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By

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ABSTRACT

JUVENILE DELINQUENTS' SELF-CONTROL OF BEHAVIOR
AND THE RELATIONSHIP
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This study investigated co-existing problem behaviors, the chemical dependence status, and the health risk taking behaviors of youths on court supervised probation. The relationship of the juvenile delinquents' self-reported problem behaviors, chemical dependence status, and health risk taking behaviors to the severity of their charge and their frequency of arrest was investigated. Further, with those three domains of behavior also acting as indicators of the youths' level of self-control of behavior, this study tested the general theory of crime.

Three self-reporting tools were administered and sufficiently completed for analysis in this study by 117 youths assigned to probation by a probate court in a southeastern Michigan county. These tools generated a comparison to a norm group for examining the extent of problem behaviors in this sample. Their chemical dependency status was determined through a rule-governed system of analysis of results. Health risk taking behaviors were assessed by a multiple-choice survey. Results from this groups' answers were compared to 1992 national results from the same survey.

Youths on probation, on average, perceive themselves to have significantly more problem behaviors than is typical for youths their age . Forty-nine percent of the youths were classified as chemically dependent. Health risk

taking behaviors documented low self-control of behavior across three dimensions.

No significant findings related to the severity of charge was found. A significant difference was noted between youths in the two groups of arrest frequency on two dimensions: sexual activity index and tobacco, alcohol, and other drug index. Youths in the more than once arrest group were more likely to exhibit low self-control of behavior in those two areas. When demographic data was introduced to the model, retention in school was significantly related to arrest frequency. Youths with more than one arrest were more likely to have been retained in school.

Support for the general theory of crime was cited. Conclusions, implications, and directions for future research were provided.

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CHAPTER I

INTRODUCTION

The Problem

Juvenile delinquency is a serious problem in Michigan and in the United States. In 1993, youth in Michigan comprised 30% of people arrested for index crimes, a measure of the eight most serious crimes (Michigan Department of State Police, 1994). Nearly 55,000 Michigan youth aged 17 and under were arrested in 1993. As a national average, youth represent about 20% of the population in the United States, yet they account for 40% of the reported crimes (Walker & Sylwester, 1994). Today's youth, according to a summary by the U.S. Department of Justice (1991), are more inclined to settle a dispute by engaging in a physical altercation rather than by verbal mediation. This escalation towards aggressive problem-solving has resulted in this nation experiencing its highest rate of juvenile violent crime: 430 youth arrested per 100,000 youth. This upward slope on the graph of juvenile crime rate illustrates failed efforts to substantially reduce juvenile delinquency.

Juvenile delinquency is a much researched and little understood complex phenomenon (Schwartz, 1991; Wilson, 1991). Youth under the age of 17 appearing in court are answering to different types of charges and may also be making a repeat visit to court. Many questions regarding criminal behavior prevention, development, and its continuation over the life span remain unanswered.

One basic question is how to define juvenile delinquency, its frequency, and its course over the life cycle. Simply stated, delinquency is defined by acts, the detection of which is thought to result in punishment of the person committing them by agents of the larger society (Hirschi, 1969). Hirschi's definition of delinquency was developed, in part, from his findings of the

Richmond Youth Project, which consisted of 4,077 high school students from Northern California and used school records, a self-report questionnaire, and police records as sources of data. The nonanonymous questionnaire elicited self-reported acts that *could* have resulted in police detection, but were not detected for the vast majority of participants. Hirschi went an extra step by comparing police contacts to self-reports of the male subjects, and found that this comparison acted as a measure of bias in the sample with respect to delinquency. Hirschi concluded that youth are reasonably accurate in their recollection of delinquent acts. Overall, self-report measures were described as being reliable tools that produce validity coefficients in the moderate to strong range (Hindelang, Hirschi, & Weis, 1981)

Self-reported acts of delinquency have been frequently used due to their economy when working with large numbers of people (Mak, 1991). Yet, the study sample from the general population has large numbers of unofficial delinquent acts and rare occurrences of official delinquent behavior, particularly the offenses such as murder and rape (Brook, Whiteman, & Finch, 1992; Jensen & Rojek, 1992). This study sample will consist of youths who have been officially identified as delinquent in order to increase our understanding of juvenile delinquency.

The high rate of official delinquency is one dimension of this country's crime problem that has generated considerable public and political concern, a concern echoed by researchers (Armistead, Wierson, Forehand, & Frame, 1992; Jensen & Rojek, 1992; Schwartz, 1991). Several perspectives are taken by researchers as they search for answers. One way is to explore the dynamics of juvenile delinquency via longitudinal studies and cross-sectional studies. Through scheduled sampling, longitudinal research has sequenced life events

and generated developmental pathways associated with the precursors, continuance, and remission of illegal behavior (e.g., Huizinga, Esbensen, & Weiher, 1991; Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; and Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1991). While longitudinal studies are excellent vehicles for determination of causation, longitudinal studies present problems with cost, maintaining anonymity, and feasibility in planning and management (Smart, 1985). Other research has responded to issues of co-morbidity and current status of delinquents (e.g., Farrell, Danish, & Howard, 1992; Fergusson, Horwood, & Lynskey, 1994).

Multiple Problems

Youths in cross-sectional research studies were often viewed in dichotomous terms: juvenile delinquent vs. nondelinquent; substance abuser vs. not a substance abuser; attending school vs. dropping out from school. Also, the concepts of reciprocal interaction or other complex relationships were usually not addressed (Schwartz, 1991; Walfish & Blount, 1989). This study takes a holistic view, which allows for consideration of the idea that adolescents often experience multiple difficulties when they enter the juvenile justice system (Dembo, Williams, Fagan, & Schmeidler, 1994).

Those multiple problems can form a cluster of behaviors suggesting a problem behavior syndrome (Donovan & Jessor, 1985; Jessor & Jessor, 1977). Donovan and Jessor recommended investigating a broader range of possible health problem behaviors of adolescents. This study will explore the domain of health problem behaviors as manifestations of low self-control of behavior in juvenile delinquents.

A General Theory of Crime

The relationship between low self-control and acts of crime was described by Gottfredson and Hirschi (1990) in their presentation of a general theory of crime. There may be a common set of circumstances and poor self-regulation of behavior in general for those involved in crime. People likely to commit crimes are described as impulsive risk takers who are less likely to be constrained and more likely to commit a variety of crimes or analogous noncriminal behaviors. Gottfredson and Hirschi's general theory of crime proposes that low self-control of behavior in the presence of opportunity is the mixture that sets the scene for crime. Low self-control, as an enduring trait, is not expected to be related to specific acts or specific crimes. A person with poor behavioral control is likely to engage in a variety of crimes, the type of committed crime depending more on the opportunity of the moment than on skills or talent.

This general theory of crime suggests that self-control is developed early in life, remains throughout life, and is the factor supporting a tendency to maintain conformity or a tendency to commit deviancy under a variety of circumstances (Akers, 1992, p. 9). The theory points to drug use, criminal acts, and reckless behavior as manifestations of low self-control of behavior (Uihlein, 1994). According to this general theory of crime, criminal acts provide immediate gratification, and the benefit is not necessarily pleasure, but relief from momentary irritation. People lacking self-control will tend to pursue immediate gratification through a variety of noncriminal behaviors (e.g., tobacco use, alcohol use, and gambling). The general theory of crime suggests that engaging in criminal behavior and analogous acts stems from low self-control of behavior.

Purpose

This study is undertaken in order to provide further breadth and depth to our understanding of juvenile delinquency and will focus on two major areas of self-control: behavior problems and health risk taking behaviors. Health risk taking behaviors in this study are defined as behaviors that may result in unintentional and intentional injuries, involve tobacco, alcohol and other drug use, or cause sexually transmitted diseases or unintended pregnancies (Center for Disease Prevention and Control, 1994).

Alcohol and other drug use is one manifestation of low self-control of behavior. This study will examine the chemical dependence status of juvenile delinquents and describe the relationship of chemical dependence status to severity of crime and frequency of arrest.

By using commercially available and easily accessible tools to measure co-existing problem behaviors, this study will document the usefulness of those measures with a juvenile delinquent sample. The tools selected for this study may demonstrate utility for the juvenile court to easily obtain information regarding youths' ability to self-regulate their behavior. An assessment of self-control of behavior may have implications for treatment and placement of juvenile delinquents.

This research tests the role of low self-control in the general theory of crime using a variety of analogous behaviors (e.g., tobacco, alcohol and other drug use, sexual activity) as indicators of the extent of self-control of youths referred to juvenile court. The relationship between self-control of behavior by juvenile delinquents and their severity of charge and frequency of arrest will be examined.

In summary, the study described here intends to investigate juvenile delinquents' co-existing problem behaviors, to examine the status of their chemical dependence, and to assess the extent of their self-control of behavior. Additionally, the relationship of problem behaviors, chemical dependence and self-control to severity of crime and frequency of arrest will be studied.

Rationale

The literature reviewed for this study and described in detail later, will indicate that youth with official delinquency and self-reported delinquency status have multiple problems. The literature further asserts that low self-control may be contributing to the existence of those problems. Research to better describe the co-varying problems common to all delinquent youth is needed, and learning what unique correlates may exist for specific charges is recommended (Armistead, Wierson, Forehand, & Frame, 1992; Cook & Hill, 1990; Wilson, 1991). This study is an effort to respond to those recommendations.

Six research issues have become evident through a literature review. A response to those issues forms the basis for this proposed study. Each is briefly discussed below.

1. While adolescent delinquency is thought to be the best predictor of adult criminality (Hirschi, 1969; Jensen & Rojek, 1992; LeBlanc, 1994; Robins, 1978) the definition of adolescent delinquency is not uniform. By using official delinquency(i.e. adjudicated youths) rather than self-report delinquency by the general population, a better understanding of delinquency may emerge. The range and frequency of possible crimes may be better represented in the sample.

2. Tests of the general theory of crime have not addressed a current sample of American youths, which is done in this study.
3. In a review of Gottfredson and Hirschi's book, Akers (1991) suggested, with Barlow (1991) and Fagan (1993) agreeing, that the operationalizing of the concept of self-control through independent variables was needed. In an effort to be more uniform, this study will use commercially available and easily accessible measures to assess self-control of juvenile delinquents. These measures will include behavioral descriptors as indicators of low self-control.
4. A relationship between co-existing problem behaviors and types of crimes has been suggested in the literature. This study intends to investigate that relationship.
5. The measurement of alcohol and other drug use is generally accomplished by describing youths' duration and frequency of alcohol and other drug use. Researchers have called for a more accurate characterization of drug level usage of juvenile delinquents (Johnson, Wish, Schmeidler & Huizinga, 1991; Feucht, Stephen, & Walker, 1994), something that this study will attempt to do.
6. This study will be carried out in cooperation with personnel from a juvenile court who work with delinquent youths. An anonymous format with a guarantee of confidentiality to elicit frank responses from self-reporting juvenile delinquents will be developed. Each tool used in this study is a self-report measure and protection of their responses from subpoena or other court proceedings will be assured, something that previous researchers have deemed important (Dembo, Williams, Fagan, & Schmeidler, 1994).

The self-report measures will allow youths to share their perceptions of their own behavior, which will be new and valuable information. The use of the selected self-report measures provides a reference to a norm group or a comparison to a national sample, and a more accurate characterization of alcohol or other drug use among juvenile delinquents.

In summary, this study will approach the task of exploring juvenile delinquency in a manner different from previous research. It will provide a test of Gottfredson's and Hirschi's general theory of crime with a current sample of American youth who are identified as officially delinquent. In addition, this study will use anonymous surveys which is different from how it was done in prior research. The necessary operationalization of the construct, self-control, will be accomplished through the use of behavioral descriptions of a wider range of acts than used previously. These behavioral descriptions are found in commercially available and easily acquired measures not used in prior tests of a general theory of crime and will allow comparisons to the general population or test norm group. In an effort to better understand the overall self-control of behavior by juvenile delinquents, the relationship between those acts and the severity of crime and frequency of arrest will be determined. Thus, this study will provide a holistic view of self-control of behavior and the co-existence of problem behaviors not accomplished in prior research among a group of delinquent youths.

Definition of Terms

Juvenile delinquent. An officially identified juvenile delinquent in this study is a youth that has been referred to probate court, has completed the hearing process, has been adjudicated as guilty of the offense and assigned to court-supervised probation.

Self-control. Self-control as described by Gottfredson and Hirschi (1990) is a psychological construct that represents the extent to which people are vulnerable to the temptations of the moment (p. 87). Those people demonstrating high self-control exhibit behavioral restraint that reduces the possibility of engaging in criminal acts through all periods of their life (p. 89). Gottfredson and Hirschi did not operationalize this concept, but they did offer some characteristics of people who lack self-control.

People with low self-control are impulsive, insensitive, physical, risk-taking, short-sighted, and nonverbal. They will tend to engage in criminal and analogous acts. Since these traits can be identified prior to the age of responsibility for crime, since there is considerable tendency for these traits to come together in some people, and since the traits tend to persist through life, it seems reasonable to consider them as comprising a stable construct useful in the explanation of crime (p. 90-91).

This study defines low self-control as the participation in health risk taking behaviors. Low self-control is further equated with a high incidence of problem behaviors and identification as chemically dependent.

Health risk taking behavior. The Centers for Disease Control and Prevention describe engaging in behaviors that contribute to the leading causes of mortality and morbidity in youth and adults in the United States as health risk taking behavior (Centers for Disease Control and Prevention, 1994) . Some examples of health risk taking behavior are use of tobacco, excessive consumption of fat, and insufficient physical activity. The Centers for Disease Control and Prevention (CDC) has a questionnaire with six categories of health risk taking behavior which include behaviors that result in unintentional and intentional injuries, tobacco use, alcohol and other drug use, sexual behaviors

that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies, dietary behaviors, and physical activity. Engaging in health risk taking behaviors is equated with low self-control. By using the associated questions from the CDC questionnaire, this study included three categories of health risk taking behaviors: sexual activity; safety and violence; and tobacco, alcohol, and other drugs.

Unintentional and intentional injuries. This is one of the CDC categories of health risk taking behaviors. The health risk for unintentional injury is assessed with questions like "How often do you wear a seat belt when riding in a car driven by someone else?" Obviously, the risk for injuries is greater if a youth does not wear a seat belt. Not wearing a seat belt is an example of low self-control. Health risk taking behavior involving intentional injuries is determined with questions like the following: "During the past 12 months, how many times were you in a physical fight?" Engaging in a physical fight represents a health risk and low self-control of behavior. In this study, the category of unintentional and intentional injuries is labeled as the Safety & Violence Index .

Chemically dependent. Based on an analysis of responses to the Substance Abuse Subtle Screening Inventory-Adolescent (Miller, 1991), a prescribed decision-making process leads to the classification of chemical dependence or nonabuser. This measure follows the model that chemical dependency is a primary, pervasive, progressive, family disorder characterized by denial but associated with a good prognosis for a rich and satisfying life with appropriate intervention, treatment, and aftercare. Chemical dependency refers to the development of tolerance or the presence of withdrawal symptoms as common consequences, but not required characteristics. Differentiation of chemical dependency from chemical abuse is based on the extent that predictable

patterns of disruptions in lifestyle are present (pp. 1-12, 1-15).

Problem behavior. Youths rate how true for them are the problem behaviors listed on the Youth Self-Report (Achenbach, 1991). Total Problem Behavior Scores are generated and are considered clinically significant at 60 or greater. The scores represent the youths' personal perceptions of the presence of problem behaviors in their lives as compared to the self-report by youth of the same sex and age in the measure's norm group.

Externalizing. Externalizing is a broad syndrome classification derived from the sum of scores on two Youth Self- Report (YSR) problem behavior scales: Aggression and Delinquency. A syndrome is a cluster of problem behaviors that tend to occur together without any assumptions regarding the cause or nature of the behavior disorder. Externalizing is equated with undercontrol (Achenbach, 1991) or low self-control when scores are 60 or greater. The externalizing syndrome is associated with behaviors such as disobedience, aggression, and temper tantrums and appears to involve conflicts with the environment (Achenbach, 1982).

Internalizing. Internalizing is a broad syndrome classification derived from the sum of scores on three problem behavior scales on the YSR: Withdrawn, Somatic Complaints, and Anxious/Depressed. Internalizing is equated with overcontrol when scores are 60 or greater (Achenbach, 1991). The internalizing syndrome is associated with behavior problems within the self such as fears, bodily complaints, worrying, and social withdrawal (Achenbach, 1982).

Severity of charge. Youths' charges can be assigned to one of four categories: aggressive felonies, property felonies, misdemeanors and status offenses. Aggressive felonies are considered the most severe. Property felonies,

Category I: Aggressive Felonies	Category III: Misdemeanor
n = 59	n = 14
• Assault and Battery	• Violation of Probation
• Manslaughter	• Intoxication
• Rape	• Shoplifting
• Arson	• Entering without Authority
• Criminal Sexual Misconduct	• Fleeing and Eluding
• Carrying a Concealed Weapon	• Driving without a license
• Soliciting	
Category II: Property Felonies	**Category IV: Status**
n = 39	n = 5
• Breaking and Entering	• Running Away
• Larceny	• Truancy
• Extortion	• Incorrigibility
• Uttering and Publishing	• Curfew Violation
• Possession of Stolen Property	
• Violation of Controlled Substances	

Figure 1.1 The four categories of charges with examples.

misdemeanors, and status offenses rank second through fourth in ranking of the severity of the charge. Figure 1.1 provides examples of the types of charges that fall into the four categories. Due to a small sample size in the status offense category, the misdemeanor category was combined with the status category. The severity of crime continuum consisted of three groups: aggressive felonies, property felonies, and the combined misdemeanor and status group. Later in this study, the youths are compared in two groups: felonies and not felonies.

Frequency of arrest. All of the participating youths in this study have experienced at least one arrest. The youths are divided into two groups: those arrested once (n = 57) and those arrested more than once (n = 60).

CHAPTER II

LITERATURE REVIEW

What follows is a review of what is known about juvenile delinquency in the context of the general theory of crime as related to problem behavior and participation in health risk taking behavior (e.g., alcohol and other drug abuse and poor safety habits).

Juvenile Delinquency

Prior research used self-reported delinquent acts from the general population to identify delinquent youths. Delinquency and status offense cases referred to juvenile court are from a number of sources, including parents and schools. More than eight out of ten delinquency cases are referred from law enforcement agencies (Sickmund, 1992). While the determination of who really is a juvenile delinquent remains a problem (Mak, 1991), for the purposes of this study, juvenile delinquents are youth adjudicated by juvenile court, which gives them official delinquent status.

Using the child's formal juvenile court record for establishing delinquency, Roff (1992) measured peer status through peer nominations, aggression through teacher interviews, and social class through census tract income and parent education level. He determined that aggression was the best predictor of delinquency for public school males in elementary grades. It can be argued that aggression is a manifestation of low self-control of behavior. Low self-control is a major component of a general theory of crime proposed by Michael Gottfredson and Travis Hirschi (1990).

Low Self-Control of Behavior

The expression of low self-control appears early in life. Pathways leading to juvenile delinquency are likely to begin with ineffective parenting (Dishion, Loeber, Stouthamer-Loeber, & Patterson, 1984; Gottfredson & Hirschi,

1990; Patterson, DeBaryshe & Ramsey, 1989; Riess, 1951). Poor parenting produces inadequate development of early childhood socialization with the enduring trait of low self-control as a by-product (Grasmick, Tittle, Bursik, and Arneklev, 1993). Delinquency can be seen as a functional consequence of the type of relationship established among personal and social controls (Reiss, 1951). Reiss asserted that personal control is the ability of an individual to refrain from meeting needs in ways which conflict with the norms and rules of the community.

The general theory of crime suggested that personal control or self-control explains personal irresponsibility. Given the opportunity, people with low self-control will engage in criminal behavior and analogous acts (i.e., other reckless and deviant behavior). As suggested by Gottfredson and Hirschi (1990):

> ... people who lack self-control will tend to be impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and nonverbal, and they will tend to engage in criminal and analogous acts (p. 90).

In response to Aker's request for an operational definition of low self-control, Hirschi & Gottfredson (1993) offered the following examples:

> ...whining and shoving as a child; smoking, drinking, excessive television watching, and accident frequency as a teenager; difficulties with interpersonal relations, employment instability, automobile accidents, and smoking as an adult (p. 9).

A review of four studies testing the role of self-control as related to the general theory of crime follows.

In his investigation of the general theory of crime as related to juvenile delinquents, Polakowski (1994) completed a secondary analysis of data from the Cambridge Study of Delinquent Development 1961-1981 (Great Britain), comprised of data originally collected on 411 males at six intervals in the twenty-year span. Using clinical and survey techniques, data were gathered from Scotland Yard, parents, teachers, peers, and the identified youth which tested the presence of two syndromes: hyperactivity, impulsivity, and attention deficit (HIA) and conduct problems and the assessment of commitment to conventional society. Polakowski's findings, were generally supportive of the construct of self-control as discussed in the general theory of crime. The HIA and conduct problems, taken in total as an index of self-control, better described the juvenile delinquents' level of self-control than as six separate items (i.e., risk taking was considered a low indicator by itself). Additionally, youths with low self-control lacked strong ties to social institutions. Also in agreement with a general theory of crime, lack of self-control predicted an increase in convictions of crimes between the ages of 10 and 13.

Polakowski summarized that a single factor of low self-control provided a better fit to the data than the separate HIA and conduct disorder syndromes. This matches the general theory of crime's assertion that no single personality disorder can adequately represent the trait of self-control. Additionally, this secondary analysis was found to be moderately stable from the ages of 8 to 10 years to the ages of 12 to 14 years. Thus, several features of the general theory of crime were supported by Polakowski's work.

It may be important to consider that juvenile violence has increased substantially since the fourteen years that Polakowski's data were collected. A test of the general theory of crime on official American juvenile delinquents, as

done by this study, may provide similar but current results. Additionally, using a wider variety of items to assess the level of self-control may add to our understanding of the pervasiveness of low self-control in the lives of juvenile delinquents.

In a more current collection of data, Grasmick, Tittle, Bursik, and Arneklev (1993) tested the existence of low self-control and its relationship to crime opportunities. Their study consisted of a random sample of 395 adults in Oklahoma using a 24-item survey and measured manifestations of self-control based on the personal characteristics identified by Gottfredson and Hirschi (1990): impulsivity, preference for simple tasks, risk-taking, preference for physical activity over cognitive tasks, self-centeredness, and expression of temper. By indicating the extent to which the subjects agreed to the descriptors (e.g., Impulsivity: I often act on the spur of the moment without stopping to think, p. 14), they were able to see which items contributed to an overall high level of low self-control.

Grasmick and his associates used the definition of crime from the general theory of crime which is expressed as "Acts of force or fraud undertaken in pursuit of self-interest" (Gottfredson & Hirschi, 1990, p. 90). Force can be manipulating others or threatening others in order to get one's own needs met. Fraud can be the misrepresentation of truth. Grasmick and his colleagues determined, in support of the general theory of crime, that low self-control interacts with the commission of crimes and the frequency of crime opportunities encountered.

In a second publication using and extending the same data set as above, Arneklev, Grasmick, Tittle, and Birsik (1993) assessed their operationalization of six elements of self-control (i.e., demonstrating impulsivity, preference for simple

tasks, risk-seeking, preference for physical activity, being self-centered, and having a temper). Additionally, the authors assessed participation in imprudent behaviors, such as smoking tobacco products, gambling, and drinking two or three alcoholic beverages in a week. The low self-control index modestly but significantly predicted overall imprudence with adults.

The single item of imprudent behavior not successfully predicted was smoking. Arneklev and his colleagues suggested that smoking for this adult sample was not considered risk taking when the adults typically began smoking in their youth. When smoking was initiated by many adults it was not considered a health risk. The authors suggested that in current research with American youth low self-control may predict smoking. This study sampled smoking behavior of American youth. Smoking is considered in this study to be a health risk taking behavior and a manifestation of low self-control.

A different effort to test the general theory of crime was seen in a roadside survey assessing the predictive power of self-control as related to driving under the influence of alcohol. Keane, Maxim, and Teevan (1993) completed a secondary analysis of data generated from an interview and breath analysis of drivers in Canada pulled over by a police officer. Behavioral indicators of low self-control were included in the survey. Use of seat belts was an objective measure of willingness to take risks. The drivers' perceptions of the likelihood of being stopped by police while driving legally impaired were a subjective measure of willingness to take risks. Another indicator of self-control, impulsiveness, was assessed by the subject's response to the question, "Did anyone try to discourage you from driving tonight?"

The roadside survey produced findings supportive of the general theory of crime. Wearing a seat belt was indicative of much lower blood alcohol

levels than those not wearing a seat belt. Not wearing a seat belt indicated low self-control and was associated with higher blood alcohol levels. Many male and female drivers drank and drove, even though they knew one may be headed for trouble. Drinking alcohol and driving can be seen as impulsive, risky, hedonistic, and short-term oriented, all manifestations of low self-control. Those individuals failed to regulate their behavior despite potential negative consequences of their acts. Low self-control, as indicated in measures of risk taking and impulsivity in male and female drivers, predicted driving while legally impaired.

Some research issues have become evident. The four studies described in this review sampled an American general adult population, British youth (fourteen years ago), and Canadian drivers (over sixteen years of age), but there are no samples from a current American juvenile delinquent population. Additionally, measures of low self-control are just emerging and researchers are seeking better ways to operationalize self-control. While adolescent delinquency is thought to be the best predictor of adult criminality (Hirschi, 1969; Jensen & Rojek, 1992; LeBlanc,1994; Robins, 1978) a universal definition of adolescent delinquency is not standardized. By using official delinquency rather than self-report delinquency, the range of possible crimes may be better represented in the sample used in this study.

Problem Behavior

Our understanding of juvenile delinquency is based largely on identified multiple predictors and a variety of co-existing problem behaviors. This has made it difficult for researchers to discriminate between causal and other factors (Huizinga, Loeber, & Thornberry, 1993). A body of work completed by Richard Jessor and Shirley Jessor (1977) observed trends in typical adolescent

behavior through longitudinal and cross-sectional analysis and demonstrated that the expression of one problem behavior presented a proneness to other problem behaviors. The development of a problem behavior syndrome originated from the Jessors' four-year study involving a large sample of randomly selected middle school and college youths from the same city in the Western Rocky Mountain area of the United States. This sample was about 93% Caucasian, and the authors recognized the constraints of inference. The students annually completed a 50-page questionnaire covering behavior (both conforming and deviant), personality, and perceived environment. The possibility of self-report bias due to repeated investigation of the same subject on personal issues was discussed by the authors who concluded that self-report was not inhibiting the subjects from a frank response. As the Jessors point out, there are some personal questions you can only ask through self-report. Supplemental data was not obtained from other sources: court, school, parents, or follow up subject interviews. The Jessors' work determined that if engagement in any of the four problem behaviors (losing virginity, aggression, drinking, or using marijuana) occurred, it greatly increased the likelihood of engagement in another of the four behaviors the following year. This work represents a significant description of typical adolescent problem behavior development in the late 1960s and early 1970s.

By 1985, the Jessors' data was analyzed again, as was a nationwide sampling of self-reported behaviors. This analysis suggested that among adolescents in the general population, the cluster of problem behaviors, including problem drinking, illicit drug use, delinquent-like behavior, cigarette smoking, and precocious sexual intercourse, were associated and may constitute a syndrome (Donovan & Jessor, 1985). Donovan and Jessor

suggested that the underlying factor that tied the set of behaviors together was the general dimension of unconventionality in both personality and social environment.

Unconventionality was measured as a lower value of academic achievement, lower religiosity, greater tolerance of socially disapproved behavior, and other behaviors of social relationships between peers and parents. The authors concluded additional research was clearly needed to assess the wider array of health-related behaviors among adolescents that went beyond the behaviors in their problem behavior cluster and suggested that a more encompassing common syndrome could exist among adolescents.

The search for a common or general factor to explain the association of the problem behaviors was extended by Newcomb and McGee (1989) in their two-year longitudinal study of 847 tenth through twelfth grade students. They suspected that adolescent involvement in delinquency could be explained in terms of sensation-seeking. Self-report data included assessments of alcohol use, deviant behavior, sensation seeking, and criminal events. The survey tool was brief and altered between annual assessments. Because the alteration added more information, the authors could not evaluate consistency in responses from the previous year. Newcomb and McGee found that associations among alcohol use, deviance, and criminal activities were similar for male and female students. A difference was noted regarding responses on sensation seeking items. For female students, sensation seeking was related to increased alcohol use and specific types of sensation seeking were related to criminal activity. For male students, sensation seeking was not associated with increased alcohol use or criminal activity.

The last study to be reviewed that addresses problem behaviors measured cigarette and marijuana use, delinquency and sexual intercourse behaviors over the previous thirty days for 7th grade boys (n = 556) and girls (n = 715) and 9th grade boys (n = 481) and 9th grade girls (n = 485)(Farrell, Danish, & Howard, 1992). This cross-sectional analysis of an urban school district was composed of a majority of African American students from low-income families. Included were measures of conventional behaviors such as church attendance, grade point average, school attendance, and completing homework, doing chores and participating in hobbies . Students completed confidential questionnaire booklets during school. No significant differences were found between boys and girls regarding use of cigarettes, alcohol, marijuana or other illicit drugs. Boys were found to have engaged in sexual intercourse more frequently than the girls. The frequency of the five problem behaviors were positively correlated with each other and negatively correlated with most of the conventional behaviors across both age and gender. This study, in agreement with previous problem behavior studies, concluded that the pattern of problem behaviors suggested that if a student was involved in one problem behavior, involvement in other problem behaviors was more likely.

While the specific problem behaviors differed between studies, the overall covariance of problem behaviors is in agreement with the general theory of crime. Adolescents with low self-control will encounter a variety of problems across various domains in their lives, e.g., school, work, interpersonal relationships, health, and safety. According to the general theory of crime, the common, all encompassing link is low self-control in the presence of an opportunity to act in an unconventional way. Sensation seeking could have been referred to as risk taking for the sake of short term gains in thrills, novelty

or adventure (Gottfredson & Hirschi, 1990). Sensation seeking may then be absorbed into the more general and multiple manifestations of low self-control as represented in the general theory of crime.

Again, the issue of limited representativeness of official delinquency was apparent in the problem behavior studies. The behavior or externalizing problems of detected delinquents could differ from the general population and may also include interpersonal and internalizing problems such as psychosis and anxiety (Armistead, Wierson, Forehand, and Frame, 1992). The problem behavior samples were composed of adolescents and college students from the general population. Generalization to the population of official juvenile delinquents based on self-reported delinquent acts by youth may be not be possible. This study assesses overall problem behavior and differentiates internalizing problem syndromes from externalizing problem syndromes.

Health Risk Taking Behavior

The Division of Adolescence and School Health, National Center for Chronic Disease Prevention and Health Promotion of the Centers for Disease Control and Prevention (CDC), in collaboration with state and local departments of education and 19 federal agencies, developed a questionnaire to monitor priority health-risk behaviors that contribute to the leading causes of mortality and social problems among youth in this country (Center for Disease Control and Prevention, 1994). The CDC and cooperating agencies grouped the priority health-risk behaviors into six categories: behaviors that result in unintentional and intentional injuries, alcohol and other drug use, tobacco use, sexual behaviors that cause sexually transmitted diseases and unintended pregnancies, dietary behaviors, and physical activity. A questionnaire for assessing health risk taking behavior was completed in 1989, field tested and

revised with a core questionnaire available for use in 1990 (Kolbe, Kann, & Collins, 1993).

This review of literature continues with a focus on juvenile delinquent participation in three categories of health-risk behaviors. For purposes of this study, health-risk behaviors that result in unintentional and intentional injuries, that involve tobacco and alcohol and other drug use, and that cause sexually transmitted diseases or unintended pregnancies are considered to be manifestations of low self-control of behavior.

Unintentional and Intentional Injuries. Not wearing a seat belt when riding in a car, not wearing a helmet when riding a motorcycle or bicycle, carrying a weapon, and engaging in a physical fight are examples of behaviors that may result in unintentional or intentional injuries. The literature does not specifically address how engaging in that behavioral cluster is associated with juvenile delinquents. A retrospective review of health and juvenile offender records of 1,647 Canadian youth who had reached their 17th birthday in 1987 or 1988 with a known history of offenses, compared to a matched group of youth without delinquent records, found little association of any specific disease category and juvenile offending charges, frequency of arrest, or age of first offense (Andre, Pease, Kendall, & Boulton, 1994). Their medical and police records revealed a general difference between youth that were offenders and those classified as nonoffenders. It appeared that youth with offense histories reflected "necessary or attempted medical intervention in a turbulent lifestyle (e.g., through injury, treatment for drug/alcohol use, mental disorder, etc.)" (Andre, Pease, Kendall, & Boulton, 1994, p. 172).

The identification of the specific intentional or nonintentional injuries requiring medical interventions would better support this study's attempt to

relate low self-control of behavior to frequency of arrest. Andre and his colleagues' (1994) use of the phrase, turbulent lifestyle, brings to mind a tumultuous, perhaps a violent pattern, with few constraints or little self-control of behavior.

Alcohol and Other Drug Use. Substance abuse in children and adolescents is a major health problem (Bailey, 1989). The nature of the relationship is not clear, but the coexistence of substance abuse and delinquency has been well established (Akers, 1992; Brook, Whiteman, & Finch, 1992; Huizinga, Loeber, & Thornberry, 1993; Johnson, Wish, Schmeidler, & Huizinga, 1991; Newcomb & Bentler, 1988; Newcomb & McGee, 1989; United States Department of Justice, 1990; Walfish & Blount, 1989; Wierson, Forehand, & Frame, 1992). Over half of the youths sent to a residential program for their delinquency also had significant problems with drugs and alcohol (Ratner, 1992). As background information for assessing individuals for dependence through a clinical interview, the Diagnostic and Statistical Model-Fourth Edition (DSM-IV)(American, Psychiatric Association, 1994) pointed out that marijuana is typically the first drug of experimentation, which occurs in the teens, for all cultural groups in the United States. The DSM-IV also reported that the first episode of alcohol intoxication is likely to occur in the mid-teens. Minor delinquency appears to precede involvement in substance use, and alcohol precedes other drug use (Huizinga, Loeber, & Thornberry, 1993). The relationship of alcohol and other drug use with juvenile delinquency suggests the need to assess for chemical dependence when determining treatment needs of juvenile delinquents.

Feucht, Stephens, and Walker (1994) assessed drug use among juvenile arrestees in Cleveland, Ohio using self-report, urinalysis, and hair assay. Self-

report for juvenile arrestees has the limitation that an admission of substance abuse may result in more negative consequences. Urinalysis has a time limit for utility and could be diluted, altered, or even substituted. Hair analysis, a more invasive procedure and requiring a 1.3 cm. length of hair, may not even be possible with some short hair styles. Only 88 subjects participated in all three aspects of the study: interview for the self-report of substance abuse, urinalysis, and hair samples. Hair length for many subjects was too short for analysis. Self-report of drug use did not provide reliable results as most subjects denied substance abuse. Urinalysis indicated that cocaine had been present in 8% of the arrestees. Hair analysis indicated that cocaine had been present in 56.8%, and the difference between the two percentages illustrated the differing utility between the two lab tests. Urinalysis could be negative for cocaine if the subject had no cocaine in the week before the test. If the subject had abused cocaine in the month before the hair assay, the hair assay would test positive for cocaine. Hair assay may not test positive, though, for recent abuse of cocaine. The two tests cannot be used to confirm each other, but offer different information about when the substance abuse took place.

An assessment of the delinquency and drug use association was completed by using self-report of both delinquency and drug use in a study completed by Johnson, Wish, Schmeidler & Huizinga (1991) using a secondary analysis of the 1979 National Youth Survey data. Johnson and his colleagues found that less than 2% of the national probability sample admitted to two or more serious crimes and abuse of cocaine and/or heroin. The high delinquency rates of that small segment of sample represented 40 to 60% of the various felony crimes and an excessive share of drug abuse. They concluded that delinquency was highly concentrated in a small proportion of substance-

abusing delinquents. Given this was a national sample, the authors recognized that the findings did not provide direction for the court system and recommended that a study of drug use among arrestees be completed. While the relationship between high frequency of charges and high abuse of drugs could be speculated to be related to low self-control, which is the intention of this study, it was not a conclusion reached by the authors.

Tobacco Use. Tobacco use is the single most preventable cause of death in our society, and it is the goal of the national health objectives to increase the average age at which adolescents (ages 12-17) have their first cigarette (Marcus, Giovino, Pierce, and Harel, 1993). In the earlier discussion of problem behaviors, it was noted that when adolescents in the general population smoked cigarettes in one year, they are likely to move on to one of several other problem behaviors by the time a survey is administered the following year.

The inclusion of cigarette smoking in the category of substance abuse was presented in the study by Van Kammen, Loeber, & Stouthamer-Loeber (1991) of lifetime and six-month prevalence of substance use by first, fourth, and seventh grade students and its relationship to conduct problems and delinquency for boys (n = 2,573). The self-report questionnaire revealed that smoking cigarettes was noted in first graders (3.4%) and lifetime incidence rates increased through the fourth (9.3%) and seventh grades (34.7%). The self-report questionnaires administered to the first and fourth graders to detect conduct problem behaviors that included, among others, hitting, stealing, skipping school, and setting fires was different from the questionnaire that was administered to seventh graders thus, results were reported separately. Overall, the general trend of all three grades was an association of conduct problems and delinquent acts with lifetime substance use.

Sexual Activity. Sexual activity has been mentioned previously as one of the problem behaviors co-varying with other problem behaviors including self-reported delinquency. The focus at this time is on health related issues of sexual intercourse when those activities may result in sexually transmitted diseases or unintended pregnancies. The behaviors expressing low self-control are frequent partners, not using condoms, and pregnancies.

Sexual activity is one topic addressed by three research teams exploring causes and correlates of delinquency through longitudinal studies going on in Rochester, NY, (1,000 subjects) Denver, CO (1,500 subjects) and Pittsburgh, PA (1,500 male subjects). In a recent summary of the three sites, Huizinga, Loeber, and Thornberry (1993) described the extent of the behaviors in the study populations which are representative of the city of Rochester, Pittsburgh public schools, and specific high-risk areas of Denver. Generally speaking, the youth in those sites have reported a high rate of sexual intercourse and pregnancy. Adolescent males aged 13 to 17 years old, once they had initiated sexual activity, remained sexually active with the range in the three sites varying from 46% (Denver) to 60% (Rochester). Fewer adolescent females were sexually active. Of the sexually active females who had reached the age of 17, forty-two percent of the adolescent females in Denver and twenty-nine percent in Rochester reported being pregnant at least once. Clusters of behaviors are appearing together in the analysis of the alcohol and other drugs, sexual activity, and delinquency self-reports. For the females, sexual activity was strongly related to both delinquency and drug use. As the authors caution, many delinquents and drug-users are not sexually active, but the boys and girls who are sexually active are likely to be involved in delinquency, alcohol or other drug use or both.

Limitations of Available Research

Some of the basic limitations of the reviewed literature should be noted. The following summary includes six main points of this literature review and implications for this study:

1. Two basic ways to identify juvenile delinquents in the research samples were described. One way is through researcher-designed questionnaires. Subjects admitting on the self-report tools to acts that were considered delinquent acts were then counted in the sample as delinquents. The second method for identification of juvenile delinquents in a sample was through official court records. The official versus unofficial delinquent status may be confusing the literature. The detected or official delinquent may be different in important ways from the undetected or unofficial delinquent. There are no standardized definitions of juvenile delinquency, which means each study presents its own operational definition. Samples are often restricted in the range and quantity of crimes represented. For this study, the sample consisted of arrested youth adjudicated by probate court and assigned to probation. This study uses officially designated delinquents and expects to has full representation of felonies, misdemeanors, and status offenses.
2. Nonstandardized measures and definitions were used to describe and define youths' general problems with alcohol or other drug abuse (Bailey, 1989; Donovan & Jessor, 1983; Farrell, Danish, & Howard, 1992; Feucht, Stephens, & Walker, 1994; Walfish & Blount, 1989). The samples were not described in terms of chemical dependency status. Several researchers made recommendations for future research based on their experience. Johnson, Wish, Schmeidler & Huizinga (1991) recommended the detection

and identification of levels of drug involvement and criminality in different institutional settings. Feucht, Stephen & Walker (1994) and Martin, Arria, Mezzich, and Bukstein (1993) sought an accurate characterization of drug use among juvenile delinquents. Oetting & Beauvais (1990) recommended local surveys of special populations to mobilize community resources. Local patterns may differ from national trends and require special interventions. This study, in response to the call for more objective measures used a commercially available self-report tool to assess alcohol and other drug involvement with official juvenile delinquents representing a single county in the state of Michigan.

3. Self-reporting of alcohol and other drug use obtained at a detention facility was not successful with a sample of arrested youth (Feucht, Stephens, and Walker, 1994). Recommendations to encourage candid participation included protection of the information from subpoena or use in any civil or court proceedings (Dembo, Williams, Fagan, & Schmeidler, 1994), privacy while completing surveys with no parents or other distracters present (Gfroerer, 1985), and guarantee of confidentiality of names or other identifying information (Smart, 1985). Reporting can be completed through an interview or through a questionnaire. The anonymous questionnaire has been used for its efficient data collection from a large number of subjects. While it has been more common in recent years, the questionnaire does have a limitation due to its assumption that subjects can read and follow its directions (Jensen & Rojek, 1992). Data suggested that adolescent subjects provide reasonably accurate information (Oetting & Beauvais, 1990), and that self-report methods have acceptable reliability and validity (Huizinga, Loeber, & Thornberry, 1993). The self-report method measures a

willingness to admit drug use with frequent users appearing to provide consistent reports (Harrison, Haaga, & Richards, 1993). There is overall agreement that people are willing to provide self-reports, that the self-reports for the majority of participants are accurate representations of drug usage, and while not perfect, is the most practical method available (Harrison, Haaga, & Richards, 1993; Harrell, 1985; Oetting & Beauvais, 1990). This study uses self-report methods and guarantees the participant anonymity.

4. While the specific problem behaviors were somewhat different in the studies reviewed, those studies found that the majority of youth had not participated in the selected problem behaviors (e.g., tobacco use, delinquency, sexual activity, alcohol and other drug use). Self-reported delinquency co-existed with other problem behaviors, suggesting that unofficial delinquents had problems to a greater extent than was typical of adolescents. This research uses a standardized measure of self-report of problem behaviors to determine the extent official delinquents perceive their behaviors as being problem behaviors in comparison to the test normative group.
5. Donovan and Jessor (1985) recommended investigating to see if a broader range of possible health problem behaviors may more accurately compose the behavior problem syndrome. This study explores a wider array of health risk-taking behaviors using a modified questionnaire currently in use by the CDC. This questionnaire allows for a description of the health risk-taking behavior of a sample of juvenile delinquents and also permits a comparison to responses in the national survey of public school students regarding unintentional and intentional injuries, alcohol and other drug use, tobacco use, and sexual activity. These same behaviors are also manifestations of low self-control, which means that an assessment of those

behaviors can be used to test of the tenets of the general theory of crime.

6. A test of the general theory of crime with American juvenile delinquents could not be located in the literature. Low self-control or behavioral undercontrol is characterized by heterogeneous psychological constructs: impulsivity, nonconventionality, rebelliousness, aggression, and conduct problems (Colder & Chassin, 1993). Self-control is a challenge to operationally define and difficult to measure in the ideal manner, which is the direct observation of behaviors (Hirschi & Gottfredson, 1993). When direct observation of behavior typical of adolescents with low self-control (e.g., not wearing a seat belt, engaging in fights, not using condoms) is not possible or practical, self-report of those behaviors is used. This study offers a self-report measure of self-control, a major component of the general theory of crime, through the use of commercially available or easily accessible tools. The expression of low self-control in a variety of domains is assessed and compared to the category of charge and frequency of arrest. According to the general theory of crime, low self-control should be unrelated to the category of charge but could be related to frequency of arrest.

This study addresses the six limitations described above and contributes new information to the body of literature regarding our understanding of juvenile delinquency. In addition, this study describes the extent of self-control displayed by officially delinquent youth through self-report standardized measures.

This study also assesses the chemical dependence of youth referred to probate court. Further, this study explores the relationship of self-control of behavior of delinquent youth to the severity of charge and frequency of arrest.

CHAPTER III

METHODS AND PROCEDURES

General design of study

In this between-subjects design, 117 court-referred youths, aged 12 to 18 years, were administered a multiple-choice survey to assess the extent of their self-control in the domains of health and safety. In addition, a standardized self-report questionnaire (102 items) evaluated their perceptions regarding an array of problem behaviors. Also, youths were administered a standardized screening measure for determination of their chemical dependency status. The total administration of all three inventories took about 30 to 45 minutes for each participant.

Anonymity was guaranteed, which meant results were not used in court proceedings nor were names attached to any of the tools used. This information was obtained for research purposes only and reported in aggregate results with individual responses confidentially maintained. This protection of identity may have encouraged candid responses.

The county probate court administrator indicated a willingness to cooperate and expressed an interest in the results of this research project. The probate court case worker supervisor also provided support by facilitating the implementation of the research. A place was made available at probate court for this investigator to present the surveys to the youths as they reported in to their probation worker. Court probation workers assisted this researcher by also directing youth to this researcher either before or after the youths completed their session with the worker.

As each youth entered the lobby for the probation workers' offices, a request for participation in the study was made by this researcher. Others were

approached by their worker and directed to this researcher. In all cases, an explanation about the voluntary nature of the study, a description of the content of the questions, an assurance of confidentiality, and an offer of a candy bar (value of $ .59) or a gift certificate at a fast food restaurant (value of $1.00) in appreciation for participating was stated and provided in writing (see Appendix A).

Variables

Self-control of behavior was operationally defined based on scores of self-report instruments. The self-report instruments yielded scores in three areas of the youths' self-perceptions: problem behaviors, health risk-taking behaviors, and chemical dependency.

Dependent Variables. As seen in Figure 3.1, the two main dependent variables used in this study are the severity of charges and frequency of arrests. Youths will be assigned to a category of severity based on their current charge. The three categories of charges in descending order of severity are (1) aggressive felonies, (2) property felonies, and then the nonfelony charges which consists of (3) misdemeanors and status offenses. The second major dependent variable is frequency of arrests. Frequency of arrests is split into two categories: once and more than once.

Independent Variables. The first dependent variable noted on Figure 3.1, Problem Behaviors Total Score, is a continuous variable recorded in T-scores from a standardized self-report instrument. Further, a regrouping of items on the instrument lead to a subcategorization and production of additional T-scores as Externalizing or Internalizing Scores. Each of these descriptors of youths' behavior, Total Problem Behavior Score and Externalizing and Internalizing Scores, was analyzed for a relationship with the

Independent Variables	Dependent Variables: Severity of Charge			Dependent Variables: Arrest Frequency	
	Misdemeanor & Status	Property Felony	Person Felony	Once	More than Once
YRS: Problem Behaviors					
Total Problem Score					
Externalizing Score					
Internalizing Score					
YRBS: Health Risk Behaviors					
Total Risk Behavior Index					
Sexual Activity Index					
Safety & Violence Index					
Tobacco, Alcohol & Other Drug Index					
SASSI-A: Substance Abuse					
Dependence Status					

Figure 3.1. Research design matrix

severity of charge and frequency of arrest. The next independent variable, health risk taking behaviors, was assessed through a multiple choice survey with the results yielding a classification of high or low self-control of behavior. Health risk behaviors were assessed through an overall classification as low or high self-control of behavior through the Total Risk Behavior Index and by subgroups of the survey. The subgroups of the survey consisted of related questions and yielded three indexes: Sexual Activity Index, Safety & Violence Index, and Tobacco, Alcohol, and & Other Drug Index. The relationship between the participation in health risk taking behavior and the severity of charge and frequency of arrest was also examined.

The last independent variable to be discussed is the outcome from a standardized measure of chemical dependence. Following a prescribed decision rule system, youths' responses were classified as chemically dependent or not chemically dependent. The relationship between status of chemical dependence and the severity of charge and frequency of arrest will also be described. The classification as chemically dependent is one aspect of low self-control of behavior.

Research Instruments

A discussion of the three inventories, the Youth Self-Report (Achenbach, 1991), the Substance Abuse Subtle Screening Inventory-Adolescent (Miller, 1990) and the Youth Risk Behavior Survey (CDC, 1994a), selected for use in this study follows.

The Youth Self-Report for Ages 11-18 (Achenbach, 1991), a commercially available inventory, yields a standard score, Total Problem Behavior Score, that can describe the overall extent that the youths perceive their behaviors as problems as compared to a normative group of 11- to 18-year

olds (see Appendix B). Each of the 112 behavioral statements is assessed by the youth as not true, somewhat or sometimes true, or very true or often true of themselves. Sixteen of those items are considered socially desirable items that allow the respondents to report something favorable about themselves. The Total Problem score of arrested youth is expected to be different from the Youth Self-Report (YSR) normative, nonreferred group. Further, the Total Problem score may differentiate among juvenile delinquents in terms of their severity of charges and frequency of arrests. Additionally, the YSR yields standardized scores that may be classified as Internalizing and Externalizing. The Externalizing Scores and Internalizing Scores may show a pattern of differentiation among juvenile delinquents when compared to the severity of charges and frequency of arrests. The YSR was designed to be a self-report of problem behaviors. The author reported that it is self-explanatory for youths with at least a fifth grade reading level and takes about fifteen minutes to complete (Murphy, Conoley, & Impara, 1994). The YSR, a reliable and valid tool (Achenbach, 1991; Christenson, 1992), has proven to be a useful measure of the self-reported problems of adolescents (Elliott & Busse, 1992).

The Youth Risk Behavior Survey (YRBS) was designed by the Center for Disease Control and Prevention (1994). It is an epidemiologic surveillance system designed to monitor the incidence and prevalence of risk behaviors that, if established in youths, contribute to the major health problems of this country (Kolbe, Kann, & Collins, 1993). In this study, the YRBS serves to discriminate among the study participants the degree (high or low) of self-control exhibited regarding personal health and safety behaviors (see Appendix C). Focus group and field testing conducted on the YRBS, in use since 1990, indicated the data could be reliably gathered (CDC, 1994a). The questionnaire's content validity

is based on its questions being built directly from the leading causes of morbidity and mortality, National Health Objectives for the Year 2000, and National Education Goal 6 (see Appendix D of CDC, 1994a). Each question's stated rationale ties the question to known statistics of causes of death, illness or injury and national objectives. This survey, according to the CDC, is different from other national surveys because it seeks information about behavioral participation that goes beyond behavior determinants such as knowledge, beliefs, and attitudes. The reading level of the items is rated at approximately the seventh grade level.

The questions selected for use in this study from the YRBS represented three of the areas of health risk-taking behaviors assessed by the YRBS: (1) Safety & Violence Index (e.g., intentional and unintentional injuries, seatbelt use, engagement in fights), (2) Tobacco, Alcohol, and Other Drug Index, and (3) Sexual Activity Index (e.g., engagement in sex, use of condoms, number of pregnancies). Youths' responses from the eight Safety & Violence Index questions, the nine Tobacco, Alcohol & Other Drug Index questions and the three Sexual Activity Index questions were analyzed individually and assigned into low or self-control categories for each question. Then a total score was obtained from the overall responses of each separate behavior index. The separate index scores were classified as representing low or high levels of self-control. Finally, the total scores of the separate indexes were combined to yield a Total Health Risk Behavior Index. The Total Health Risk Behavior Index scores were then classified as being in the low or high level of self-control ranges.

The Substance Abuse Subtle Screening Inventory-Adolescent (SASSI-A) is a self-report survey consisting of 55 true/false statements and 26 four-

choice statements (see Appendix D) that yields classification categories of chemical dependence status (Miller, 1990) which are chemically dependent (low self-control) and not chemically dependent (high self-control).

Thus, the primary purpose of the SASSI-A is to differentiate those adolescents (ages 12-18) who are chemically dependent on alcohol or other drugs from those that are not dependent. This measure requires a fifth grade reading ability (Kerr, 1994) and can be completed in 10 to 15 minutes (Murphy, Conoley, & Impara, 1992). This tool will extend the current research effort that typically included only quantity and frequency indexes of alcohol and other drug abuse and will help determine the extent of chemical dependence in a sample of juvenile delinquents. When the SASSI-A chemical dependency scores were compared to judgments made by counselors using clinical interviews, the accuracy rate for the SASSI-A ranged from 90% to 95%. Detailed information regarding reliability and validity of this inventory were reported in the inventory manual (Miller, 1990). While it is noted that the SASSI-A received generally positive reviews, cautions have been noted, however, regarding inadequate descriptions of the representativeness of the norm group and limited published reliability studies (Kerr, 1994; Vacc, 1994).

Study population and sample selection

Male and female youths of a southeastern county of Michigan who are on probation were the focus of attention of this study. One hundred twenty-five youths, aged 12 through 18, volunteered to complete the Youth Self-Report (YSR), the Substance Abuse Subtle Screening Inventory (SASSI-A), and the Youth Risk Behavior Survey (YRBS) as administered by this investigator over a six week period from May to June, 1995. Out of the 125 sets of responses, 117 were sufficiently completed to be of use in this analysis. All youths participating

in the study were provided general instructions indicating the voluntary nature of their participation (see Appendix B). As a result, some questions were skipped or parts of a survey tool were incomplete. While the statistical tests were held to a constant significance level of .05 throughout this study, the number of participants completing each tool was not uniform.

Arrested males outnumber females in juvenile courts by as much as four to one (Hoge, Andrews, & Leschied, 1994). This sample did mirror the outnumbering of males, but the sex ratio was six to one in favor of the males. Due to the disproportion of males to females participating in this study, the sample will not be differentiated by sex. The data for females will be included without a separate reference.

Characteristics of the sample

A review of the 1990 Census indicated that a sample of youths from this Michigan county would likely include 19% African American, 78% European American, and 2% Native American and other race or ethnic groups (U.S. Department of Commerce, 1991). It is also known that about 25% of the children in this county live at or below the federal poverty level (Kids Count in Michigan, 1994) and 11.1% of the students receive special education services (Kids Count in Michigan, 1993).

The representation of race or ethnic group, and school status of this sample does vary from the county's 1990 census averages. The socioeconomic status is unknown. The disproportionate representation of African American males and higher than average special education students may be more typical of wards of the court than of the county census data. The supervisor for the county probation services reported a ratio of three males to

Table 3.1

Demographic Characteristics

Demographic Variable[a]	n
Sex	
Male	101
Female	16
Race	
European American	56
African American	48
Hispanic	5
Native American	6
Other	2
Age	
12	1
13	13
14	10
15	26
16	40
17	26
18	1
Attending School	
Yes	88
No	29
Retained in School	
Yes	71
No	46
Type of School[b]	
General Education	72
Special Education	18
Alternative Education	9
Attained G.E.D.	2

[a] $N = 117$ [b] $n = 101$

each female with 53% European American, 45% African American, and 2% other racial or ethnic membership. The past five years of available data indicated that over 2600 petitions on about 2,000 youths are processed annually by the court with those figures including over 500 minors seeking the protection of the court in neglect and abuse cases. For the month of May, 1995, the county probation office reported an active case load of 383 youths. Of that total, some youths had moved out of the court's jurisdiction, others were absent without known whereabouts, some were in secure detention, and thirty-four were in residential care. Additionally, some of the 383 youth are diverted to community service or had been assigned to a less intense schedule of appointments with their probation worker.

The 117 youths participating in this study represented about one third of the county's current active case load of youths and about 8% of the annual case load of juvenile delinquents. The proportion of ethnic membership was typical of the county probation case load while the representation of males is greater.

Research Questions

1. As assessed by a standardized self-report of problem behaviors, do youths on probation perceive themselves as having more problem behaviors than is typical of the measure's norm group?
2. Is there a difference between the three groups of severity of charges on the Total Problem Behavior Scores?
3. Is there a difference between the two groups of arrest frequency on the Total Problem Behavior Scores?
4. Is there a difference between the three groups of severity of charge on the self-reported problem behaviors as Externalizing and Internalizing Scores?

5. Is there a difference between the two groups of frequency of arrest on the self-reported problem behaviors as Externalizing and Internalizing Scores?
6. Is there a difference between the three groups of severity of charge on the health risk behavior outcome scores: Total Health Risk, Sexual Activity, Safety & Violence, and Tobacco, Alcohol & Other Drug Indexes?
7. Is there a difference between the two groups of frequency of arrest on their health risk behavior outcome scores: Total Health Risk, Sexual Activity, Safety & Violence, and Tobacco, Alcohol & Other Drug Indexes?
8. As assessed by the Substance Abuse Subtle Screening Inventory-Adolescent, what is the extent of chemical dependence of youths on probation?
9. Does a standardized self-report measure of substance abuse produce valid assessments of chemical dependence for youths on probation?
10. Is there a relationship between juvenile delinquents' chemical dependency status and their severity of charge?
11. Is there a relationship between juvenile delinquents' chemical dependency status and their frequency of arrest?
12. How are the Total Problem Behavior Score, the Total Health Risk Behavior Index, and chemical dependency status related to severity of charges when controlling for demographic variables?
13. How are the Total Problem Behavior Score, the Total Health Risk Behavior Index, and chemical dependency status related to arrest frequency when controlling for demographic variables?

Procedures for Analyzing Data

Following the administration of the three tools, a numerical identification code was assigned to each subject's response set. The YSR responses were entered directly from the protocols into a computer scoring system that generated standardized scores for the Total Problem Behavior Score and Internalizing and Externalizing Scores. The SASSI-A responses were hand-scored using overlays. A decision rule system guided the classification of results as chemically dependent or nondependent.

The YRBS is a national survey instrument with annual results reported by the CDC in percentages. For this study, the instrument assessed behavioral indicators of self-control. The multiple-choice responses on the YRBS were organized into three indexes: Safety and Violence (8 questions), Tobacco, Alcohol and Other Drug (9 questions), and Sexual Activity (3 questions). Each multiple-choice response was classified as low or high self-control. The results of the 1992 YRBS national survey yielded the normative comparison (CDC, 1994b) on which the classification for high or low self-control was based (see Appendix E). For example, the 1992 survey indicated that on average 67.3% of youths from the ages of 12 to 21 had one drink of alcohol in their lifetime. Therefore, that question on the Tobacco, Alcohol and Other Drug Index allowed for zero to two drinks of alcohol to be classified as high self-control and over two drinks as low self-control of behavior.

Another example of using the 1992 survey as a basis of what is typical of youths is that over 40% of youths aged 12 to 17 in the 1992 survey had been in a physical fight in the previous year. Thus, more than one fight on the safety and violence index was classified as low self-control of behavior since it appears to be rather typical for youth to have experienced one physical fight

during a year's time. The fact that in the 1992 survey over 47% of youths aged 14 to 18 had sexual intercourse resulted in the sexual activity index taking that into account in its three questions. For each of the three questions, a response of "I have never had sexual intercourse." was classified as high self-control. Also, having zero to one sexual partner and using a condom during the most recent sexual intercourse experience were considered indicators of high self-control. Not using a condom, having more than one sexual partner, or having been pregnant or having a partner get pregnant were indicators of low self-control of behavior.

Each of the three indexes generated a decision of high or low self-control of behavior in those areas. If three out of three or two out of three indexes were classified as low self-control, then a total health risk-behavior classification of low self-control of behavior was produced. Therefore, one area of low self-control and two indexes of high self-control yielded a total health risk behavior classification of high self-control. The results of this study will be discussed by separate health risk behavior indexes.

The next step in the data analysis was to code and enter all of the information from the three tools including demographic information into a statistical software program. A planned comparison with a t-test was used to test for significant differences between means of the sample in the study and the standardization group of the dependent measure, the YSR. A percentage was used to describe the incidence of chemical dependency in this sample. To investigate the differences in frequency when classified by one attribute (i.e., severity of charges and frequency of arrests) after classification by a second attribute (i.e., chemical dependency status from the SASSI-A) a chi-square test was applied in several instances. An F-test for analyses of variance (ANOVA)

was used to test for significant differences between the youths in the three groups of severity of charges and two groups of arrest frequency on the remaining two independent measures, the YSR and YRBS.

In order to investigate the overall effect of health risk behavior and chemical dependency status while controlling for demographic variables on the likelihood of committing felony charges logistic regression was used. Demographic variables to be included as independent variables are: status of attending school, type of school program, race or ethnicity, and history of retention in school. A similar analysis was also done when studying frequency of arrest. This allows us to determine if a predicton of a student's type of charge or arrest history can be made from his YSR scores, YRBS index scores, chemical dependence status or demographic data. The logistic regression model is better able to make sense of the data when dichotomous responses are used. Several variables were recoded. As previously mentioned, severity of charges was collapsed from three groups to two: felony ($\underline{n}$ = 98) and not a felony ($\underline{n}$ = 19). Also, the variables that indicated types of school program used dummy variables in order to determine the effects of general education on the outcome separately from the effects of special education. Membership in racial or ethnic groups was collapsed to European American ($\underline{n}$ = 56) and all others ($\underline{n}$ = 61). This recoding of variables allowed for a more logical and sensible interpretation of the results of logistic regression.

CHAPTER IV

RESULTS

This research was designed to provide descriptive material about youth on court supervised probation in an effort to increase our understanding of juvenile delinquency. The research focused on two major areas of self-control of behavior: behavior problems and health risk taking behaviors and extended the literature by assessing the chemical dependence status of juvenile delinquents through a standardized measure.

More specifically, this research was intended to describe juvenile delinquents' self-reported problem behaviors and health risk taking behaviors as indicators of their self-control of behavior and to determine their status of chemical dependence. Additionally, the relationship of their problem behaviors, health risk taking behaviors, and chemical dependence status to the severity of their crime and their frequency of arrest was analyzed.

This chapter presents the results of those analyses and is organized around the thirteen research questions.

Questions Related to Problem Behaviors

Data for the first five research questions were generated from responses to the Youth Self-Report. Of the 117 youths that voluntarily participated in this study, 108 completed the YSR.

1. As assessed by a standardized self-report of problem behaviors, do youths on probation perceive themselves as having more problem behaviors than is typical of the measure's norm group?

Youths on probation do perceive themselves as having more behavior problems than is typical of the YSR norm group. A t-test, t (107) = 5.38, $p < .05$, revealed that the youths in the study (M = 56.3) have a significantly higher mean

Total Problem Behavior Score compared to the youths in the YSR standardization group (M = 50.1).

The next two questions will be considered jointly. An analysis of variance (ANOVA) was used to determine the effect of severity of charge and frequency of arrest on the Total Problem Behavior Score of youths. The results are displayed in Table 4.1.

2. Is there a difference between the three groups of severity of charge on their Total Problem Behavior Scores?

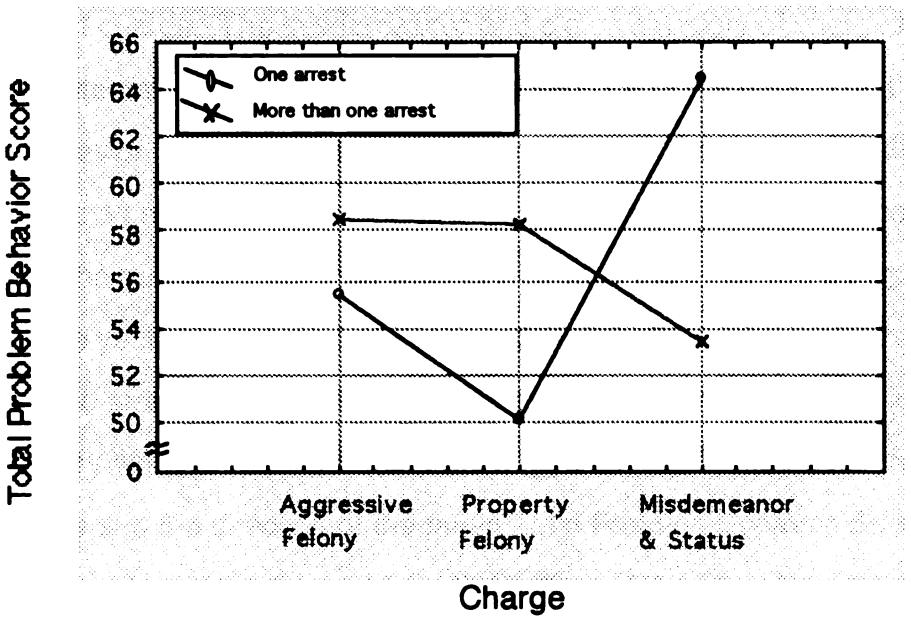
3. Is there a difference between the two groups of arrest frequency on their Total Problem Behavior Scores?

Table 4.1.

Analysis of Variance of Total Problem Score

Variable	df	MS	F
Severity of Charge	2	312.77	1.10
Frequency of Arrest	1	.05	.00
Charge X Arrest	2	1152.45	4.07*
Residuals	102	14450.15	

* p < .05.



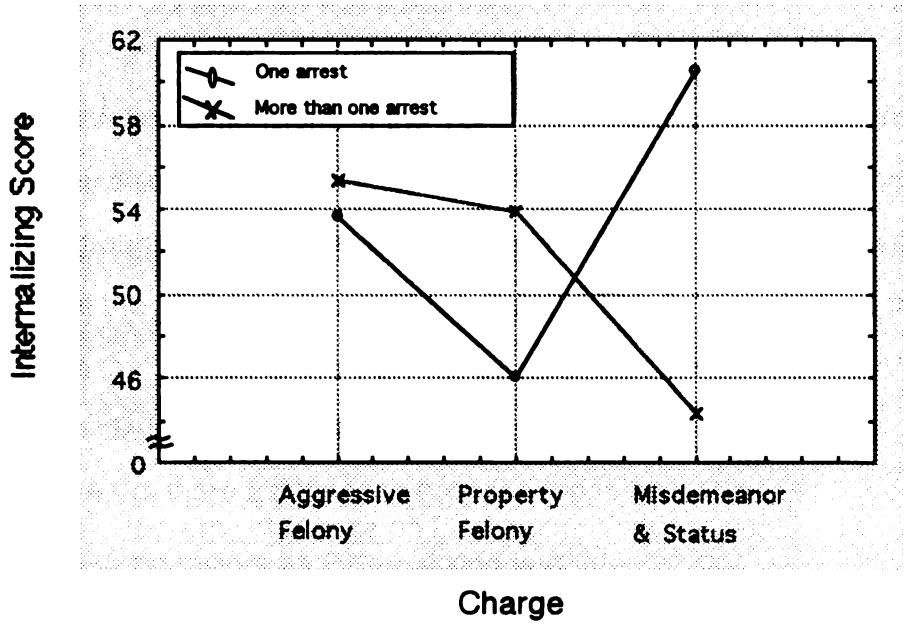


Figure 4.1. Interaction Effects of Charge by Arrest on YSR Score

The significant interaction in Figure 4.1 means that the effect of the arrest frequency on the Total Problem Behavior Score varies across the categories of the severity of charge. The misdemeanor and status category of charges is the category of interest. It can be seen that the difference of the mean Total Problem Behavior Score for those who are arrested once compared to those who are arrested more than once in the misdemeanor and status offense category of charges is greater than what is viewed in the other two categories of charges. The youths in the misdemeanor and status offense category that had more than one arrest (M = 53.36) scored on average lower than youths in that same category who had been arrested once (M = 64.50). Both the magnitude of the difference and the direction of the mean Total Problem Behavior Scores of the two groups of arrest is different from the pattern of the other two groups of charges. This visual representation of the significant mean score difference with a change of direction of the mean Total Problem Behavior Scores suggests that arrest frequency as related to the Total Problem Behavior Score depends on the category of charge.

Next, the two dimensions of the YSR, the Internalizing and Externalizing Scores, will be discussed. The effect of the three groups of severity of charge and the two groups of arrest frequency on the Externalizing and Internalizing dimensions of the YSR was analyzed separately. The data analysis of the final two questions that related to the YSR will be discussed next. The ANOVA results are displayed on Table 4. 2.

4. Is there a difference between the three groups of severity of charge on their self-reported problem behaviors as Externalizing and Internalizing Scores?

5. Is there a difference between the two groups of frequency of arrest on their self-reported problem behaviors as Externalizing and Internalizing Scores?

Table 4.2

Analysis of Variance of Internalizing and Externalizing Scores

		Internalizing		Externalizing	
Variable	df	MS	F	MS	F
Severity of Charge	2	219.77	1.63	246.99	1.63
Frequency of Arrest	1	108.86	.81	72.98	.48
Charge X Arrest	2	897.33	6.67*	355.78	2.35
Residuals	102	134.44		151.26	

* $p < .05$.

No significant differences were found between the youths in the three groups of charges on their Externalizing Score or Internalizing Score. No significant differences were found between the youths in the two groups of arrest frequency on their Externalizing Score or Internalizing Score.

A significant interaction effect of charge by arrest was found for the Internalizing Score, F (2, 102) = 6.67, $p < .05$. This interaction effect is portrayed in Figure 4.1. Again, the magnitude of the mean difference of the Internalizing Scores and the change in direction of those mean scores represents an interaction of charge by arrest. The difference in mean

Internalizing Scores between those who where arrested once (M = 60.50) and those youths that were arrested more than once (M = 44.27) is significantly different in the misdemeanor and status offense category than the magnitude of mean score differences for the two other categories. The pattern of a change in direction of scores is similar to findings reported for the Total Problem Behavior Score. Thus, it appears that the interaction effect on the Total Problem Score, as the global measure, is being driven by the effects found in the Internalizing Score. The Internalizing Score now becomes the measure of interest.

Questions Related to Health Risk Behaviors

The discussion will now focus on the next dependent measure, the Youth Risk Behavior Survey (YRBS). The voluntary nature of this study resulted in some incomplete surveys; therefore, the data analysis was based on a total of 101 completed surveys. This analysis used the overall Total Health Risk Behavior Index and its three dimensions: Sexual Activity Index, Safety & Violence Index, and Tobacco, Alcohol & Other Drug Index. Table 4.3 presents the results.

6. Is there a relationship between the three groups of severity of charge and their health risk behavior outcome scores: Total Health Risk, Sexual Activity, Safety & Violence, and Tobacco, Alcohol & Other Drug Indexes?

7. Is there a relationship between the two groups of frequency of arrest and their health risk behavior outcome scores: Total Health Risk, Sexual Activity, Safety & Violence, and Tobacco, Alcohol & Other Drug Indexes?

Table 4.3

Chi-Square Analysis of Health Risk Behavior Indexes and Severity of Charge

	Indexes							
	Total Health Risk Behavior[a]		Sexual Activity[b]		Safety & Violence[b]		Tobacco, Alcohol & Other Drug[a]	
	Low	High	Low	High	Low	High	Low	High
Aggressive Felony	48	50	50	54	48	53	48	50
Property Felony	34	37	34	29	33	33	35	31
Misdemeanor & Status	17	13	16	17	18	14	17	19
Chi-square Value With two degrees of freedom	.265		.244		.440		.113	

Note. The values represent percentages of youths in categories of Low and and High self control of behavior.
[a]n = 101. [b]n = 117.

Table 4.4

Chi-Square Analysis of Health Risk Behavior Indexes and Frequency of Arrest

	Indexes							
	Total Health Risk Behavior[a]		Sexual Activity[b]		Safety & Violence[b]		Tobacco, Alcohol & Other Drug[a]	
	Low	High	Low	High	Low	High	Low	High
Arrested Once	40	56	43	71	49	51	39	63
Arrested More Than Once	60	44	57	29	53	47	61	38
Chi-square Value With one degree of freedom	1.454		5.911*		.207		3.087	

Note. The values represent percentages of youths in categories of Low and and High self control of behavior.

[a] $n = 101$. [b] $n = 117$.

* $p < .05$.

Separate chi-square analyses were used to determine whether there is a relationship between the youths in the three groups of severity of charge and the youths in the two groups of arrest frequency and each of the four dimensions of the Youth Risk Behavior Survey: Total Health Risk Behavior Score and the Sexual Activity, Safety & Violence, and Tobacco, Alcohol, & Other Drug Indexes. As seen on Table 4.3, no significant relationships were found between the youths in the three groups of severity of charge and all four dimensions of the YRBS. This means that knowing the category of charge does not help in predicting the level of self-control of behavior.

Looking at Table 4.4, it can be seen that no significant relationships were found between youths in the two groups of arrest frequency and three of the dimensions of the YRBS. However, a significant relationship was found between the youths in the two groups of arrest frequency and the Sexual Activity Index, chi-square = 5.91, $p < .05$. This significant finding means that having low self-control of behavior on the Sexual Activity Index is associated with being arrested more than once. Alternatively, a person with high self-control of behavior on the Sexual Activity Index has a low probability of being arrested more than once.

The distribution of youths by levels of self-control of behavior on the Tobacco, Alcohol, and Other Index had a similar pattern to the Sexual Activity Index and was approaching significance ($p = .078$). A post hoc ANOVA was run using the youths' total scores on the nine questions for the index (attained values of 2 through 8) rather than the index score (values of 0 or 1) that was used for the chi-square analysis. The mean scores on the nine questions of the Tobacco, Alcohol, & Other Drug Index for those who where arrested once is 6.40 and those youths that were arrested more than once attained a mean

score of 5.58. The ANOVA findings, as reported in Table 4.5, indicate that the difference between the youths in the two groups of arrest frequency on their self-reported use of tobacco, alcohol, and other drugs is statistically significant, $F(1, 95) = 5.25$, $p < .05$.

This significant finding means that youths that are arrested more than once exhibit, on average, low self-control of behavior related to the abuse of drugs. It is also noted in Table 4.5 that when using the total scores from the three questions on sexual activity, the significant difference between youths in the two groups of arrest frequency remains significant. Also, as expected, the total score of the eight questions on safety and violence did not differentiate between the youths in the two groups of arrest frequency.

Table 4.5

Analysis of Variance of Total Scores for the Health Risk Behavior Dimensions

		Sexual Activity[a]		Safety & Violence[a]		Tobacco, Alcohol & Other Drug[b]	
Variable	df	MS	F	MS	F	MS	F
Severity of Charge	2	.12	.14	2.20	.71	3.44	1.40
Frequency of Arrest	1	3.30	3.96*	3.79	1.22	12.92	5.25*
Charge X Arrest	2	1.41	1.69	1.60	.51	.40	.16
Residuals	111	.83		3.11		2.46	

[a] $n = 117$. [b] $n = 101$.

* $p \leq .05$.

Questions Related to Chemical Dependence

The final dependent measure to be discussed is the SASSI-A. The next four questions are related to the SASSI-A.

8. As assessed by the Substance Abuse Subtle Screening Inventory-Adolescent, what is the extent of chemical dependence of youths on probation?

The SASSI-A separated the 111 youths that voluntarily completed the two-page assessment into two groups. Juveniles who are classified by the decision rules as being chemically dependent have a high probability of having a substance-related disorder. Juveniles who do not meet the SASSI-A criteria for classification as chemically dependent are not likely to have a substance-related disorder. The youths belonging to the chemical dependency group (N = 54) consists of 49 percent of the sample. Nearly half of the youths are likely to have a substance-related disorder.

Table 4.6 offers additional information about the chemical dependency status of youths in this study. Using demographic information, the youths are separated into categories of chemical dependency status. The pattern of about half of the youths being chemically dependent is carried through across the demographic dimensions presented. It should be noted, that contrary to popular belief, no race differences were noted.

Beyond the number of youths classified as chemically dependent, this study investigated the validity of the tool, SASSI-A.

9. Does a standardized self-report measure of substance abuse produce valid assessments of chemical dependence for youths on probation?

Table 4.6

Chemical Dependence Status

Demographic Variable	n	Chemically Dependent	Not Chemically Dependent
School			
Attending	84	44	56
Not Attending	25	60	40
Type of School Program			
General Education	69	49	51
Other	25	40	60
Age			
13	11	54	46
14	9	67	33
15	25	48	52
16	38	45	55
17	26	46	54
Sex			
Male	95	45	55
Female	16	68	31
Race			
European American	53	45	55
Other	57	52	48

Note. The values represent percentages of youths in the categories of chemically dependent and not chemically dependent.

This study assumed that the Tobacco, Alcohol, and Other Drug Index of the Youth Risk Behavior Survey is an independent method of classifying youth drug-related health risk behavior. By using the Tobacco, Alcohol, and Other Drug Index as a criterion measure, the determination of the SASSI-A as a useful tool for assessing chemical dependency status can be made. A total of 96 youths had voluntarily completed both tools, and the results are displayed in Table 4.7.

Table 4.7

Relationship of Drug Index to SASSI-A

	Tobacco, Alcohol, and Other Drug Index	
SASSI-A Determination	Low	High
Chemically Dependent	61	12
Not Chemically Dependent	39	88

Note. The values represent percentages of youths in the categories of Low and High self control of behavior.

The relationship of being chemically dependent and also being in the low self-control group or being not chemically dependent and also being in the high self-control group is significant, chi-square with one degree of freedom equals 12.725, $p < .05$. This significant finding means that the likelihood of being chemically dependent was confirmed by membership in the low self control group of the Tobacco, Alcohol, and Other Drug Index. Similarly, the likelihood of being not chemically dependent was associated with membership in the high self control group of the Tobacco, Alcohol, and Other Drug Index. The division of the youths on the SASSI-A into groups of chemically dependent versus not dependent is significantly related to the division of youths into groups of low and high self-control of behavior on the Tobacco, Alcohol & Other Drug Index of the YRBS. The Tobacco, Alcohol, and Other Drug Index corroborated the validity of the SASSI-A. Knowing the status of a person on the Drug Index predicts the likelihood of that person's status on the SASSI-A.

Continuing the pattern of investigation previously established, the relationship of chemical dependency status to severity of charge and arrest frequency is also investigated.

10. Is there a relationship between juvenile delinquents' chemical dependency status and their severity of charge?

11. Is there a relationship between juvenile delinquents' chemical dependency status and their frequency of arrest?

To investigate the relationship between chemical dependency status and the severity of charge and the arrest frequency, a chi-square test was applied. No significant relationships were found in either case. This means that membership in a chemical dependency status group is not related to severity of charge or arrest frequency.

Questions Related to Demographic Data

12. How do the Total Problem Behavior Score, the Total Health Risk Behavior Index, and chemical dependency status affect the severity of charge when controlling for demographic variables?

13. How do the Total Problem Behavior Score, the Total Health Risk Behavior Index, and chemical dependency status affect the frequency of arrest when controlling for demographic variables?

The effects of problem behavior, health risk taking behavior, and chemical dependency status while controlling for demographic variables on the probability of committing felony charges was investigated through logistic regression. Similarly, the procedure was used to study the effects of the same variables on frequency of arrest. It should be noted again that some of the variables were recoded for a more logical interpretation of the model's results.

When reviewing the distribution of scores, small sample size contributed to the decision to initially combine misdemeanor and status offense categories of charges. Severity of charge was then logically collapsed to two groups; felony and not felony. The type of school program was recoded in order to study the separate effects of general education and special education on severity of charge and frequency of arrest.

As seen in Table 4.8, none of the variables in the model (attending school, type of school, racial identity, retention in school, the global scores of Total Problem Behavior Score and Total Health Risk Behavior Score, Chemical Dependency Status, Externalizing and Internalizing Scores, and the Sexual Activity, Safety & Violence, and Tobacco, Alcohol, & Other Drug Indexes) showed a significant effect on the prediction of type of charge. When looking at a prediction of arrest frequency, as reported in Table 4.8, the model did produce significant results.

The first step of the logistic regression focused on the effect of selected demographic variables on the severity of charge in one analysis and on frequency of arrest in the second analysis. The main objective of such analysis is to determine whether a particular group of youths with certain demographic characteristics has a higher or lower probability of being charged with a felony or being in the arrested more than once group. The results shown in Table 4.8 indicated that none of the demographic characteristics significantly predicted severity of charge. However, when the frequency of arrest is the outcome, retention in school has a significant effect.

Taking the analysis a step further, the effects of the Total Problem Behavior Score, Health Risk Taking Behavior Index, and chemical dependency status while controlling for the effect of demographic characteristics of the

Table 4.8

Results of Logistic Regression

	Severity of Charge		Frequency of Arrest	
Variable	B	Chi-Square	B	Chi-Square
Step 1				
Attend School	-.709	.868	-1.252	2.784
Race	-.586	.941	.614	1.707
Retained in School	.249	.171	1.252	7.004*
General Education	-4.36	.038	6.862	.095
Special Education	-4.94	.049	7.098	.102
Step 2				
Attend School	.741	.861	-1.568	3.084
Race	-.361	.289	.216	1.603
Retained in School	.358	.290	1.333	5.872*
General Education	-5.067	.019	6.529	.086
Special Education	-5.18	.020	7.049	.100
Total Problem Behavior Score	-.015	.284	-.009	.143
Total Health Risk Behavior Score	-.240	.062	-.198	.078
Chemical Dependency Status	-.802	1.06	.266	.213
Step 3				
Attend School	.957	1.266	-1.633	3.084
Race	-.046	.004	-.030	.003
Retained in School	.340	.224	1.253	4.703*
General Education	-3.903	.011	6.034	.074
Special Education	-4.111	.013	6.713	.091
Total Problem Behavior				
Internalizing Score	.047	.036	-.016	.322
Externalizing Score	-.072	2.69	.016	.232
Total Health Risk Behavior				
Sexual Activity Index	.037	.001	-.298	.133
Safety & Violence Index	-.174	.046	.919	2.083
Tobacco, Alcohol & Other Drug Index	-1.161	1.367	-.861	1.212
Chemical Dependency Status	-.854	.946	.163	.071

* $p < .05$.

youths' on the severity of charge and frequency of arrest is investigated. No prediction for severity of charge was significant. Retained in school continues to show a significant effect and even demonstrated an increased effect. This more clearly illustrates the relationship of retention in school on arrest frequency.

The third step was carried out in order to find the individual effects of the separate dimensions of the Total Problem Behavior Score and Health Risk Taking Index on the severity of charge or frequency of arrest while controlling for demographic characteristics of the youths. A similar analysis to the first two steps was completed with similar results. No significant results were found regarding the severity of charge. The important feature to note is that from all of the variables in the model only retention in school has a significant effect on predicting the probability of the type of arrest frequency through the the three steps of analysis. The significant relationship of retention to the frequency of arrest was sustained through the addition of other variables. This significant finding means that the probability of being arrested more than once is increased by being retained in school.

Summary of Results

A concise summary of the statistical results can be found in Table 4.9. The juveniles on court-ordered probation yielded a finding of significantly more problem behaviors compared to the youths in the YSR norm group. Twice the charge by arrest interaction effect was significant; on the Total Problem Behavior Score and on the Internalizing Score.

When testing for differences in youths in groups of severity of charge and in groups of arrest frequency on their Externalizing Score, the charge by arrest interaction effect was not significant. It appears that the significant results on the Internalizing Score is driving the significant results on the Total Problem

Behavior Score. The distinctive interaction effect is on the misdemeanor and status offense category. Youths charged with a misdemeanor or status offense that are arrested more than once, on average, scored lower on the Internalizing Score than those youths in the same category of charges who had been arrested once.

Overall analysis of the youths when grouped according to severity of charge indicated no significant differences between those three groups on measures of problem behaviors, health risk-taking behaviors, and chemical dependence. The introduction of demographic variables into the analysis did not change this pattern.

When youths were grouped according to arrest frequency, significant results were found that differentiated the two groups of arrest frequency on two dimensions of health risk-taking behaviors; the Tobacco, Alcohol, and Other Drug Index and the Sexual Activity Index. Also, retention in school, a demographic variable, was significantly related to the frequency of arrest. No significant differences were found between youths in the two groups of arrest frequency on problem behaviors, other health risk-taking behaviors, or chemical dependence.

Forty-nine percent of the youths that completed the SASSI-A were determined by its decision rules to be chemically dependent. The status of chemically dependent versus not chemically dependent as determined by the SASSI-A was validated by the by using the Tobacco, Alcohol, and Other Drug Index as a criterion measure. The following chapter discusses the implications of these findings and summarizes the relationship of the results to the objectives of this investigation.

Table 4.9

Summary of Results

Research Questions	Findings
1. As assessed by a standardized self-report of problem behaviors, do youths on probation perceive themselves as having more problem behaviors than is typical of the measure's norm group?	1. Youth on probation perceive themselves to have significantly more problems than is typical of the measure's norm group.
2. Is there a difference between juvenile delinquents in the three groups of severity of charge on their Total Problem Behavior Scores?	2. No significant results.
3. Is there a difference between juvenile delinquents in the two groups of arrest frequency on their Total Problem Behavior Scores?	3. No significant main effects. Significant interaction effects of charge by arrest were found.
4. Is there a difference between juvenile delinquents in the three groups of severity of charge on their self reported problem behaviors as Externalizing and Internalizing Scores?	4. No significant differences were found.
5. Is there a difference between juvenile delinquents in the two groups of frequency of arrest on their self reported problem behaviors as Externalizing and Internalizing Scores?	5. No significant main effects. Significant interaction effects of charge by arrest was found on the Internalizing Scores.

Table 4.9 continued

Research Questions	Findings
6. Is there a difference between juvenile delinquents in the three groups of severity of charge on their health risk behavior outcome scores: Total Health Risk, Sexual Activity, Safety & Violence, and Tobacco, Alcohol & Other Drug Indexes?	6. No significant differences were found.
7. Is there a difference between juvenile delinquents in the two groups of frequency of arrest on their health risk outcome scores: Total Health Risk, Sexual Activity, Safety & Violence, and Tobacco, Alcohol & Other Drug Indexes?	7. Two significant findings reported. The youths in the two groups of arrest frequency were significantly different on their Tobacco, Alcohol & Other Drug Index and Sexual Activity Index.
8. As assessed by the Substance Abuse Subtle Screening Inventory-Adolescent, what is the extent of chemical dependence of youths on probation?	8. Forty-nine percent of the youths completing the SASSI-A were classified as chemically dependent.
9. Does a standardized self-report measure of substance abuse produce valid assessments of chemical dependence for youths on probation?	9. The Tobacco, Alcohol & Other Drug Index corroborated the validity of the SASSI-A.
10. Is there a relationship between juvenile delinquents' chemical dependency status and their severity of charge?	10. No significant differences were found.
11. Is there a relationship between juvenile delinquents' chemical dependency status and their frequency of arrest?	11. No significant differences were found.

Table 4.9 continued

Research Questions	Findings
12. How do the Total Problem Behavior Score, the Total Health Risk Behavior Index, and chemical dependency status affect the severity of charge when controlling for demographic variables?	12. No significant findings.
13. How do the Total Problem Behavior Score, the Total Health Risk Behavior Index, and chemical dependency status affect the frequency of arrest when controlling for demographic variables?	13. A significant relationship of retention in school to frequency of arrest was determined.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This study has provided breadth and depth to our understanding of juvenile delinquency. Using measures of self-report, this study assessed some personal perceptions of youths on probation. The three survey tools used in this study addressed three major areas of self-control of behavior: problem behaviors, health risk taking behaviors, and chemical dependence status. The six sections that follow are the summaries, explanations, associations to the literature, and conclusions related to the purposes of this study. A discussion of how this study acted as a test of the general theory of crime also follows. General limitations and then implications of the findings of this study will be reported. In the final section of this chapter, possible future directions for research as indicated from this study are discussed.

Problem Behaviors and Self-Control of Behavior

The findings of this study specified that youths on probation, on average, report having significantly more problem behaviors than is typical for youths in this age group. More specifically, the finding suggested that youths on probation experience a combination of problem behaviors to a greater extent than is typical on a total score from the eight syndromes of the YSR: withdrawal, somatic complaints, depression or anxiety, social skills, thought processes, attention, delinquent, and aggression. Forty percent of the youths completing the YSR (n = 43) reported experiencing problem behaviors to the extent that their scores fell within the range of clinical significance. Similarly, 25% of the scores reached the clinical range for the Internalizing Scale and 49% of the scores fall in the clinical range for the Externalizing Scale. The statistical significance of the difference in means for the youths in this study compared to

the youths in the standardization group is supported by clinically significant findings.

The clinically significant findings of the Internalizing Scale is a clear response to the question posed by Armistead, Wierson, Forehand, and Frame (1992). They questioned if detected delinquents differ from the general population on the dimension of internalizing problems. Twenty-seven of the 108 youths that completed the YSR reported having problem behaviors associated with internalizing problems to the extent that their scores fell in the clinical range. This large representation of internalizing problems in a delinquent group of youths adds information to the conceptualization of the breadth of their behavior problems beyond breaking the law.

Low self-control of behavior is best illustrated by the Externalizing Scale. On the Externalizing Scale, the scores of 53 youths fell within the clinical range. This may not seem surprising given that the Externalizing Scale includes a Delinquent Syndrome. In this tool, however, a high score on the delinquent dimension does not mean that the youth has broken laws or will be adjudicated as a delinquent. Rather, it means that the youth admits to conduct that is out of accord with accepted behavior or the law (Achenbach, 1991). The eleven items included in this syndrome address not feeling guilty after doing something wrong, swearing, hanging around kids who get into trouble, preferring older friends, lying or cheating, running away, setting fires, stealing, skipping classes, and nonmedicinal use of alcohol or drugs. The scope of the items is broader than illegal acts.

The Delinquent Syndrome is a cluster of behaviors that suggests low self-control of behavior and unacceptable conduct. The Aggression Syndrome is the second half of the composition of the Externalizing Scale. Aggression is a

manifestation of low self-control of behavior. The delinquent and aggression dimensions of the Externalizing score contributes information about low self-control of behavior to the Total Problem Behavior score. Nearly half of the youths in this study have low self-control of their behavior.

Low self-control was assessed though a commercially available and standardized tool. By using a standardized tool, the YSR, this study has responded to calls from the literature to assess low self-control of behavior as described in the general theory of crime in a uniform manner (Barlow, 1991; and Fagan, 1993). The findings of this study also support the work of Jessor & Jessor (1977) and Donovan & Jessor (1985), whose work suggested that multiple problems can form a cluster of behaviors, indicating a problem behavior syndrome. As represented by the eight types of problem behaviors assessed by the YSR, youths on probation, on average, have more problems than is typical of other youths their age. Forty percent of the youths have scores in the range of clinical significance. Jessor and Donovan called for an assessment of a broader range of behaviors, which this study provided. The statistically and clinically significant results of the Total Problem Behavior Score of the YSR illustrate the pervasiveness of problem behaviors and the extent of low self-control exhibited by official juvenile delinquents.

Health Risk Taking Behaviors and Self-Control of Behavior

Health risk taking behaviors were assessed through an edited version of a survey for middle school and high school students published by the Center for Disease Control and Prevention (1994). This study used only three sections of the survey: behaviors related to safety and violence, abuse of tobacco, alcohol and other drugs, and sexual activity.

Table 5.1

Classification of Answers to the Health Risk Behavior Survey Items as Low and High Self-Control

Category of Health Risk	n	Self-Control	
		Low	High
Safety & Violence			
Wear seatbelt	117	83[a]	17
Wear motorcycle helmet	116	21	78
Wear bicycle helmet	116	71	29
Ride with drinking driver	116	38	62
Carry weapon	116	52	48
Start a fight	117	38	62
Provoked to fight	117	48	52
Attempted suicide	117	10	90
Tobacco, Alcohol & Other Drug			
Smoke cigarettes	116	69	39
Smokeless tobacco	116	13	87
Alcohol	116	58	42
Marijuana	116	68	32
Cocaine	116	12	88
Inhalants	116	9	91
Steroids	116	6	94
Other illegal drugs	116	22	78
Inject drugs	115	1	99
Sexual Activity			
Number of partners	116	77	23
Use of condom	116	28	72
Pregnancy	106	17	83

[a]The values represent percentages of youths in the categories of Low and High self-control of behavior.

By using a comparison to what is typical for youth from the 1993 results of the CDC survey, responses to the twenty questions were evaluated as representing high and low self-control of behavior. The eight questions of the safety and violence index found that overall 51% of the youths exhibited low behavioral self-control related to intentional and unintentional injuries. Table 5.1 shows the percentage of youths classified as exhibiting low and high self-control on the eight questions. On the Tobacco, Alcohol and Other Drug Index, which consisted of nine questions, an overall 73% of the youths' responses resulted in a classification of low self-control of behavior. The Sexual Activity Index consisted of three questions. Seventy-nine percent of the responding youths' were determined to exhibit low self-control of sexual behavior.

As seen from a review of Table 5.1, low self-control of behavior across the three dimensions of behavior assessed in this study is rather common for this sample of juvenile delinquents, and this common occurrence of low self-control was expected. The literature pointed to the problem behaviors of smoking cigarettes, drinking alcohol, and engaging in sex by adolescents with unofficial delinquent acts (Farrell, Danish, & Howard, 1992). The engagement in one problem behavior (e.g., smoking) predicted participation in another problem behavior (e.g., drinking alcohol). This study has provided supporting information using official delinquents as respondents. Youths are exhibiting low self-control across three areas: safety and violence; tobacco, alcohol, and other drugs, and sexual activity. Thus, the Health Risk Behavior Survey provided a broader measure of the "turbulent lifestyle" as reported by Andre, Pease, Kendall, and Boulton (1994). This study provided a look into the range of behavior of official delinquents that may result in intentional and nonintentional

injuries, pregnancies and sexually transmitted diseases, and chemical dependence.

Further associations with the literature are noted with the Tobacco, Alcohol, and Other Drug Index. The high incidences of abusing marijuana (68%) and drinking alcohol (79%) in this sample supports the literature on the co-existence of abuse of alcohol and marijuana and juvenile delinquency (Akers, 1992; Brook, Whitman, & Finch, 1992; Huizinga, Loeber, & Thornberry, 1993). Cigarette smoking was the largest category of low self-control of behavior on the Tobacco, Alcohol, and Other Drug Index followed closely by abuse of marijuana (68%). An agreement is found with the literature on the emergence of cigarette smoking in conjunction with problems of conduct and delinquent acts (Van Kammen, Loeber, & Stouthamer-Loeber, 1991).

The Sexual Activity Index provided confirmation of the high rate of sexual activity present in a group of juvenile delinquents. With 84% of the youths in this sample having experienced sex, the proportion of sexually active youths is higher than the 46% in Denver, CO and 60% in Rochester, NY (Huizinga, Loeber, & Thornberry, 1993). The studies in Denver and Rochester are exploring causes and correlates of delinquency through longitudinal studies of youth in the general population in Rochester and of at-risk urban youth in Denver. The age ranges under investigation are similar to this study. The higher incidence of sexual activity reported by youth in this study may reflect the common characteristic of low self-control among delinquent youths.

This study, by using the adapted CDC survey, illustrated the co-existence of health risk taking behaviors and juvenile delinquency. Also, by using the HRBS, the breadth of health risk taking behavior was expanded to include three dimensions: safety and violence, drug abuse, and sexual activity. As an

indicant of low self-control of behavior, the HRBS has added helpful descriptive material on the coexistence of health risk behaviors with juvenile delinquency.

Chemical Dependence Status and Self-Control of Behavior

The high representation of youths in the category of low self-control of behavior on the Tobacco, Alcohol and Other Drug Index was predicted by the literature. Over 50% of youths sent to a residential program as a result of their delinquent acts also had significant problems with alcohol and drugs (Ratner, 1990). Typically, youths being sent to residential programs have been unsuccessful in less restrictive programs or committed acts that mandated separation from their family and community. Johnson, Wish, Schmeidler , and Huizinga (1991) suggested that local assessment of chemical dependence should be completed when they discovered that a high percentage of juvenile delinquent acts are concentrated in a small percentage of the drug-abusing adolescent delinquents. The SASSI-A, a pencil and paper survey, offered a means of assessing youths that was not as invasive or expensive as hair and urine analysis. The SASSI-A offered a means to quickly assess other types of abuse in addition to alcohol abuse as suggested by Martin, Arria, Mezzich, and Buckstein (1993). Additionally, the SASSI-A went beyond the usual description of the frequency and duration of drug abuse by yielding a classification of chemical dependence status. The accurate characterization of drug level usage was also recommended by Feucht, Stephen, and Walker (1994). The use of the SASSI-A, a standardized tool, in this study represented a novel approach to the accurate determination of substance abuse status. The results, similar to Ratner's findings, found that nearly half of the youths on probation appear to have a problem with chemical dependence.

The SASSI-A was validated through a criterion validity procedure. Using the score on the Tobacco, Alcohol, and Other Drug Index to predict the results on the SASSI-A determined that the SASSI-A results were closely matched in findings. The SASSI-A may be a useful tool for determining chemical dependence status of delinquent youth. A practice of systematically assessing chemical dependence may be helpful for the court when determining the disposition of a case.

Severity of Charge and Self-Control of Behavior

For this study, the severity of charge was grouped into three categories. The most severe was aggressive felony, followed by property felony and then the combined category of misdemeanor and status offense. No significant differences were found between the youths in the three groups of severity of charge and the indicators of their level of self-control (Total Problem Score and its two dimensions, Externalizing Score and Internalizing Score; Health Risk Behavior Index and its three dimensions, Tobacco, Alcohol, and Other Drug Index, Safety and Violence Index, and Sexual Activity Index; and Chemical Dependency Status). When demographic variables were introduced into a logistic regression model, again, no significant relationships of demographic variables or self-control indicants to the severity of charge were found.

Knowing the severity of charge does not help in the identification of the level of self-control of youths. Severity of charge does not differentiate youth by level of self-control of behavior. Armistead, Wierson, Forehand, and Frame (1992) recommended that a determination of the unique correlates to specific charges may be helpful. This study did not provide any unique correlates to the categories of charges. The results of this portion of the study do lend support to a tenet of the general theory of crime (Gottfredson & Hirschi, 1990; Hirschi &

Gottfredson, 1993) which was that low self-control behavior was expected to be unrelated to the category of charges.

Arrest Frequency and Self-Control of Behavior

All of the youths in this study were arrested at least once in order to even participate. All of the youths are on court supervised probation. The sample practically splits itself into halves when divided into two groups: arrested once (n = 57) and arrested more than once (n = 60). Twice in this study the relationship between the indicators of low self-control and arrest frequency were significant. The Tobacco, Alcohol, and Other Drug Index and the Sexual Activity Index each produced expected significant findings in relationship to arrest frequency. Youths arrested more than once were associated with low self-control ratings on each of the indexes. Youths with low self-control of tobacco, alcohol and other drug behavior were likely to have an arrest history of more than one arrest. Also, youths rated as having low self-control of their sexual activity were more likely to be members of the arrested more than once group. However, similar associations for problem behaviors, chemical dependency status and the Safety and Violence Index were not found. It is possible the questions or measures did not accurately represent an operationalization of low self-control of those behaviors.

A significant interaction effect was found indicating that youths currently charged with a misdemeanor or status offense and arrested more than once on average had fewer internalizing problem behaviors than youths arrested only once. This suggests that youths arrested more than once may have been exposed to some type of treatment (formal or informal) as a result of dispositions of their previous charges that may have had the positive impact of reducing internalizing problem behaviors to within the typical range for their ages (M =

44). These youths may have been assigned to a residential program, foster care, community service, or drug treatment which could have positively influenced internalizing problem behaviors. Additionally, regular contact with their probation case worker may have contributed to the reduction of internalizing problem behaviors. It could also be that they are more experienced in the court system and answered questions with a bias towards choices reflecting typical behavior of youths their age. The subjects of this study who were arrested once on misdemeanor and status charges have, on average, clinically significant scores ($\underline{M}$ = 61). This finding suggests that the group of youths with charges of misdemeanors or status offenses appearing for probation as a result of their first arrest may deserve a closer look by the court regarding disposition of their cases. It could be that their lack of experience in the court system left them open to choosing answers that best reflected their lifestyle. This group of youths, arrested for the first time, appear to be in need of support or treatment and are frankly stating their need through their responses on the YSR.

The associations between high arrest frequency and drug abuse behavior and sexual behavior begins to describe delinquent youths in terms of the debilitating effect of low self-control of behavior. Youths demonstrating low self-control of behavior as related to sexual activity, and tobacco, alcohol, and other drug abuse are more likely to be arrested more than once. This suggests that youths arrested more than once are more likely to have behavior problems beyond the circumstances of their arrest. Knowing a youth's arrest history can predict involvement in unhealthy sexual practices or the abuse of tobacco, alcohol, or other drugs. Differentiation of youths by their arrest history based on

their level of self-control in two domains of behavior is one contribution of this study.

Retention in School and Self-Control of Behavior

The unexpected finding in this study was a relationship of a history of retention in school to arrest frequency. With 61% of the youths having experienced retention, when divided into two groups of arrest frequency, a strong relationship between the variables was demonstrated. Youths that have been retained a grade in school are also more likely to be arrested more than once. It appears that retention in school is a better predictor of being arrested more than once than is tobacco, alcohol and other drug abuse and sexual activity. A review of the literature by Shepard and Smith (1990) concluded that a myth exists that retention is an effective remedy for students with weak academic skills and agreed with a large body of research that indicated retention in school has negative effects on academic achievement and high school completion.

It appears that children have a perception that retention is the consequence for being bad in class or failing to learn (Brynes, 1989). The behavior of "being bad in class' may be associated with less self-control. Retention for some students may be based on truancy or mandatory time out of school for suspensions and expulsions. Skipping school and bringing a weapon to school may be additional examples of low self-control. If students are restless, disobedient, quarrelsome, persistently late, and not completing school work, those behaviors may lead to retention and could also be additional examples of low self-control of behavior. Understanding the link between low self-control of behavior and retention may benefit from further investigation towards identification of correlates associated with juvenile delinquency.

A Test of A General Theory of Crime

As a test of the general theory of crime, this study asked if self-control of behavior in a variety of domains was associated with the juvenile delinquents' severity of charge or frequency of arrest. This research proposed to test the role of low self-control in the general theory of crime by using a variety of analogous behaviors of low self-control of behavior (e.g., problem behaviors, sexual activity, safety and violence, and tobacco, alcohol and other drug abuse). The analogous behaviors, as assessed by the three tools, acted as indicators of the extent of low self-control exhibited by youths in this study.

Low self-control of behavior was found to be a common occurrence across four domains: (a) problem behaviors, (b) chemical dependence, (c) sexual activity and (d) safety and violence. The measures of self-control of behavior did not differentiate youths in the three groups of severity charge. Gottfredson and Hirschi (1990) assert that no specific act or type of crime uniquely requires a lack of self-control. Low self-control, as an enduring trait, was not expected to be related to a category of charges. The findings of this study support the general theory of crime's expectation of a lack of differentiation of youths with low self-control by types of crimes.

Two areas of self-control of behavior, sexual activity and tobacco, alcohol and other drug abuse, did differentiate between youths in the two groups arrest frequency. Youths that had been arrested more than once exhibited low self-control of behaviors associated with drug abuse and sexual activity. The variation of self-control among youths that are on probation pointed to a relationship between low self-control of sexual activity and drug use and a higher number of arrests. This differentiation of youths by their levels of self- control of behavior on their arrest history lends additional support to the

Gottfredson and Hirschi's general theory of crime premise that youths with low self-control would have more arrests. Youth on probation with higher rates of prior convictions exhibit low self-control of behavior in two dimensions of the health risk taking behavior domain. This study provides limited support to the general theory of crime's proposition that behavioral domains that are manifestations of low self-control (i.e., crime and its analogous behaviors) would be engaged in at a higher rate by people with low self-control.

Limitations

One limitation of this study is generalizability. This sample of youths on probation may reflect, at best, the characteristics of youths on probation in one county in Michigan, where this study was conducted. Generalization to other counties, the state, or other regions of this country should be done cautiously due to possible differences in population heterogeneity, school retention policies, or specific laws and their enforcement. For instance, all youths in this sample spoke and read English. Also, females were under represented, and some caution is suggested when applying these results to female youths on probation.

A larger sample may have better represented females and may also have allowed for better representation of the misdemeanor and status offense categories. Due to the smaller number of youths with those charges, this study consolidated the two offenses into one category. A broader sample may also have included those youths assigned to community service or residential programs. Including those youths assigned to community service may have added more youths with misdemeanor and status offenses. Adding youths in residential programs may have contributed to the representation of felonies while also adding information regarding arrest history and level of self-control.

A fourth limitation of this study is related to the statistical analysis. The number of tests run is considered in conjunction with the alpha significance level of .05 and the p value of the test results. A conservative consideration is made that some of the statistically significant results may be a result of a Type I error.

A final limitation should be mentioned. The focus of this study was on the relationship of indicators of low self-control of behavior to severity of charges and arrest frequency. With the behavioral focus identified, the factors of intelligence, age, culture, economic status and other personal variables as contributing to or associated with delinquency are acknowledged but not reviewed in this study. Those underlying and unaccounted factors may have been contributing to the results of this study. Incorporation of the effects of developmental, cultural, economic, and other personal factors to the results of this study would be helpful for a comprehensive understanding of delinquency.

Implications

This study extends support to the theoretical understanding of juvenile delinquency. The results of this study are broadly consistent with the picture presented by the general theory of crime and uphold the views of Gottfredson and Hirschi with a specific group, American youth that are official delinquents on probation. Additionally, the findings of this study bolster the body of research asserting the co-morbidity of problem behaviors and juvenile delinquency.

The findings of this study indicated that youths on probation, on average, perceived they had more problem behaviors than is typical of this age group, and about half of the youths' self-reports led to a classification of chemical dependence. It appears that assessment of the problem behaviors and health

risk taking behaviors of youths may yield information helpful to the court. Using a brief, noninvasive, inexpensive, valid, and standardized assessment of chemical dependence status such as the SASSI-A may also be helpful for the court in determining the disposition of cases. The information yielded from standardized assessments and informal measures may also provide goals for behavior change for the youths. In this study, nearly eighty percent of the youths indicated that they would like to change their behavior. Tools, such as those used in this study, may guide goal setting of behavior changes leading toward self-regulation of behavior.

The common occurrence of low self-control of youths across the dimensions of the three tools may also suggest a need to focus on teaching self-regulation and the development of healthier practices. Since one cannot retroactively correct the negative effects of poor socialization and inadequate parental influence when the youths were under the age of eight, the logical implication is to put an emphasis on personal empowerment of youths to make better choices on how to behave in the future.

Additionally, as a result of this study, grade retention in school merits attention. Youths who have been retained are more likely to be arrested more than once and, according to Shepard and Smith (1990), to continue to be weak in academic skills. Academic assessment of youths may generate alternatives for court disposition of cases. Youths may find summer school, remedial before- and after-school programs, homework assistance, or no-cost peer tutoring helpful. While schools may wish to determine the effectiveness of retention as a means to ameliorate academic skill deficits, more study into the relationship of retention and delinquency is needed.

This study has determined that knowing a youth's charge does not offer any assistance in determining a youth's level of self-control of behavior. This finding may change the perspectives of treatment. Youths with low self-control of behaviors related to sexual activity or tobacco, alcohol, and other drug abuse are more likely to have been arrested more than once. Choice of treatment or intervention may need to be based less on the specific charge and more on the co-existing trait of low self-control and specific aspects of associated problem behaviors (e.g., addictions, psychosocial problems, or low academic skills as a result of retention) when youths are first in court.

A major and general implication of this study is that youths on probation present a variety of issues beyond the finding of their guilt of a crime. Assessment of youths and intervention with youths must address a wide range of situational and personal factors (Hoge, Andrews, & Leschied, 1994). It appears that these factors interact in complex ways and may require an interagency (e.g., court, social services, drug rehabilitation, mental health, public schools) response. From this study it is determined that standardized tools and informal surveys may be helpful in quickly identifying the presence of problem behaviors, health risk taking behaviors, and chemical dependence.

Future Directions

This study examined a few specific aspects of the complexities of juvenile delinquency. The findings and implications of this study suggest a need for additional investigation into the role of the trait of low self-control of behavior and the coexistence of multiple problems with juvenile delinquency. Self-control of behavior for this study was defined through scores on standardized or public domain measures. It may be helpful to use other, more direct behavioral examples in a survey of youths. Other analogous behaviors to

crime could include cheating on a test, copying homework, jaywalking, shooting off fireworks, making obscene or nuisance phone calls, or skipping classes.

The additional examples of self-control of behavior would further delineate the pervasiveness of the trait for individuals. It would also document the coexistence of multiple problems with juvenile delinquency. Exploring behaviors that exemplify low self-control and that may result in retention (e.g., skipping school, tardies) would be helpful to better understand the results of this study. It may be that retention is an unexpected and negative aspect of low self-control of behavior. It may be important in future research to document the relationship of retention with delinquency.

Beyond the identification of the variables with a significant relationship to arrest frequency, future research is urgently needed on effective interventions for youths under court supervision that have low self-control of behavior and other problem behaviors. Can an intervention that addresses the low self-control of behavior affect future arrests? To what extent are youths in the general population with low self-control remaining out of court contact? The results of this study recognized the multi-faceted aspects of youths on probation. The complexity of juvenile delinquency requires additional research to continue the refinement and development of assessment and intervention approaches.

APPENDICES

APPENDIX A

STATEMENT TO PARTICIPANTS

Hello!

I am asking you to complete three surveys. The surveys let you tell me what you do that may affect your health or what kinds of problems you may have. Your information about problems you might have allows me to better understand young people like yourself. Some of the questions on the surveys ask you about tobacco use, alcohol and other drug use, and sexual activity.

Completing this survey is entirely voluntary. You don't have to do this and you can quit at any time if you want. **DO NOT** write your name on the surveys. The answers you give will be kept private. Your case worker will not know what you write. No one will know what you write. Answer the questions based on what you really do.

The questions that ask about your background will only be used to describe the kinds of kids completing this survey. The information will not be used to find out your name. No names will ever be reported.

For each question, give the answer that best describes you. It will probably take about 30 minutes for you to complete the surveys. Now that you have heard all this, are you still interested in completing the surveys?

If, at a later time you have questions about this project, please feel free to ask your case worker. Your case worker will contact me, if necessary.

Thank you very much for your time and effort. Please choose which item you would like as a thank you gift from me.

❑ McDonald's gift certificate

❑ Snickers Candy Bar

APPENDIX B

YOUTH SELF REPORT FOR AGES 11-18

The Youth Self-Report for Ages 11-18 was one of three tools used in this study. The April, 1995 edition of this version of the Child Behavior Checklist was used in this research project. It is a copyrighted, commercially available instrument which was purchased from University Medical Education Associates at the University of Vermont, 1 South Prospect Street, Burlington, Vermont 05401-3456. The University Medical Education Associates can also be reached by phone (802-656-8313 or -4563) or fax (802-656-2602).

APPENDIX C

YOUTH RISK BEHAVIOR SURVEY

The 1995 Youth Risk Behavior Survey was one of three tools used in this suvery. A sample of the survey and a copy of the Handbook for Conducting Youth Risk Behavior Surveys are available free from the Centers for Disease Control and Prevention, Division of Adolescent and School Health, 4770 Buford Hwy., N.E., MS-K33, Atlanta, Georgia 30341-3724. The CDC can be contacted by calling 404-488-5330.

1995

Youth Risk Behavior Survey

This survey is about health behavior. It has been developed so you can tell us what you do that may affect your health. The information will be used to develop better health education for young people like yourself. Completing this survey is entirely voluntary.

DO NOT write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

The questions that ask about your background will only be used to describe the type of people completing this survey. The information will not be used to find out your name. No names will ever be reported.

For each question, circle the letter of the answer that best describes you. Be sure to answer every question.

Thank you very much.

1. How old are you?

   a. 12 years old
   b. 13 years old
   c. 14 years old
   d. 15 years old
   e. 16 years old
   f. 17 years old

2. What is your sex?

   a. Female
   b. Male

3. How do you describe yourself?

   a. African-American or Black
   b. Caucasian or White
   c. Hispanic or Latino
   d. Asian or Pacific Islander
   e. American Indian or Alaskan Native
   f. Other _____

4. In what grade are you?

   a. 6th grade
   b. 7th grade
   c. 8th grade
   d. 9th grade
   e. 10th grade
   f. 11th grade
   g. 12th grade
   h. ungraded or other

5. Do you go to school?

   a. Yes
   b. No
   c. I have a G.E.D.

6. How would you describe your school classes?

   a. Regular education
   b. Special education
   c. Alternative education
   d. I do not go to school.

7. Have you ever been retained or held back a grade in school?

   a. Yes
   b. No

8. How many times have you been arrested?

   a. 1 time
   b. 2 times
   c. 3 times
   d. 4 times
   e. 5 times
   f. 6 times
   g. 7 times
   h. 8 times
   i. 9 times
   j. 10 or more times

9. What is your current charge?

   a. Assault and battery
   b. Shoplifting
   c. Rape
   d. Arson
   e. Criminal sexual misconduct
   f. Carrying a concealed weapon
   g. Breaking and entering
   h. Larceny
   i. Possession of stolen property
   j. Violation of controlled substances
   k. Intoxication
   l. Manslaughter
   m. Entering without authority
   n. Driving without a license
   o. Soliciting
   p. Running away
   q. Truancy
   r. Incorrigibility
   s. Other: _____

The next 8 questions ask about safety and violence.

10. How often do you wear a seat belt when riding in a car driven by somebody else?

    a. Never
    b. Rarely
    c. Sometimes
    d. Most of the time
    e. Always

11. **When you rode a motorcycle** during the past 12 months, how often did you wear a helmet?

    a. I did not ride a motorcycle during the past 12 months.
    b. Never wore a helmet
    c. Rarely wore a helmet
    d. Sometimes wore a helmet
    e. Most of the time wore a helmet
    f. Always wore a helmet

12. **When you rode a bicycle** during the past 12 months, how often did you wear a helmet?

    a. I did not ride a bicycle during the past 12 months.
    b. Never wore a helmet
    c. Rarely wore a helmet
    d. Sometimes wore a helmet
    e. Most of the time wore a helmet
    f. Always wore a helmet

13. During the past 30 days, how many times did you ride in a car or other vehicle **driven by someone who had been drinking alcohol?**

    a. 0 days
    b. 1 day
    c. 2 or 3 days
    d. 4 or 5 days
    e. 6 or more days

14. During the past 30 days, how many times did **you** drive a car or other vehicle **when you had been drinking alcohol?**

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

15. Have you carried **a weapon** such as a gun, knife, or club?

    a. Yes
    b. No

16. During the past 12 months, how many times did you start a physical fight?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or 7 times
    f. 8 or 9 times
    g. 10 or 11 times
    h. 12 or more times

17. During the past 12 months, how many times were you in a physical fight when the other person started the fight?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or 7 times
    f. 8 or 9 times
    g. 10 or 11 times
    h. 12 or more times

Sometimes people feel so depressed and hopeless about the future that they may consider attempting suicide, that is, talking some action to end their own life. The next question asks about attempted suicide.

18. During the past 12 months, how many times did you actually attempt suicide?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

The next three questions ask about tobacco use.

19. Have you ever tried cigarette smoking, even one or two puffs?

    a. Yes
    b. No

20. During the past 30 days, on how many days did you smoke cigarettes?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

21. During the past 30 days, on how many days did you use **chewing tobacco or snuff**, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

The next question asks about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

22. During your entire life, on how many days have you drank alcohol?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 50 days
    d. 51 to 100 days
    e. More than 100 days

The next question asks about marijuana use. Marijuana is also called grass or pot.

23. During your life, how many times have you used marijuana?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 to 99 times
    g. 100 or more times

The next 5 questions ask about cocaine and other drug use.

24. During your life, how many times have you used cocaine, including powder, crack, or freebase?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 29 times
    f. 40 or more times

25. During your life, how many times have you sniffed glue, or breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

26. During your life, how many times have you taken **steroid pills or shots** without a doctor's prescription?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

27. During your life, how many times have you used any other type of **illegal** drug, such as LSD, PCP, ecstasy, mushrooms, speed, ice, or heroin?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

28. During your life, how many times have you used a needle to inject any **illegal** drug into your body?

    a. 0 times
    b. 1 time
    c. 2 or more times

The next five questions ask about sexual behavior.

29. Have you ever had sexual intercourse?

    a. Yes
    b. No

30. During your life, with how many people have you had sexual intercourse?

    a. I have never had sexual intercourse.
    b. 1 person
    c. 2 people
    d. 3 people
    e. 4 people
    f. 5 people
    g. 6 or more people

31. The **last time** you had sexual intercourse, did you or your partner use a condom?

    a. I have never had sexual intercourse.
    b. Yes
    c. No

32. The **last time** you had sexual intercourse, what **one** method did you or your partner use to **prevent pregnancy?** (Select only **one** response)

    a. I have never had sexual intercourse.
    b. No method was used to prevent pregnancy.
    c. Birth control pills
    d. Condoms
    e. Withdrawal
    f. Some other method
    g. Not sure

33. If you are a female how many times have you been pregnant? If you are a male how many times have you gotten someone pregnant?

    a. 0 times
    b. 1 time
    c. 2 or more times
    d. Not sure

One question asks about changing behavior.

34. In general, how do you feel about yourself?

    a. I would like to change everything about myself.
    b. I would like to change almost everything about myself.
    c. I would like to change many things about myself.
    d. I would like to change some things about myself.
    e. I would like to change nothing about myself.

APPENDIX D

SUBSTANCE ABUSE SUBTLE SCREENING INVENTORY -ADOLESCENT

The Substance Abuse Subtle Screening Inventory-Adolescent was one of three tools used in this study. The May, 1990 edition was used in this research project. It is a copyrighted, commercially available instrument that can be ordered from The SASSI Institute, P.O. Box 5069, Bloomington, Indiana 47407. The Institute can be contacted by phone (800-726-0526), fax (800-546-7995) or Internet e-mail (sassi@intersource.com). For this study, the Institute donated protocols and scoring overlays.

APPENDIX E

SURVEY DATA FROM CDC

Appendix E

Health Risk Behaviors Among Persons Aged 12 -21, United States, 1992[a]

	Age Group (Years)			
Behavior	12-13	14-17	18-21	Total
Used safety belts	31.6[b]	33.5	36.1	34.2
Used motorcycle helmets	48.4	41.6	44.7	44.1
Rode with drinking driver	11.3	21.7	34.5	25.0
Participated in phsyical fight	49.0	43.8	29.4	38.8
Carried a weapon	12.6	17.1	13.6	14.8
Current cigarette use	7.7	25.4	37.8	27.0
Lifetime alcohol use	28.0	65.6	86.7	67.3
Lifetime marijuana use	3.4	20.4	45.8	27.5
Lifetime cocaine use	0.4	2.5	11.4	5.8
Ever injected drugs	0.1	0.9	1.2	0.9
Ever had sexual intercourse	(no data)	43.4	81.7	63.0
Sexual partners ≥ 4	(no data)	13.3	41.3	27.6
Use of condom	(no data)	58.5	36.9	43.5

[a]Data reprinted from the Morbidity and Morality Weekly Report, April 8, 1994, Volume 43, Number 13.

[b]Values indicate percentages of youths engaged in the behaviors.

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