items as they appear on the youth version of the web-based GRAD.

The education domain of the GRAD actually consists of two sub-domains: Education and Vocation. Although there is research to support the notion of a correlation between academic risk and career decision making/occupational choice, the vocational items are excluded in order to focus attention on the educational items.
Data Analysis

Based on the 2-group combinations created, 2-sample group test and binary logistic regression were used in this data analysis. Two-group sample proportion test was conducted to allow the researcher to examine 2 groups independently to determine if there is a significant difference in the proportion of offenders versus non-offenders across gender, racial lines and neighborhood characteristics.

Binary logistic regression is a form of regression that is used when the dependent variable is dichotomous. In this research study, the main dependant variable of interest is recidivism and the youth in the study were classified as either a repeater (=1) or non-repeater (= 0). Table 1 list the measures used in the logistic regression analysis. The results of the logistic regression were used to predict recidivism on the basis of educational risk and to determine which variable (neighborhood income, neighborhood racial mix, gender, ethnicity or educational risk) had the most predictive power in distinguishing repeaters from non-repeaters.

Additionally, for the outcome of educational risks, the Kruskal-Wallis statistic was used. Because educational risk is a continuous variable and the distribution is highly skewed, the Kruskal-Wallis test is an appropriate statistical measure (Please refer to Figure 2). This statistical test does not assume normality in the distribution of the error terms and it is viewed as a non-parametric equivalent to ANOVA. The group medians for educational risks will be analyzed as opposed to the group means.
Figure 2: Dot plot of Educational Risk Scores

Hypothesis 1: Hypothesis 1 states that youth who come from low-income neighborhoods will be (a) significantly more likely to display higher educational risk scores and (b) also will be more likely to re-offend than youth from neighborhoods with a higher economical position. Testing of Hypothesis 1a will occur using the Kruskal-Wallis procedure to estimate the unique contribution of neighborhood poverty on educational risks. This method will provide information about the median scores of educational risk between the income categories. Hypothesis 1b will be tested using binary logistic regression and low neighborhood income as the reference group.
This method will allow the researcher to examine the high and medium income neighborhoods for statistical comparison to the low neighborhood income group.

**Hypothesis 2:** The second hypothesis states that neighborhood racial mix will have an affect on educational risk and recidivism such that youth coming from non-white neighborhoods will (a) score higher on educational risk assessments and (b) be more likely to re-offend than youth coming from homogenous white neighborhoods. The testing of hypothesis 2a will occur using the Kruskal-Wallis procedure to determine the median educational risk scores for the of neighborhood racial mix. Hypothesis 2b will be tested using binary logistic regression for the comparison of homogenous white neighborhoods to non-white neighborhoods.

**Hypothesis 3:** Hypothesis 3 states that individual ethnicity will have a significant effect on (a) educational risk such that minority youth will be more likely to score higher on educational risk assessments than their non-minority counterparts and (b) will be more likely to re-offend. Hypothesis 3a will be tested using the Kruskal-Wallis procedure in order to determine the median educational risk for the black and white groups. Hypothesis 3b will be tested using binary logistic regression. This allows the researcher to compare the black youth versus the white youth based on the prediction of the hypothesis that minority youth will be more likely to re-offend.

**Hypothesis 4:** Hypothesis 4 states that gender is an important predictor of (a) educational risk and (b) recidivism such that males will score higher than females and males will be more likely to re-offend than females. Hypothesis 4a will be tested using the Kruskal-Wallis procedure in order to assess the median educational risk for males and females. Hypothesis 4b will be tested using binary logistic regression.
This will allow the researchers to make statistical comparisons of female to male offenders because the hypothesis is that male offenders will be more likely to re-offend.

**Hypothesis 5:** The 5th hypothesis states that youth who display high levels of educational risk will be significantly more likely to re-offend than youth who do not have high levels of educational risk. In order to measure the extent to which educational risk predicts a youth’s probability of re-offense, binary logistic regression analysis will be used because recidivism is still the outcome variable and it is a dichotomous variable.

**Hypothesis 6:** Hypothesis 6 states that neighborhood income will attenuate the relationship between educational risk and recidivism. This interaction model will be tested using logistic regression.

**Testing of Overall Model:** The overall model will be tested using binary logistic regression. This will allow the researcher to assess the importance of neighborhood income, neighborhood racial mix, individual ethnicity, gender and educational risk. This model was built using the forward selection approach, where the most important predictor of recidivism will be the first factor to enter the model. After accounting for the first factor, other variables will be added to determine if they add significant predicting power to the model.
CHAPTER 4

RESULTS

Hypothesis 1:

Hypothesis 1a states that youth who come from low-income neighborhoods will be significantly more likely to display higher educational risk scores than youth who come from neighborhoods with a higher economical position. The results of the Kruskal-Wallis analysis of variance (‘H’ is a close approximation of chi-square values) indicated a significant effect for neighborhood income on educational risks (H= 5.99, DF=1, p<.05). Table 3 reports on the results of the Kruskal-Wallis analysis.

Hypothesis 1b states that youth coming from low-neighborhoods will be significantly more likely to re-offend than youth coming from neighborhoods with a higher economical position. Two-group sample proportion test revealed that 30% of the adolescents from medium/high income neighborhoods are repeat offenders, while 37% of the adolescents from the low-income neighborhoods are repeat offenders. Table 4 contains information regarding the 2-sample group tests of recidivism as proportioned by neighborhood income.
The results indicate that neighborhood income is a significant predictor (G=3.85, DF=1, p<.05) of recidivism in that youth who come from the neighborhoods with lower income were more likely to re-offend than youth who come from higher income neighborhoods. The estimated odds of recidivism of high/medium income youth compared to low income youth are 0.72. In other words, youth from medium/high income neighborhoods are 28% less likely to offend than youth coming from low income neighborhoods. Table 5 reports on the binary logistic regression results.

Hypothesis 2:

Hypothesis 2a stated that neighborhood racial mix will have an affect on educational risk such that youth coming from non-white neighborhoods will score higher on educational risk assessments. The results of the Kruskal-Wallis tests indicated that there were no significant differences (H=0.02, DF=1, NS) in the educational risk scores of youth coming from black/racially mixed neighborhoods, versus homogenous white. Table 3 reports on the results of the Kruskal-Wallis analysis.

Hypothesis 2b stated that racial mix will have an affect on recidivism such that youth coming from non-white neighborhoods will be more likely re-offend than youth coming from homogenous white neighborhoods. Results of 2-sample group tests indicated that 30% of the youth from homogenous white neighborhoods are repeat offenders, and 35% of the youth from black/racially mixed neighborhoods are repeat offenders. Table 4 contains information regarding the 2-sample group tests of recidivism as proportioned by neighborhood race.
Results of binary logistic regression indicated that neighborhood racial mix is not a significant predictor of recidivism (G=1.32, DF=1, NS). Youth who come from black/racially mixed neighborhoods were no more likely to re-offend than youth coming from white homogenous neighborhoods. Table 5 reports on the binary logistic regression results.

_Hypothesis 3:_

Hypothesis 3a states that individual ethnicity will have a significant effect on educational risk such that black youth will be more likely to score higher on educational risk assessments than their white counterparts. The results of the Kruskal-Wallis tests indicated that there were no significant differences in the median educational risk scores of minority and non-minority youth. The Kruskal-Wallis analysis of variance indicates no significant effects (H=0.17, DF=1, NS). Table 3 reports on the results of the Kruskal-Wallis procedure.

Hypothesis 3b stated that individual ethnicity will have a significant effect on recidivism such that black youth will be more likely to re-offend than their white counterparts. 2-sample group tests revealed that 38% of the black adolescents in the sample were repeat offenders, which is higher than the percentage for white youth (29%) in the sample. Table 4 contains information regarding the 2-sample group tests of recidivism as proportioned by individual ethnicity.

Results of the logistic regression indicated that individual ethnicity was a significant predictor (G=5.75, DF=1, \( p < .05 \)) of recidivism. The estimated odds of recidivism for black youth compared to white youth are 1.5. Table 5 reports on the results of the logistic regression.
Hypothesis 4:

Hypothesis 4a states that gender is an important predictor of educational risk such that males score higher on educational risk than their female counterparts. The results of the Kruskal-Wallis tests indicated that there were no significant differences (H=.37, DF=1, NS) in the median educational risk scores of males versus female adolescents. Table 3 reports on the results of the Kruskal-Wallis procedure.

Hypothesis 4b states that gender is an important predictor of recidivism such that males will be more likely to re-offend than females. 2-sample group tests revealed that 29% of the adolescent females in the sample were repeat offenders while 35% of the adolescent males in the sample were repeat offenders. Table 4 reveals results of 2-sample group test of recidivism as proportioned by gender. However, results of the logistic regression procedure indicated no significant associations (G=1.64, DF=1, NS).

Hypothesis 5:

The 5th hypothesis states that youth who display high levels of educational risk will be significantly more likely to re-offend than youth who have low levels of educational risk. The results of the binary logistic regression indicated that educational risk was a significant predictor of recidivism (p<.001) in that youth who had high levels of educational risk were more likely to re-offend than youth who had lower levels of educational risk. Logistic regression analyses revealed a significant effect (G=23.1, DF=1, p<.001). The estimated odds of recidivism for youth who have high educational risks are 1.10. For each one point increase in educational risk, the estimated odds of recidivism increase by a factor of 1.10. Table 5 lists the results of the binary logistic regression for educational risk and recidivism.
Hypothesis 6:

Hypothesis 6 states that neighborhood income will attenuate the relationship between educational risk and recidivism. Logistic regression indicates a significant effect (Z=2.09, p<.005) and the estimated probability plot shows that there is a strong interaction effect between educational risk and income on recidivism. The estimated odds of recidivism are 1.10. For every one unit increase in educational risk the odds of recidivism for youth coming from medium/high income neighborhoods increases by 1.10. Table 6 lists the results of the binary logistic regression and interaction effect of neighborhood income, educational risk and recidivism. Figure 3 shows the graph of the interaction effect between educational risk and income on recidivism.

![Estimated Probability of Recidivism by Educational Risk and Income](image)

Figure 3: Graph of Interaction effect of educational risk, neighborhood income and recidivism.
Test of Overall Model

Overall, educational risk, neighborhood income and the ethnicity of the offender are all significantly related to recidivism. For each one point increase in educational risk, the estimated odds of recidivism increase by a factor of 1.06 ($Z=2.32$, $p<.05$). Minority offenders are significantly more likely to re-offend than non-minority offenders ($Z=1.92$, $p<.05$). Here, the estimated odds of recidivism are 1.4 times higher for black youth than white youth. Finally, high/medium income youth were at lower risk for recidivism than youth coming from the low income neighborhoods ($Z=-2.02$, $p<.05$). Figure 4 shows the graph of important factors related to recidivism. Table 7 reports on the results for the overall model.

**Figure 4: Graph of Important Factors related to recidivism** 
** this graph should be interpreted with caution when educational risk is above 15 because the sample sizes are very small at this level (very few observations at this level). The lines cross when educational risk is at about 9.
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Median</th>
<th>Average Rank</th>
<th>Z</th>
</tr>
</thead>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium/High</td>
<td>324</td>
<td>5.00</td>
<td>318.9</td>
<td>-2.45</td>
</tr>
<tr>
<td>Low</td>
<td>351</td>
<td>5.00</td>
<td>355.6</td>
<td>-2.45</td>
</tr>
<tr>
<td>Overall</td>
<td>675</td>
<td></td>
<td>338.0</td>
<td></td>
</tr>
<tr>
<td>*H = 5.99</td>
<td>DF = 1</td>
<td>P = 0.014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*H = 5.99</td>
<td>DF = 1</td>
<td>P = 0.014 (adjusted for ties)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood Racial Mix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed/Black</td>
<td>442</td>
<td>5.00</td>
<td>337.3</td>
<td>-0.13</td>
</tr>
<tr>
<td>Homogenous White</td>
<td>233</td>
<td>5.00</td>
<td>339.3</td>
<td>0.13</td>
</tr>
<tr>
<td>Overall</td>
<td>675</td>
<td></td>
<td>338.0</td>
<td></td>
</tr>
<tr>
<td>*H = 0.02</td>
<td>DF = 1</td>
<td>P = 0.898</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*H = 0.02</td>
<td>DF = 1</td>
<td>P = 0.898 (adjusted for ties)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minority</td>
<td>337</td>
<td>5.00</td>
<td>334.9</td>
<td>-0.41</td>
</tr>
<tr>
<td>Non-Minority</td>
<td>338</td>
<td>5.00</td>
<td>341.1</td>
<td>0.41</td>
</tr>
<tr>
<td>Overall</td>
<td>675</td>
<td></td>
<td>338.0</td>
<td></td>
</tr>
<tr>
<td>*H = 0.17</td>
<td>DF = 1</td>
<td>P = 0.682</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*H = 0.17</td>
<td>DF = 1</td>
<td>P = 0.681 (adjusted for ties)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>189</td>
<td>5.00</td>
<td>330.7</td>
<td>-0.60</td>
</tr>
<tr>
<td>Male</td>
<td>486</td>
<td>5.00</td>
<td>340.8</td>
<td>0.60</td>
</tr>
<tr>
<td>Overall</td>
<td>675</td>
<td></td>
<td>357.5</td>
<td></td>
</tr>
<tr>
<td>*H = 0.36</td>
<td>DF = 1</td>
<td>P = 0.547</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*H = 0.37</td>
<td>DF = 1</td>
<td>P = 0.545 (adjusted for ties)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(*H-value is a close approximation of the chi-square distribution)

Table 3: Kruskal-Wallis Test of Educational Risk by Neighborhood Income, Neighborhood Racial Composition, Individual Ethnicity and Gender
<table>
<thead>
<tr>
<th>Variable</th>
<th>Recidivist</th>
<th>Non-Recidivist</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neighborhood Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium/High Income</td>
<td>96 (30%)</td>
<td>228</td>
<td>324</td>
</tr>
<tr>
<td>Low Income</td>
<td>129 (37%)</td>
<td>222</td>
<td>351</td>
</tr>
<tr>
<td>Difference = p (0) - p (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate for difference:</td>
<td>-0.0712251</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% CI for difference:</td>
<td>(-0.142050, -0.000400575)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for difference = 0 (vs. not = 0):</td>
<td>Z = -1.97</td>
<td>P-Value = 0.049</td>
<td></td>
</tr>
<tr>
<td><strong>Neighborhood Racial Mix</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homogenous white</td>
<td>71 (30%)</td>
<td>162</td>
<td>233</td>
</tr>
<tr>
<td>Racially Mixed/Black</td>
<td>154 (35%)</td>
<td>288</td>
<td>442</td>
</tr>
<tr>
<td>Difference = p (0) - p (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate for difference:</td>
<td>0.0436953</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% CI for difference:</td>
<td>(-0.0302378, 0.117628)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for difference = 0 (vs. not = 0):</td>
<td>Z = 1.16</td>
<td>P-Value = 0.247</td>
<td></td>
</tr>
<tr>
<td><strong>Individual Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>127 (38%)</td>
<td>210</td>
<td>337</td>
</tr>
<tr>
<td>White</td>
<td>98 (29%)</td>
<td>240</td>
<td>338</td>
</tr>
<tr>
<td>Difference = p (0) - p (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate for difference:</td>
<td>0.0869138</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% CI for difference:</td>
<td>(0.0160850, 0.157742)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for difference = 0 (vs. not = 0):</td>
<td>Z = 2.41</td>
<td>P-Value = 0.016</td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>56 (29%)</td>
<td>133</td>
<td>189</td>
</tr>
<tr>
<td>Male</td>
<td>169 (35%)</td>
<td>317</td>
<td>486</td>
</tr>
<tr>
<td>Difference = p (Female) - p (Male)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate for difference:</td>
<td>-0.0514403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% CI for difference:</td>
<td>(-0.129098, 0.0262173)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for difference = 0 (vs. not = 0):</td>
<td>Z = -1.30</td>
<td>P-Value = 0.194</td>
<td></td>
</tr>
</tbody>
</table>

*Table 4: 2-Sample group test of recidivism proportioned by gender, ethnicity and neighborhood racial mix*
<table>
<thead>
<tr>
<th>Variable/Predictor</th>
<th>Coef</th>
<th>SE Coef</th>
<th>Z</th>
<th>P</th>
<th>Odds Ratio</th>
<th>95 % CI Lower</th>
<th>95 % CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neighborhood Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.542865</td>
<td>0.110709</td>
<td>-4.90</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High/Medium Income</td>
<td>-0.322132</td>
<td>0.164496</td>
<td>-1.96</td>
<td>0.050</td>
<td>0.72</td>
<td>0.52</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>(High/Medium vs. Low Income)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Log-Likelihood = -427.718</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test that all slopes are zero: G = 3.857, DF = 1, P-Value = 0.050</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Neighborhood Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor Constant</td>
<td>-0.824916</td>
<td>0.142328</td>
<td>-5.80</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed/Black</td>
<td>0.198909</td>
<td>0.173848</td>
<td>1.14</td>
<td>0.253</td>
<td>1.22</td>
<td>0.87</td>
<td>1.72</td>
</tr>
<tr>
<td></td>
<td>(Mixed/Black vs. White Homogenous)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Log-Likelihood = -428.987</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test that all slopes are zero: G = 1.321, DF = 1, P-Value = 0.250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Individual Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Black vs. White)</td>
<td>0.392751</td>
<td>0.164337</td>
<td>2.39</td>
<td>0.017</td>
<td>1.48</td>
<td>1.07</td>
<td>2.04</td>
</tr>
<tr>
<td></td>
<td>Log-Likelihood = -426.773</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test that all slopes are zero: G = 5.748, DF = 1, P-Value = 0.017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Note * The Model uses all degrees of freedom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Male vs. Female)</td>
<td>0.235994</td>
<td>0.185601</td>
<td>1.27</td>
<td>0.204</td>
<td>1.27</td>
<td>0.88</td>
<td>1.82</td>
</tr>
<tr>
<td></td>
<td>Log-Likelihood = -428.827</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test that all slopes are zero: G = 1.641, DF = 1, P-Value = 0.200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Note * The Model uses all degrees of freedom</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Table 5: Results of Binary Logistic Regression (Continued)*
**Table 5: Continued**

<table>
<thead>
<tr>
<th>Variable/Predictor</th>
<th>Coef</th>
<th>SE Coef</th>
<th>Z</th>
<th>95% CI</th>
<th>Odds Ratio</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Educational Risk * Recidivism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-1.24344</td>
<td>0.145644</td>
<td>-8.54</td>
<td>0.000</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>EDUTOTAL</td>
<td>0.0940208</td>
<td>0.0198365</td>
<td>4.74</td>
<td>0.000</td>
<td>1.10</td>
<td>1.06</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Log-Likelihood = -418.072

Test that all slopes are zero: \( G = 23.151, DF = 1, P\text{-Value} = 0.000 \)

**Goodness-of-Fit Tests for Educational Risk and Recidivism**

<table>
<thead>
<tr>
<th>Method</th>
<th>Chi-Square</th>
<th>DF</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>23.7788</td>
<td>20</td>
<td>0.252</td>
</tr>
<tr>
<td>Deviance</td>
<td>24.6523</td>
<td>20</td>
<td>0.215</td>
</tr>
<tr>
<td>Hosmer-Lemeshow</td>
<td>8.8937</td>
<td>5</td>
<td>0.113</td>
</tr>
<tr>
<td>Brown:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Alternative</td>
<td>6.3529</td>
<td>2</td>
<td>0.042</td>
</tr>
<tr>
<td>Symmetric Alternative</td>
<td>5.1443</td>
<td>0</td>
<td>0.023</td>
</tr>
<tr>
<td>Variable/Predictor</td>
<td>Coef</td>
<td>SE Coef</td>
<td>Z</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.872796</td>
<td>0.194620</td>
<td>-4.48</td>
</tr>
<tr>
<td>EDUTOTAL</td>
<td>0.0536457</td>
<td>0.0255374</td>
<td>2.10</td>
</tr>
<tr>
<td>High/Medium Income</td>
<td>-0.810667</td>
<td>0.299189</td>
<td>-2.71</td>
</tr>
<tr>
<td>EDUTOTAL*High/Med</td>
<td>0.09355221</td>
<td>0.0412215</td>
<td>2.27</td>
</tr>
</tbody>
</table>

Log-Likelihood = -414.316
Test that all slopes are zero: G = 30.662, DF = 3, P-Value = 0.000

**Goodness-of-Fit Tests**

<table>
<thead>
<tr>
<th>Method</th>
<th>Chi-Square</th>
<th>DF</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>33.2906</td>
<td>38</td>
<td>0.687</td>
</tr>
<tr>
<td>Deviance</td>
<td>36.3228</td>
<td>38</td>
<td>0.547</td>
</tr>
<tr>
<td>Hosmer-Lemeshow</td>
<td>6.5357</td>
<td>7</td>
<td>0.479</td>
</tr>
<tr>
<td>Brown:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Test for significance of the interaction group*

*Table 6: Binary Logistic Regression of Interaction group Neighborhood Income, Educational Risk, and Recidivism*
<table>
<thead>
<tr>
<th>Variable/Predictor</th>
<th>Z</th>
<th>P</th>
<th>Odds Ratio</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>Edutotal</td>
<td>2.32</td>
<td>0.021</td>
<td>1.06</td>
<td>1.01</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1.92</td>
<td>0.054</td>
<td>1.42</td>
<td>.99</td>
</tr>
<tr>
<td>Income</td>
<td>-2.02</td>
<td>0.043</td>
<td>0.53</td>
<td>.29</td>
</tr>
<tr>
<td>EDUTOTAL*High/Med</td>
<td>2.09</td>
<td>0.037</td>
<td>1.09</td>
<td>1.01</td>
</tr>
</tbody>
</table>

Log-Likelihood = -412.458
Test that all slopes are zero: G = 34.379, DF = 4, P-Value = 0.000

**Table 7: Test of Overall Model**

**After Educational Risk, race is the next most predictive factor of recidivism**

**Income was also a significant predictor of Recidivism**
CHAPTER 5

**Summary/Major Findings**

The purpose of this study was to determine how educational risk in a sample of court involved youth may increase the likelihood of recidivism and, additionally, the extent to which neighborhood income, neighborhood racial mix, individual ethnicity and gender help to differentiate re-offenders from non re-offenders. The results afford some general conclusions to be made about these issues. However, these conclusions should be interpreted in light of the fact that they are based on a sample of youth that are already involved in the court system and that only one juvenile court was used in the present study.

*Neighborhood Income, Educational Risk and Recidivism*

The first question addressed by this research was whether neighborhood income was predictive of educational risk, and secondarily, recidivism. Results indicated that neighborhood income was a significant predictor of educational risk, such that youth coming low income neighborhoods were more likely to be at higher educational risk. Likewise, youth who came from the more impoverished neighborhoods were more likely to re-offend than youth coming from more affluent neighborhoods.
These findings build upon previous work such as Wilson’s (1987, 1996) research regarding the link between neighborhood disadvantage and social problems such as educational failure, increased juvenile delinquency, and the diminished psychological well-being of adolescents. This study moves the educational and delinquency literature forward by making a direct connection between structural factors (neighborhood income, neighborhood racial mix) and individual-level processes (recidivism, educational risk, gender, and individual ethnicity). Most previous research addressing educational disparities tends to emphasize either structural level factors (i.e. school, neighborhood,) or individual level factors (gender, individual ethnicity, family income). For example, some theories have focused on micro-level factors such as family socioeconomic status (Blau & Duncan 1967; Featherman & Hauser 1976) which is an individual level factor.

Another example focuses on the structural level factor of neighborhoods. There may be direct effects of economic status, through benefits of higher quality public schools, parks etc. and indirect effects through informal job networks for adolescents, neighborhood level monitoring of teenage behavior and positive role models (Brooks-Gunn et al., 1993). This current study contributes to the educational and delinquency literature by making the link between individual level factors and structural factors more explicit by showing that certain neighborhood characteristics (such as neighborhood income) are influential predictors of educational outcomes and recidivistic behavior.
Neighborhood racial composition, educational risk and recidivism

The second hypothesis concerning neighborhood racial composition stated that neighborhood racial mix would have a significant impact on educational risk and recidivism. The author proposed that youth who came from black/racially mixed neighborhoods were more likely to score higher on educational risk scores and be more likely to re-offend than youth coming from white homogenous neighborhoods. This hypothesis was not supported by the data. The results indicated that there was no significant relationship between neighborhood racial mix, educational risk, and recidivism. However, it is important to note that the results of the logistic regression indicated that youth coming from predominately black neighborhoods were more likely to re-offend than youth coming from white and racially mixed neighborhoods while the results were not significant, further study of this phenomenon is warranted. The data seemed to indicate a trend where youth who lived in minority or non-white neighborhoods were more likely to re-offend.

With regard to educational risk, there may be a couple of reasons why the differences in neighborhood racial mix were not statistically significant. First, Duncan (1994) found that neighborhood racial composition matters for blacks but not whites. Specifically, both black males and black females did worse in neighborhoods with a greater concentration of blacks, while the completed schooling of white males and white females was not significantly affected. They found that the effects persisted even after they adjusted for differences in the economic and demographic structure of black and white neighborhoods.
In this present research effort, the effects of neighborhood racial mix were not separated by racial categories. For the testing of this hypothesis, the youth were categorized by neighborhoods. Therefore, the effects of neighborhood race were not apparent because individual ethnicity may have masked the effects of neighborhood race on educational risk.

Second, a 2005 report by the Kirwan Institute on the economic and racial segregation in Ohio’s schools supports the argument that economic segregation may be even more important in predicting negative outcomes for adolescents than racial segregation. This report argues that a middle class income student attending a high poverty school will, on average, fare less well than a low income student attending a low poverty school. The Kirwan Institute gathered data for the six largest urban counties in Ohio: Cuyahoga, Franklin, Hamilton, Lucas, Montgomery, and Summit. The report contends that in these metropolitan regions, over half of all poor students are segregated into high poverty schools (defined as those with more than 60% of the student body economically disadvantaged). They found that economic isolation is strongly correlated with lower performance levels on standardized testing and a lower school designation in Ohio’s public school classification system.

The basic argument of this research report is to draw attention to the fact that strategies that address economic segregation, rather than racial segregation, may be the key to addressing academic crisis in these schools. By the same token, this present research effort supports the argument of the Kirwan report by using economic factors such as neighborhood income to present data and results that will provide important
information that may help in the addressing the academic problems of schools in the “inner city” neighborhoods.

In regards to recidivism, the results were not statistically significant however; the author proposes the notion of a trend that youth coming from neighborhoods that are black/racially mixed are more likely to re-offend than youth coming from white homogenous neighborhoods. One school of thought argues that socioeconomic factors along with race (i.e. neighborhood race) systematically structure the police apprehension (i.e. when police arrest the youth) and court referral of juvenile delinquency (Sampson, 1986). Therefore, it may not be that these youth are actually committing more crimes or re-offending at a higher rate, but it may be that the police are arresting these youth more often. As Wilson (1987) observed in his study of various police departments, the police believe that lower-class people (who typically reside in racially homogenous neighborhoods- black, minority) commit more crimes, and therefore take action more often to arrest them. According to Irwin (1985), this belief leads to a general characterization of youth who come from the lower class neighborhoods as disreputable and dangerous, which leads the police to watch and arrest them more frequently than warranted based on actual criminal involvement.

This perspective suggests that the police are particularly more likely to arrest those who conform to the image of the stereotypical or true delinquent, especially lower-class persons that live in non-white neighborhoods (Irwin, 1985). Additionally, Irwin (1985) argues that officers tend to attribute the character of disreputability to entire areas of the city perceived as part of the “ghetto, violent” class, which in turn leads to a more vigorous stance in order to maintain public order.
This may account for the “trend” that seems to suggest that youth living in a non-white neighborhood are more likely to re-offend.

*Individual Ethnicity, Educational Risk and Recidivism*

The third hypothesis stated that individual ethnicity would have an impact on educational risk, such that minority youth would be significantly more likely to score higher on educational risk. The results indicated that there were no significant differences in the median educational risk scores between minority and non-minority youth.

Why were there no significant differences in the median educational risk scores between black and white adolescents? This is contrary to what would be expected given some of the ongoing negativity surrounding ethnic minorities’ general school experiences. One possible explanation is presented by Cernkovich and Giordano (1992) and they argue that Black students may experience school differently; consequently the effects of educational risk may be different for minority youth as compared with adolescents from the majority culture. For example, school may be less important as a control agent (based on social control- school bonding component) because youth are not engaged with, or attached to, the school to the same extent as are Caucasian students (Vasonyi & Flannery, 1997). This may be because the family has a more prominent role in the socialization of Black youth and as a result, the importance of the school as a socializing agent may be decreased for this group (Vasonyi & Flannery, 1997).

This may account for the lack of significant differences because minority youth do not seem to be any more affected by educational risk than their white counterparts.
In other words, minority youth do just as well educationally as white youth and as a result individual ethnicity is not a major predictor in educational risk. There may be other factors that influence adolescent outcomes such as family context that may highlight ethnic differences.

These results indicate the need for further studies that examine the relation of family and school among adolescents who are differentiated in terms of ethnicity, because the educational variables alone may not be sufficient to explore the experiences these youth. Dornbusch et al. (2001) state that a mutual attachment between adolescent and parent coupled with an attachment to school insulates the adolescent from substance use, delinquency and violent behaviors.

The results of hypothesis 3b indicated that minority youth were significantly more likely to re-offend than their non-minority counterparts. Matsueda and Heimer (1987) argued that the increasing disparity in crime across race is a result of historic not contemporary discrimination. While great strides have been made with regard to racial problems that exist in this country, when it comes to crime, there are still some deep seeded racial disparities that have not yet been overcome. These racial differences in delinquent behaviors may derive from a history of restricted opportunities, a sense of resignation, and, ultimately new ways to adapt to bleak situations.
The fourth hypothesis stated that gender would be an important predictor of educational risk and recidivism. Here it was asserted that males would report significantly higher educational risks than females and those male adolescents would be significantly more likely to re-offend than females. The results indicated that gender was not a significant predictor of educational risk or recidivism.

One reason that may account for the lack of gender differences in this present research effort is the fact that there were more male youth (72%) in the sample than female youth (28%). The fact that there were a much higher percentage of males in the study may have masked any potential gender differences because there were not enough females in the sample. Additionally, the lack of gender differences may be due to the fact that all of the youth in this sample are court-involved youth and also in nature a high-risk group. Typically, most of these youth display high levels of risks in some aspects of their lives. The females and males in this present research effort may have so many other problems that educational risk may not be a strong enough indicator of the different experiences that male and female adolescents may have.

Another potential reason is the fact that these youth, male and females alike may have similar educational issues because they have to miss school a lot due to court appearances, meetings with court-workers and/or social service workers. Moreover a youth that is involved in the juvenile court system may have access to extra assistance (as a result of missing school, being in detention etc.) and as a condition of their involvement with the juvenile court the judge may indeed require that these youth work hard to maintain a certain academic level (i.e. make up missed work, work with a tutor etc.).
Prior research in this area has been very inconclusive and inconsistent with regards to gender differences in educational issues. For example Bornholt et al. (1994) found that gender does not influence academic performance, while another study conducted by Wong et al. (2002) found that gender did have an effect on educational risk. Wong et al. (2002) conducted a longitudinal study of 45,000 students and found that girls achieved better results than their male counterparts. There has not been any real conclusive evidence about gender differences with regard to educational risk.

The lack of gender differences found in the present study regarding recidivism may be due in part to the fact that some researchers suggest that there are no overall differences in male and female crime rate, only that they differ in types and forms of crimes committed (Shover et al., 1979). For instance, Simourd and Andrews (1994) did not report any gender differences; male and female juveniles were found to have similar risk factors (i.e. poverty, single-parent homes, educational risk etc.) for offending.

Several other studies emphasize the similarity of the etiology of problem behaviors and delinquency across gender. For example, Hagan et al. (1988) and Figuera-McDonough (1985) argue that levels of delinquency may be different for boys and girls. Griffin et al. (2000) found that the predictive relationships between risk factors and alcohol use and risk-taking behavior in early adolescence differed in strength but not in direction across gender.

Additionally, Cernkovich and Giordano (1979) suggested that changes in the nature of sex roles and in female aspirations have important implications for female involvement in delinquency.
They argue that females are becoming more like males and there is a convergence of sex roles which has forced females to compete more actively with males on academic, occupational, and criminal levels. These authors contend that this increase in sex-role convergence and competition simply makes girls more vulnerable to delinquency and making them more like the males (Cernkovich & Giordano, 1979).

Another argument worthy of mention is the fact that the GRAD is a combined risk assessment instrument. It is combined because it is used for both male and female adolescents. According to Funk (1999) combined risk assessment instruments do not adequately explain gender differences in delinquency response. Additionally, combined risk instruments assess risk of re-offending for males but fall short in identifying most risk factors associated with female re-offending (Funk, 1999).

*Educational Risk and Recidivism*

Consistent with prior research, the fifth hypothesis examining the relationship between educational risk and recidivism was supported, such that educational risk was a significant predictor of recidivism. On average, adolescents who reported high levels of educational risk were more likely to re-offend than youth who reported lower levels of educational risk. The juvenile delinquency literature demonstrates an association between lack of school success and youth involvement in delinquent behavior. Risk of school failure and dropout in this age group has been associated with delinquency, substance use/abuse, aggression and later convictions (recidivism) for violent behavior (Gruber & Machamer, 2000), confirming that adolescents at high educational risk are significantly more likely to engage in all other reported risk behaviors than their low educational risk peers.
Lipton and Smith (1983) conducted a study using longitudinal data from the Youth in Transition Project in 1966, and found significant associations between academic performance and delinquency during the high school years. The findings from this present research effort support the findings from prior research studies about educational risk and delinquency.

Interaction of Educational Risk, Neighborhood Income and Recidivism

The last hypothesis in this study was to examine the interaction effects of neighborhood income on educational risk and recidivism. Initial logistic regression results from hypothesis 1 seem to indicate that in general medium/high income kids were less likely to re-offend than youth from the low income neighborhoods. However, once neighborhood income and educational risk were both put into the model, youth from the medium/high income neighborhoods were more affected by educational risk and re-offend at a higher rate than youth from low income neighborhoods.

The results seem to indicate that the effect of educational risk on recidivism was stronger for youth who came from more affluent neighborhoods than youth who came from less affluent neighborhoods. Although both groups were affected by educational risk which led to an increased chance of recidivism the difference was greater for the youth who came from the medium/high income neighborhoods. The general thinking here is that youth coming from neighborhoods that are low income are already exposed to variety of socio-cultural issues that place them at risk. But, for youth who come from more affluent neighborhoods, having problems at school is problematic because if these educational problems persist they may lead them to re-offending.
Much of the research on neighborhood context and adolescent outcomes has focused on adolescents coming from an impoverished neighborhood. Additionally, an extensive amount of research on neighborhood context and adolescent issues has focused on Wilson’s (1987, 1996) research on social disorganization and urban poverty and Coleman’s (1988) work on social capital. Prior research has linked neighborhood disadvantage to a number of social problems, including educational risk, increased delinquency, subsequent re-offense and teen pregnancy rates. However, there is a critical need to focus our attention to these youth who come from higher income neighborhoods who display high levels of educational risk.

One possible explanation for why these youth coming from higher income neighborhoods are more affected by educational risk and thus more likely to re-offend is labeling theory. Jenkins (1995) argues that based on labeling theory youth that get into trouble can become labeled as “delinquent” or “criminal” by neighbors, peers and school officials. The label then becomes internalized and the youth begins to exhibit more problems behaviors based on the labels he/she has been assigned. Additionally, Jenkins (1995) stated that youth who come from more affluent families have “high stakes in conformity” and as a result, have more to risk and loose when they become involved in delinquent behavior.

Labeling theory may provide an important context in understanding why the findings were opposite of what was hypothesized. For youth coming from more affluent neighborhoods the expectations for behavior and success may be very different than for youth coming from more impoverished neighborhoods.
Patillo (1998) argues that in some lower-class neighborhoods there are certain expectations about “taking care of your own”, “being tough” and being able to survive the problems associated with living in an impoverished neighborhood. Which are considered highly valued social norms, values and ideals of life in the “ghetto”.

On the other hand, for youth who come from higher income neighborhoods there are different standards about education, schooling and success which are the norms and social values of more affluent neighborhoods. When a youth becomes involved in delinquent behavior and is having problems at school, parents, teachers, and community members are quick to label and form these youth, negative labels are hard to overcome.

Although these arguments are important to consider, the results must be interpreted with caution because the sample of youth in this study are already court-involved, meaning that they have already come before juvenile justice officials for some sort of delinquent behavior. The findings may have different implications if the sample were applicable to the population in general.

**Overall Model**

The results from the overall model indicated that neighborhood income, educational risks and individual ethnicity were significant predictors of educational risk. For each one point increase in educational risks the odds of recidivism increased by a factor of 1.06. The results of the logistic regression provide further corroboration of the fact that neighborhood income is more important when it comes to predicting re-offense than neighborhood racial mix.

The graph on Figure 4 revealed that regardless of the individual ethnicity of the youth, once neighborhood income was taken into consideration, neighborhood income
outweighed the effects of race and or ethnicity. The youth coming from medium/high income neighborhoods regardless of ethnicity were at higher risk for re-offense with higher educational risk.

Many researchers argue that it is difficult to disentangle the effects of race and poverty because they are so inextricably linked. However, this present research study was able to disentangle the effects of “neighborhood context” or “neighborhood disadvantage” and determine which factors really have an influence on recidivism. This research study was able to separate the effects of neighborhood race and neighborhood income and really examine their effects individually. However, the results must be interpreted with caution because neighborhood income and neighborhood racial mix were only partially disentangled and teased out. Given the limitation of using only zip code as the sole index of poverty does not take into account family level poverty and other important factors that are linked to neighborhood poverty (i.e. number of adults working in the home, educational level of adults in the home etc.).

Also, it has been difficult to examine the effects of poverty and race individually because many blacks also live in the poorest neighborhoods. Massey & Denton (1993) argue that man blacks tend to move into neighborhoods with a greater concentration of blacks and this in-migration of blacks causes an out-migration of whites. When the whites move out of a neighborhood, the quality of neighborhood conditions declines and blacks are also less likely to invest in their homes (general upkeep) or to have high levels of social capital in their neighborhood (Massey & Denton, 1993). These factors combined with other social problems gives rise to economic inequalities that cause people to consider blacks and poverty a synonymous social problem.
However, this research has highlighted the fact that more studies that can fully
disentangle neighborhood income and ethnicity are needed in order to begin the process
of solving the social and economic problems that give rise to recidivism among the
youth.

Limitations

Zip Codes

One of the largest limitations of this research effort was the use of zip codes as the
sole measure of poverty. While some may view this as a narrow measure of poverty,
Kirby et al.(2001) argue that using the zip code allows the researcher to capture the
shared explanatory power of many community characteristics and, as a result, do measure
the impact of poverty much more broadly defined. Additionally, areas defined by ZIP
codes are generally larger than what most people would consider a neighborhood.
Census tracts are most likely preferable to ZIP codes; however census tracts, like ZIP
codes, do not always correspond perfectly to residents’ self-defined neighborhoods.
Therefore subsequent studies would be helpful to determine if the results would change
when using more proximate or exact measures of neighborhood context.

Another limitation of zip code use was the fact that some youth in these zip codes
were arrested in the target study area but live in another zip code which may have altered
the results. Additionally, since the zip codes are self-reported and some of these court-
involved youth have transitory lives in that the place where they actually live may in fact
be different from the mailing address that they provided. So, the use of zip codes may
not accurately represent the neighborhood contexts that influence the lives of these
adolescents.

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Educational Risk

Another limitation with regard to educational risk and delinquency is the extent to which the educational problems are accurately reflective of academic problems or conduct and behavior problems which occur at school. This raises an important point because most adolescent behavioral issues are reported at school, where youth spend a significant amount of time on a regular basis. When considering the link between educational risk and delinquency there is a body of research that states that the relationship between school performance (i.e. educational attainment) and delinquency is often mediated by accompanying conduct problems (Masse & Tremblay, 1999).

Additionally, Gruber & Machamer (2000) suggest that early disruptive behaviors such as aggression lead to poor academic achievement or school failure and to future delinquency. In this present research effort, the conduct problems of these youth was not accounted for, and may lessen the importance of the effects of neighborhood income and the other variables found to be significant in this study. Future studies are necessary to explore the extent to which conduct and/or behavioral problems are “hidden” in educational problems.

Age of the Offender

Another limitation was that the age of the offender was not taken into account in this research effort. Cottle et al. (2001) contend that in order to effectively research the risk factors for re-offending it is important to consider the age at first offense. Moffit (1993) suggested that there are two distinct and qualitatively different groups of juveniles who behave anti-socially: adolescent-limited and life-course-persistent.
Those with adolescent-limited antisocial behavior tend to begin during mid-adolescence and desist in young adulthood, and may be strongly influenced by situational factors. The second group begins antisocial behavior at an earlier age, persists in such behavior throughout the life course, and shows a pattern of progressively more serious offending with age.

*Use of One County*

Another limitation in this study was that only one county was used in this study. Although the data was taken from a fairly large, urban metropolitan county in Ohio, the results are limited and do not truly be representative of the general population. More counties will give the researcher the ability to compare the results to other urban counties, rural counties to determine if there are any differences or if the results hold true across geographic boundaries.

As a result of using only one county in the sample, the categories were not equal and did not contain enough representation in each category. For example, neighborhood income was not separated into three equal categories and as a result only a small percentage of the youth in the study came from high income zip codes, the majority were from low income and secondly medium income categories. Therefore, the categories were combined into two group categories. This method masked any potential effects of the youth who come from the middle income categories.

Additionally, the same method was used for neighborhood racial mix. The neighborhood racial categories were combined into two-groups – black/racial mix and homogenous white.
This may be potentially problematic because the black and racially mixed neighborhoods were combined and thus any potential effects of the racially mixed categories are hidden. Youth coming from neighborhoods that are racially mixed may have different experiences than youth who come from homogenous black neighborhoods and similarly homogenous white neighborhoods.

Youth Perspective

For this present study only the youth perspective was used. While other studies have relied solely on the use of the youth perspective, it is important to note that the picture being given is only one-sided. While prior research has shown self reports to be valid and reliable sources of information, when dealing with adolescents there are many other people in the lives of these youth that have an effect on adolescent outcomes. Chadbourne (1998) argues that adolescent perception is subjective and difficult to quantify. In the study of adolescent issues (i.e. educational issues, delinquency, adolescent problem behaviors – smoking, drinking etc.) researchers use a variety of methods to obtain information. A study conducted by Vuchinich et al. (1997) suggests that taking diverse viewpoints into account has the potential of providing a more valid, comprehensive assessment of the adolescent behaviors. In this present study, using the youth perspectives combined with parent perspectives may provide more valid and reliable results about the true nature of the adolescent issues.

Non-independence of data

Another limitation of this present research study was the violation of independence of data. In any research study, there is a general assumption that the data collected from the participants will be separate and independent.
In other words, the data collected from each youth in this study is assumed to be
independent from data collected from another youth in the study. In this empirical effort,
there was no control for the non-independence of the data. Many of the youth in this
sample were from the same neighborhoods (i.e. zip codes) and as a result, are more likely
to have similar outcomes and experiences with regards to neighborhood contexts,
educational risk and recidivism.

In future research this problem can be alleviated by using a nested model,
indicating that the individual level responses are not independent. In this approach, the
application of Hierarchical Linear Modeling (HLM) to the examination of neighborhood
contexts on outcome variables are preferred over traditional models because the
coefficients of HLM are more appropriate for interpreting the influence of neighborhood
on outcomes variables (Raudenbush & Bryk, 2002).

*Univariate Analysis that builds toward a multivariate model*

There are certain limitations that can be suggested with the fact that model for
this present research effort was based on using univariate method and then included all of
the variables in an overall multivariate model. A multivariate model allows the
researcher to examine all the potential interactions that may exist within the variables and
explain the greatest amount of variance in the dependant variable. Since the variables in
this study are all inter-related using a univariate method may have excluded additional
potential interactions that may be between neighborhood income and neighborhood race
on delinquency etc.
Future studies that consider using multivariate analysis and or post-hoc comparisons of the univariate tests may provide additional information regarding the relationship of neighborhood income, neighborhood racial mix, ethnicity, gender and educational risk on recidivism. A similar point to mention is that also the use of recidivism as a dichotomous variable can be viewed as a limitation. Funk (1999) argues that using dichotomous measures for delinquency fail to capture the full range of offenses for juvenile offenders. In this present study recidivism was based on a subsequent re-appearance and the nature of the crime was not taken into consideration in the analysis. For future studies, Funk (1999) posits that using a scaled measure that considers both the seriousness and frequency of a juvenile’s re-offending history can provide more appropriate and useful measures of the variance found in the dichotomous variable.

Lastly, it is important to note that within the framework of recidivism for this study, a reappearance before the juvenile court was considered recidivism when it occurred within a 6 month time frame. This brief time period may have decreased the percentage of these youth who re-offend. In this present study, 34% of the sample were re-offenders, however if the window of time were lengthened it could really illuminate some apparent differences that were found in the study. First, with regard to minority youth being more likely to re-offend, it may be that minority are re-arrested much quicker than white youth, but given a longer time span the racial differences may not be as apparent. This is an interesting point because it points to the notion of the fact that minority youth who were just “picked up” 6 months ago may be more likely to come to police attention again simply because it is easier to recognize them.
Additionally, it is important to mention the notion of potential gender differences that may in fact present themselves once the window of time for subsequent re-offense is increased. One can speculate that within such a short time frame of 6 months males are no more likely to re-offend than females, however once the time is increased there may be some potential gender differences. Further longitudinal studies are important and may be particularly illuminative regarding some of the racial issues in juvenile delinquency as well as gender issues.

**Future Directions**

*Use of Zip Codes and Neighborhood Contexts*

When examining neighborhood context and the influence on delinquency/recidivism it is important for future researchers to include additional factors in the measures of poverty. Prior researchers have included individual and structural factors as family income, parental level of education, level of unemployment in the community, percentage of adults working in the community in addition to median income of neighborhood residents (Kirby et al.2001). Combining neighborhood income with other factors such as educational level of adults in the home, family income and number of working adults in the neighborhood will provide a better picture of the economic conditions that affect the youth.

*Educational Risks*

The author proposes that within the ‘construct’ of educational risk or educational issues there are underlying issues with regard to conduct behavior, learning problems and/or academic problems.
In a previous study using the GRAD, exploratory factor analyses were conducted and found factors relating to classroom behavior, learning disability, and ADHD related issues. It is important to separate learning problems from conduct problems. Massey & Tremblay (1999) argue that academic problems are often accompanied by conduct/behavioral problems which appear as early as elementary school. It is in the school environment that many childhood issues are brought to light. Hence they argue the importance of determining whether problems in school are due to learning difficulties or conduct/behavioral problems. This has important implications for future programming within the educational system.

Many current programs target children that seem to be “behavior problems” for the teachers, however these students may not necessary have academic or learning problems and thus may require different forms of stimulation in the classroom environment. Creating policies and programs that specifically address the needs of a child as far as behavior or learning problem will be beneficial and may really help to alter the pathway of academic problems that lead a lot of youth to delinquent involvement. Future research that provides empirical support of the argument of different contextual academic experiences will be helpful for schools, teachers, and the students.

Schools will once again reclaim their ability to act as a strong institutionary force in the lives of youth. Additionally, teachers may feel an increased strength of empowerment within their classroom because they are armed with the necessary tools they need to properly educate our children. And lastly, children will receive the full benefit of a good educational experience that serves to meet the need of every child.
Age of the Offender

This present study was longitudinal to a certain extent because information was obtained on the youth within 6 months of their first contact with the juvenile detention center. However, future studies may derive important information about these youth and based on the age at first offense or first appearance in the juvenile court will determine the likelihood of re-offense. The age of the youth taken into consideration along with the other factors such as neighborhood contexts, family and parenting, educational issues may give a better estimation of the whether or not these youth will re-offend.

Thus, studies or research that give information about the trends and characteristics of youth who are considered “life course persistent” offenders will be helpful to develop programs that can help to target these youth before they continue on their trajectory of offending behavior.

Use of One County

Similar to many other studies, this study was restricted to a convenience sample of one county within the State of Ohio. A more appropriate test of neighborhood effects requires the use of a full range of neighborhoods – both urban and suburban- in multiple metropolitan areas. This would provide a very rich data set and reflect a broader range of socioeconomic strata and racial and ethnic composition. This could be accomplished by conducting a tri-county comparison, which would provide a richer demographic sample and provide an adequate number of individuals the corresponding categories.
Youth Perspective and Family Contexts

The findings in this study also highlight the importance of using multiple perspectives for future research on in this area. Since prior research have shown that various aspects of the family home environment are important in determining factors that may influence the educational outcomes of youth (DuBois, Eitel, & Felner, 1994). Future studies can decrease the amount of error because the information depends upon self-report (and accurate memory) from adolescents by using multiple perspectives of family members. Studies have shown in particular that the mother’s perspective and perception of adolescent involvement in delinquent behavior is accurate and helpful in providing accurate information about the etiology of the problem behaviors (DuBois, Eitel, & Felner, 1994).

The current evidence from prior studies suggests that family functioning plays such an integral role in the education of children and adolescents, it is important to develop family-oriented approaches that deal with educationally-based concerns (Harrison, Boyle and Farley, 1999). Additionally, researchers argue that the effects of some parenting practices vary by the level of neighborhood collective efficacy, thus future studies should pay attention to the parenting contextual fit. The possibility that the influence of other social contextual processes may depend on the neighborhood people live and how they choose that particular neighborhood.
In conclusion, future research should focus on these issues in order to gain a better understanding of the interplay of neighborhood conditions, family and parenting types and the individual characteristics of children. These types of studies may be of particular interest to professionals working with court-involved youth, and especially those youth who are displaying school-related difficulties.

**Implications**

This present study is thought to have importance and relevance in juvenile delinquency and builds upon the current tenants of social control theory. However, it is important to note that the level of support to this theory is minimal due to the fact that the youth in this sample are court-involved. Hypothesis 1a concerning neighborhood income and educational risk and Hypothesis 1b concerning neighborhood income and recidivism were based on some of the basic tenants of social control theory. Social control theory argues that youth are constrained from delinquent and/or improper behavior by institutions such as school, family and communities. Although this study cannot justify empirical support for this theory, this study is thought to provide a general contextual framework for social control theory because it relies on the notion of neighborhood as a context that can affect the adolescent’s behavior.

The extent to which an adolescent is bonded to conventional society (i.e. their neighborhood or community) and conforms to social norms, values and ideals of their community can determine the likelihood of their involvement in delinquent activity.
It is also important to note that this study does not provide information as to the type of crimes being committed (for example; property crimes which are generally perpetrated in the neighborhood, burglary, graffiti etc.) by these youth therefore, the youth’s involvement in delinquency must be interpreted in general. Also, there are four specific components of social control (attachment, commitment, involvement and belief) mentioned in chapter one that were not specifically tested.

Hence, this present research can only offer a contextual framework that supports the notion that social control theory is still relevant in the research on adolescent delinquency and has important implications for court service workers and/or social service agencies in creating effective programming that focuses on institutions such as the community and neighborhood.

Hypothesis 2 concerning neighborhood racial composition was not supported by the data. Social Control theory refers to the ability of neighborhoods to act as a source of social control however, the extent to which that neighborhood racial composition is a part of that control was not quite supported in this research effort. It may be that there are other factors in neighborhood context (i.e. the extent to which people feel safe, the physical quality of the neighborhood and the amount of social cohesion among neighbors) that are important for social control rather than the numbers of blacks versus whites. Hence, further studies that explore and continue to disentangle the effects of neighborhood racial composition are important. Additionally, it may be that social control theory does not account for the racial differences in a broader context such as the neighborhood.
The results for Hypothesis 3 concerning individual ethnicity were mixed. The findings were not significant for educational risk but the findings were significant with regards to likelihood of re-offense. Further studies that test the element of social bonding to school may be particularly important in understanding how school social control operates for minorities and non-minorities. Studies indicate that the effects of school bond may be different for minority youth versus non-minority youth (Cernkovich & Giordano 1992). Additionally, it is important to determine the effects of mediating variables and the effects of attachment to parents, delinquent friends, attachment to peers and neighborhood trouble when examining individual ethnicity and the effects of social control theory.

The results for hypothesis 4 concerning gender was not significant for educational risk and recidivism. Again, these findings should be interpreted with caution because all of the youth in this present study are court-involved youth and also the sample was disproportionately male. Funk (1999) argues presents a method of dealing with unequal sample size with regards to gender in youth delinquency populations. Funk (1999) examines risk factors associated with both male and female re-offending in a sample of delinquent youth. The initial sample contained 745 male cases and only 285 female cases. In order to address this issue of inequality in the sample size Funk (1999) took a random sample of the 745 males, and the entire 285 female cases. The resulting sample was 388 males and 112 females who had been referred to the Department of Juvenile Justice. This is a potential method for future expansion of this present study to address the disproportionate amount of males in the sample versus females.
With regard to theoretical implication social control theory does not explain the impact of social institutions once an adolescent has been involved with the juvenile detention center nor does it account for the difference in response to delinquency for males and females. Additionally, Matsueda & Heimer (1987) found that differential association theory was a stronger theory for predicting adolescent delinquency than social control theory. They argue that the effects of attachment to parents and peers operate indirectly through the process of learning definitions favorable to delinquency. Differential associations theory refers to the learning of definitions (i.e. what one person considers “bad” may not be “so bad” to another individual) that are favorable to delinquency from family and peers.

Hypothesis 5 stated that educational risk would have an effect on recidivism to the extent that youth who displayed high levels of educational risk would be more likely to re-offend. The findings from this hypothesis were statistically significant and again provide a contextual framework that helps in the understanding of the notion of the school as an element of social control for adolescents. Hirschi (1969) argues that each element of the social bond to an institution such as school shows a unique and substantial effect on delinquency, in this present research effort, the results afford some general conclusions on this point. However, the results must be interpreted with caution given the fact that these youth are court-involved. However, this present study revealed that educational risk had an effect on delinquency/recidivism such that youth who have high educational risk are more likely to re-offend.
The argument of hypothesis 6 was that there would be an interaction between educational risk, neighborhood income and recidivism. The idea is that neighborhood income would attenuate the relationship between educational risk and recidivism. The most common idea based on prior research is that youth coming from the more impoverished neighborhoods will have higher educational risk and as a result they would be more likely to re-offend. But, what happens to the youth who come from higher income neighborhoods who have high academic risk? The results indicated that for these youth coming from higher income neighborhoods having academic risk put them at higher risk for recidivism than youth from the lower income neighborhoods. Social Control theory implies that involvement in conventional activities simply limits one’s time to contemplate and execute illegal acts.

Therefore, the fact that these youth (from higher income neighborhoods) that are already court-involved may have decreased their bond to conventional activities and exposed them to risks that they normally are not exposed to coming from a higher income neighborhood (Matsueda & Heimer, 1987). Thus, this decrease in social bonds has left them open to exposure to negative experiences which increases their likelihood of re-offense. As a result, the youth may feel isolated and are no longer in touch with the normative social factors that prohibit norm violating behavior.

This study is also thought to have particular relevance and importance for intervention specialist who work with youth through education, delinquency prevention programs and professionals working with court-involved youth and their families.
In order to have a meaningful impact on vulnerable or at-risk youth, programs should be developed specifically focus on early intervention, remediation of basic academic skills, and work to strengthen adolescents’ resistance to negative neighborhood contexts.

Future research should explore whether there are particular configurations of individual, family, and neighborhood factors that make some children more susceptible to developmental risk than others and initiate programs based on these factors. The findings of this present research effort can influence programming and intervention by supporting the value of social interventions in childhood and adolescence. Hypothesis 1 argues the importance of neighborhood context which is important in the development of prevention programs in the context of the communities in which the targeted young people live, involving as many actors as possible from the schools, parent groups, health and welfare services, youth agencies, churches, media, local businesses and the youth themselves.

From both a scientific and policy standpoint, hypothesis 2 lends to the importance of paying attention to the issue of neighborhood racial mix. Although the results did not prove to be statistically significant there is still the issue of social and economic structures that gives rise to distinct racial patterns of social organization. More research needs to be done to verify these propositions and adequate programming and policies that target these non-minority neighborhoods that will move them toward social equilibrium. An initial set of neighborhoods should be helped until they reach low levels of social problems.

In the same manner Hypothesis 3 has mixed results with regard to individual ethnicity and the key idea here is that the results raised larger questions concerning the role of social structure on race, educational issues and delinquency.
Since delinquency is largely determined by the definitions of the legal code, what are the wider structural determinants of that process? How does the historical inequality affect the racial disparities in delinquency and furthermore what can be done to alleviate this problem? These questions are difficult to answer but highlight the importance of empirical research into the issue of race and delinquency. It is important to determine if the racial disparities exist because minorities are more prone to delinquent behavior or it is in fact a combination of social disadvantage and historical racial discrimination.

The findings from hypothesis 4 concerning gender are thought to have relevance for future empirical work in studies that probe into the lives of male and female adolescents who are court involved may be particularly illuminative of factors related to the gender differences. Although the hypothesis in this study was not empirically supported it is still important to attend to the needs of these youth and develop programs that specifically target this court-involved population. Information gleaned from such studies may enable the professionals working with these adolescents and their families to better serve the needs of these youth. Especially, the female youth who seem to “looking” more like the male offender on the surface with regards to risk factors, offending patterns etc.

The findings from Hypothesis 5 concerning educational risk and delinquency may inform programs and policies that really target the educational system. Additionally, correctional facilities need to intensify and expand efforts in addressing the needs of these youth that come in contact with the juvenile courts and detention centers. Based on the results of this study, it is necessary that early intervention programs be placed in public schools to facilitate learning and pro social behavior.
Lastly, hypothesis 6 is thought to raise several key questions regarding the assistance and support needed by youth who come from more affluent homes. Neighborhood income and Educational risk taken together open up a whole host of other factors that affect these youth. These youth, although coming from higher income neighborhoods, are experiencing academic problems which open them up for additional problems related to delinquency. Teachers should recognize that aggressive and disruptive behavior, failure to meet academic requirements, social rejection and socialization to antisocial peer groups are clear signs that these youth are need of intervention. Developing programs that target the specific needs of the youth and not just solely based on “family income” taken together with community wide supports are likely to result in higher levels of academic success and decrease involvement in delinquent behavior.
APPENDIX A

EDUCATION DOMAIN

Here are some questions about challenges that young people sometimes face. They may or may not apply to you. Please answer the following questions with these responses:

- No/Never. = 0
- Yes/A couple of times. = 1
- Yes/A lot. = 2

- Have you experienced academic difficulty in school?
- Have you had difficulty controlling your behavior in school?
- Have you had a difficult time getting to school or staying in school for the entire day?
- Have you missed school frequently due to family responsibilities (sibling care, etc.)?
- Have you had any conflict with any of your teachers?
- Has the school called home this school year because you have been disruptive in class?
- Have you interrupted what was going on in your classes because of your talking or your behavior?
- Have you been in danger of dropping out of school?
- Were you held back a grade?
- Were you told that you may have learning problems?
- Were you enrolled in special education classes?
- Did you have difficulty reading and/or writing?
REFERENCES:


Federal Bureau of Investigation Juvenile Crime Reports, 1995


