REPORT OF THE
VIRGINIA DEPARTMENT OF JUVENILE JUSTICE

DEVELOPMENT OF A MODEL RISK ASSESSMENT FOR JUVENILE FELONY OFFENDERS

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 59

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COMMONWEALTH of VIRGINIA

Department of Juvenile Justice

31 December 1996

TO: The Honorable George F. Allen, Governor of Virginia and Members of the General Assembly

House Joint Resolution 70, agreed to by the 1996 General Assembly, directed the Department of Juvenile Justice to develop a risk assessment instrument for juvenile felony offenders. The Resolution instructed the Department to complete this work in collaboration with the Virginia Sentencing Commission, the Department of Criminal Justice Services, and circuit and juvenile and domestic relations district court judges.

This report represents the work of the staff of the Department along with representatives from the aforementioned groups. The National Council on Crime and Delinquency, under contract to the Department, completed the technical work of developing the instrument and drafting the report. I am pleased to submit the study's findings and recommendations concerning the development and validation of a risk assessment instrument.

The Department of Juvenile Justice looks forward to working with you to continue our efforts to improve Virginia's juvenile justice system.

Respectfully submitted,

Patricia L. West
Director

BACKGROUND

The Legislative Mandate

The 1996 Session of the Virginia General Assembly passed a joint resolution (HJR 70) that directed the Department of Juvenile Justice (DJJ) to develop a risk assessment instrument to assist judges in determining dispositions for adjudicated felony offenders. This report describes the process and results of DJJ's effort to meet that mandate.

As is the case with many other states, Virginia is facing increasing numbers of juvenile offenders - many of them serious, violent or chronic offenders - without concomitant increases in the resources needed to intervene effectively with them. One result has been limited bed space in Virginia's juvenile correctional institutions. The problem of escalating caseloads and restricted resources means that juvenile justice agencies must find ways to ensure that all available resources for delinquent youth are used in the most efficient manner. In many states, this has meant devising structured assessment and classification strategies to ensure that certain types of resources are used only for selected, and clearly defined, offender sub-populations. As the Virginia legislature has recognized, the use of risk assessment to inform dispositions can be a powerful tool for achieving this goal.

The HJR 70 Study Group

To carry out its legislative mandate, the Department of Juvenile Justice:

- convened a group of juvenile justice system officials to provide leadership, input and oversight to the risk instrument development process. This HJR 70 Study Group consisted of judges, representatives of the Virginia Sentencing Commission and the Department of Criminal Justice Services, as well as DJJ administrative, research and field staff;
- contracted with the National Council on Crime and Delinquency to provide expertise in the development of the risk assessment instrument;
- facilitated a series of meetings between the study group and NCCD; and,
- approved the attached NCCD-developed risk instrument for submission to the legislature.

Risk Assessment: Purpose and Definition

The ultimate purpose of formal risk assessment is to enhance public safety by providing decision makers with the ability to more accurately and consistently identify those adjudicated juvenile offenders who are most likely to commit subsequent offenses. Armed with this information, judges and other decision makers can then more accurately link offenders having varying degrees of risk with the most appropriate level of security or supervision. This process also promotes more efficient use of limited - and often costly - resources.

The central characteristics of formal risk assessment include:

- the use of a scale that incorporates a limited number of factors known or believed to be predictive of reoffending. Each of the factors is given a "weight" (or points). The offender's total score determines the level of risk. The risk classification leads to a custody or supervision decision based on selected rules (e.g., all juveniles scoring 15 points or higher will be placed under intensive supervision).

- research-based risk scales are derived from an analysis of the statistical relationship between youth characteristics and recidivism rates. This is an actuarial approach that is similar to that used to determine automobile insurance rates.

- the basic risk strategy is to identify sub-groups of the delinquent population that have very different recidivism rates. For example in Rhode Island, NCCD developed a risk scale in which those youth identified as "very high" risk were found to have a recidivism rate that was four times higher (82% vs. 21%) than the youth identified by the tool as "low" risk (Wagner and Wiebush 1996).

- typical risk factors identified through research include historical items such as number of prior referrals and age at first adjudication, as well as "stability" factors such as substance abuse, delinquent peers, school problems, and family dysfunction. It is important to note that most risk research has shown that the seriousness of the current offense is <u>not</u> predictive of (and is often inversely related to) rates of subsequent offending (Clear 1988).

DEVELOPMENT OF THE PROPOSED VIRGINIA RISK INSTRUMENT

Key Decisions

The HJR 70 study group made several important decisions that heavily influenced the risk assessment development process. The group decided that:

- the term "risk" was intended to mean risk of re-offending. This meant that the intended purpose of the Virginia scale was to classify adjudicated youth based on their likelihood of future recidivism, rather than on the seriousness of offenses already committed;
- a research-based model was preferable to one developed through a consensus-building approach (in which group members come to agreement about what factors they believe are important in assessing risk);
- there was insufficient time to conduct the research necessary to develop and validate a risk tool using the characteristics and outcomes of Virginia delinquents; [1]
- it did not want to simply adopt an empirically-based scale developed in another state.

As a result of these several decisions, the HJR 70 study group opted to pursue the development of a "model" empirically-based scale, using data from risk research previously completed by NCCD in other sites. [2]

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1. In developing a validated risk scale, it is necessary to analyze the characteristics and outcomes of the youth in the jurisdiction for which the scale is being developed. While there are certain predictor variables that apply in most jurisdictions, previous research has also shown that each jurisdiction has some unique variables that serve to increase the predictive and classification power of the risk tool. Using the local population insures a "best fit" between the scale and the youth it is used to assess.

2. Over the past five years, NCCD has developed research-based juvenile risk scales in approximately 30 different jurisdictions including the states of MI, WI, NE, RI, NJ, AZ as well as in Cuyahoga, Lucas and Travis counties.

NCCD's Development of a Model Risk Scale

The idea of a "model" scale is that if a core set of risk predictors can be identified that "work" in several other jurisdictions, they should also work reasonably well when applied to Virginia's juvenile offender population.

The basic method for creating and testing a "model" risk scale was to:

- identify a set of jurisdictions for whom NCCD had recently developed empirically-based risk scales;
- identify the risk variables that were common to each of the selected sites;
- use only those variables to create a new scale;
- develop standardized item definitions, weights and cut-off scores for the new scale; and,
- test this new, "model" scale for its predictive and classification ability by applying it to the sample youth in each of the original jurisdictions.

The NCCD research sites that were selected for developing the model scale were the states of **Nebraska** and **Rhode Island**, and **Travis County (Austin) Texas**. [3] These sites provided **a sample of 1,365 adjudicated youth** (NE=674; RI=389; Travis=302).

The original risk scales (see Appendix A) in these sites contained six common variables. These variables became the basis for the "model" scale. Several analyses were conducted to determine how the site-specific definitions and weights of these variables should be standardized for the model tool. The final risk instrument is shown on the following page. The six-item scale has a scoring range of -4 to +12 points and uses four levels of risk classification.

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3. These sites were selected because: 1) they represented geographical diversity; 2) the instruments were developed in the past two years and were based on samples of adjudicated juvenile offenders; and, 3) they used reasonably similar variable definitions, similar outcome measures and similar follow-up periods for tracking recidivism (12-18 months).

PROPOSED "MODEL" RISK ASSESSMENT INSTRUMENT

1. **Total Number of Referrals to Court** ____

1	=	-1
2 or 3	=	+1
4 or more	=	+2

2. **Age at First Referral** ____

16 or older	=	-1
14 or 15	=	0
13 or younger	=	+2

3. **Total Number of Assaultive Offenses/Incidents** ____

0 or 1	=	0
2 or more	=	+1

4. **Peer Relationships** ____

Friends Good Support and Influence	=	-1
Some Negative Influence or Loner	=	0
Strongly Delinquent Peers/Gang Member	=	+2

5. **Substance Abuse** (Drug or Alcohol) ____

No/Some Problem	=	0
Major Problem	=	+2

6. **School Problems** ____

No Truancy or Discipline Problems	=	-1
Some Truancy or Discipline Problems	=	0
Major Problems or Dropped Out/Expelled	=	+3

TOTAL RISK SCORE _____

Risk Classification

-4 to -2 =	Low Risk
-1 to +2 =	Medium Risk
+3 to +7 =	High Risk
+8 or higher=	Very High Risk

Test of the Model Scale in the Three Sites

To test the effectiveness of the model, each sample youth was assessed and classified on the scale. The risk score results were then compared to the actual outcomes of the youth in each site.[4] Generally, the results showed that the model:

- **accurately identified high risk youth. In each site there was a group of "very high" risk youth among whom recidivism rates were 75% or higher.**

- **provided good discrimination between groups with different probabilities of reoffending. In each site the youth identified as "very high" risk were at least twice as likely to reoffend as were those identified as "low risk".**

Felony Recidivism. Figure 1 on the following page shows the results of the model risk scale in each site using the outcome measure of "felony recidivism". The graph shows the proportion of youth in each risk classification that actually recidivated during the follow-up period. To summarize the findings:

- **in the Nebraska sample, the adjudicated youth identified as "very high" risk were sixteen times more likely to commit a subsequent felony offense than those classified as "low" risk (32% vs. 2%);**

- **the Rhode Island youth identified by the model scale as "very high" risk were six times more likely to be rearrested for a felony offense than were the youth identified as "low" risk (76% vs. 13%); and,**

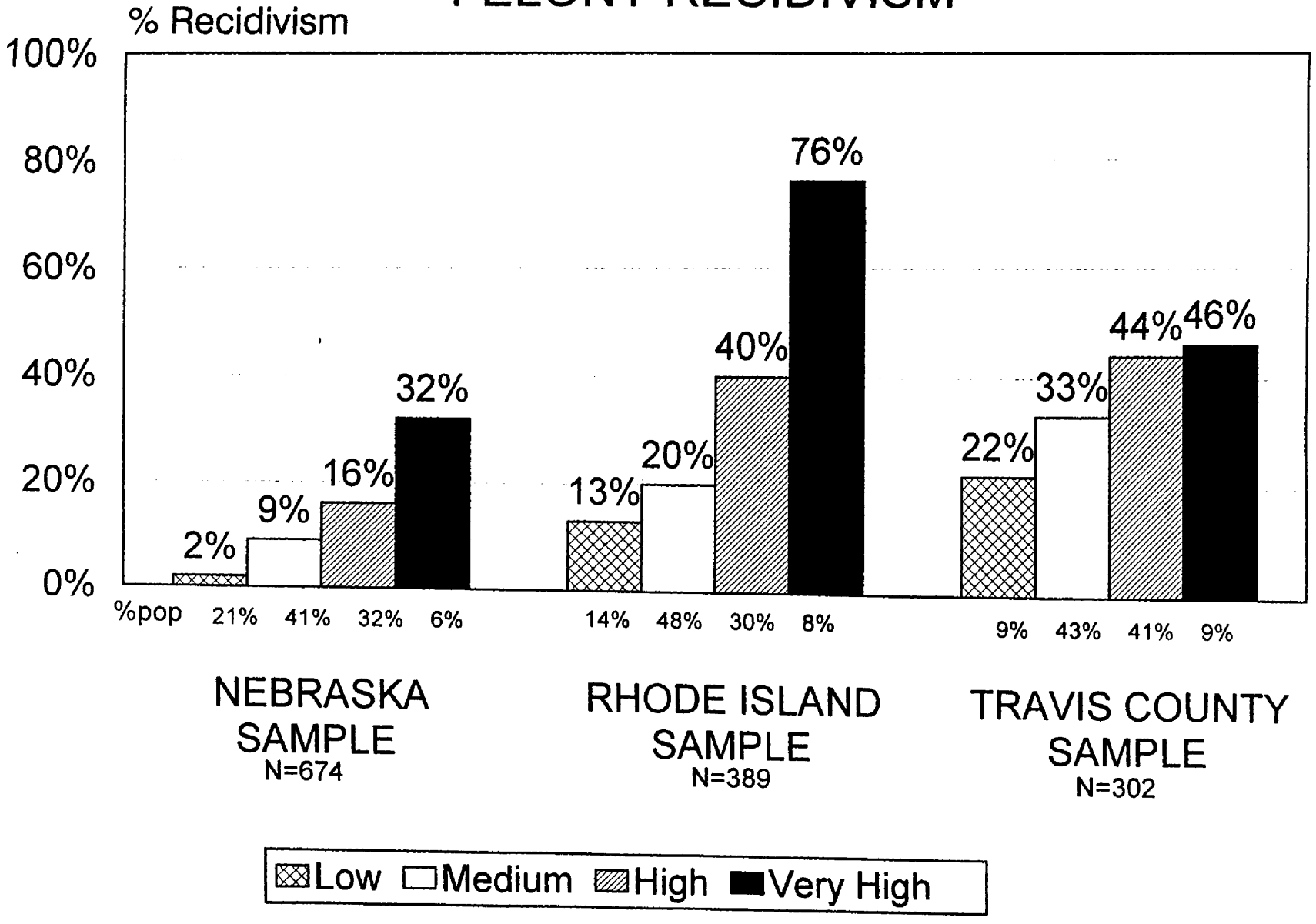
- **in Travis County, "very high" risk youth were twice as likely as the "low" risk juveniles to be rearrested for a felony (44% vs. 22%).**

4. Consistent with the wishes of the HJR 70 study group, two measures of recidivism were used: 1) any rearrest as a juvenile or adult within the follow-up period; and 2) rearrest for a felony offense as a juvenile or adult.

FIGURE 1

VIRGINIA MODEL RISK ASSESSMENT RESULTS BY CLASSIFICATION GROUP AND SITE

FELONY RECIDIVISM



Recidivism for Any Type of Offense. The model scale also served to effectively classify youth in each site according to their likelihood of committing any subsequent offense (data not shown in figure):

- **in Nebraska, very high risk youth were three times more likely than low risk youth to commit any subsequent offense (74% vs. 23%)**
- **in Rhode Island very high risk youth were almost four times more likely to commit a subsequent offense than were low risk juveniles (86% vs. 23%); and,**
- **in Travis County, very high risk youth were twice as likely as low risk youth to commit any new offense (82% vs 41%).**

CONCLUSION

The goal of creating a model risk assessment instrument that would successfully classify offenders in multiple jurisdictions based on their risk of reoffending was largely attained in this developmental effort. In all sites the scale was able to identify a group of very high risk offenders who were at least twice as likely to recidivate as the identified low risk offenders. That the scale worked reasonably well across a variety of jurisdictions should provide Virginia officials with a greater degree of confidence that the scale will work reasonably well in Virginia. Moreover, the items included in this scale are those that are most frequently found in juvenile risk instruments nationally.

RECOMMENDATIONS

1. Undertake the research necessary to validate the model scale on Virginia's delinquent population.

The present study did not test the scale on Virginia youth. Consequently, the extent to which it "works" in Virginia is not known for certain. The tool should be validated through research on the characteristics and outcomes of a large sample of Virginia delinquents. Validation is important because previous risk research has shown that a scale developed in one jurisdiction may not work as well in a different site, due to differences in offender characteristics, system practices, or both. Even if the instrument performs well, the validation research may be able to identify additional predictive variables that would serve to create an even more powerful assessment tool.

2. The HJR 70 study group should consider making available the "model" risk assessment instrument for interim implementation in Virginia.

In spite of the above caveat about the need for validation, NCCD believes that the model scale holds considerable promise and that it could be used on an interim basis. It could provide a simple, structured format for assessing and classifying adjudicated juveniles on the basis of risk. At minimum, the tool could be used by Court Service Units as a basis for classifying probationers into different levels of supervision based on their risk of re-offending. Risk information also could be used by the judiciary as a voluntary, informal aid to decision making at the time of case disposition. While risk should never be the sole criteria used in dispositions, it is a central issue that can inform choices regarding the most appropriate placement along a continuum of sanctions.

3. Use of the model scale and/or a validated instrument must be preceded by thorough training on the rationale for risk assessment, the instrument development process, its limitations and its intended and potential uses.

Comprehensive training is critical to the successful use of any risk instrument. Training on the intended use of the model instrument will be particularly important since - as currently envisioned - there is no clear, formal link between risk results and an indicated case decision. Absent such a link, there is the possibility that staff and/or judges will view risk assessment as a meaningless exercise. Consequently, training will need to emphasize how risk can (informally) inform case decisions and case planning. At the same time, training and general education efforts should address how a validated risk assessment tool could play a central role in disposition and other decisions, if it were incorporated along with other key criteria (e.g. seriousness of current and prior offenses) in a more formal structured decision making system.

DEVELOPMENT OF A RISK ASSESSMENT INSTRUMENT FOR ADJUDICATED JUVENILE OFFENDERS IN VIRGINIA

FINAL REPORT

Submitted to:

The HJR 70 Study Group

NATIONAL COUNCIL ON CRIME AND DELINQUENCY

December 1996

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CHAPTER I
INTRODUCTION

Purpose and Format of the Report.

This report presents the results of a risk assessment research and development effort undertaken by the Virginia Department of Juvenile Justice in response to a 1996 mandate by the Virginia legislature (House Joint Resolution No. 70). HJR 70 specified that :

> The Department shall develop the risk assessment instrument ... for use by juvenile and domestic relations district courts as guidance in determining appropriate dispositions for juvenile felony offenders. (HJR 70, February 8 1996)

This Chapter describes the nature and purpose of HJR 70, briefly discusses the need for formal risk assessment, outlines the activities of the HJR 70 Study Group, and presents the qualifications of the project consultant, the National Council on Crime and Delinquency.

Chapter II incorporates a review of the relevant literature on risk assessment in juvenile systems. The definition, purposes and uses of risk assessment are reviewed and several examples of risk instruments used in other jurisdictions are presented. The chapter also provides an overview of other Virginia-specific risk instrument development efforts.

The development - including methodology and results - of a "model" risk scale for use in Virginia is described in Chapter III. Chapter IV then presents recommendations for the adoption, use and validation of the proposed risk instrument.

Background.

HJR 70 directed DJJ to develop a risk assessment instrument to assist local judges in their sentencing decisions for adjudicated felony offenders. The rationales for the development of a risk instrument were clearly specified in the legislative mandate:

- "state and local secure juvenile facilities have suffered from extreme overcrowding during the last four years,"
- "the overcrowding of secure facilities may have the unintended impact of restricting a judge's use of secure confinement options for some offenders;"
- "a risk assessment instrument is a significant aid to identifying an offender's risk level and subsequent dispositional sentence;"
- "when used on a voluntary basis as an informational tool for judges, risk assessment instruments have the capacity to ensure valid, reliable and equal outcomes for those to whom they are applied;"
- "the use of a risk assessment instrument for juvenile felony cases should be viewed as complementary to the ability to weigh public safety as well as rehabilitative concerns in forming dispositional sentences;"
- "both the Juvenile Justice System Reform Task Force ... and the Governor's Commission on Juvenile Justice Reform have identified the development of a risk assessment instrument as a necessary enhancement to the juvenile justice system" (House Joint Resolution No. 70, February 8, 1996)

As is the case with many other states, Virginia is facing increasing numbers of juvenile offenders - many of them serious, violent or chronic offenders - without concomitant increases in the resources needed to intervene effectively with them. One result has been limited bed space in Virginia's juvenile correctional institutions.

For example at Beaumont - a facility designed for 200 youth - the May 13, 1996 population was 395 juveniles (i.e., almost 200% of capacity). Such population pressures have several ramifications including: 1) a correctional focus on population management (at the potential expense of rehabilitation programming) in the institutional settings; 2) a potential disincentive for the judiciary to use secure care for some offenders, even though it may be warranted; and, 3) the potential for lawsuits.

The problem of escalating caseloads and restricted resources means that juvenile justice agencies must find ways to ensure that all available resources for delinquent youth are used in the most efficient manner. In many jurisdictions, this has meant devising formal risk assessment and classification strategies to ensure that certain types of resources are used only for selected, and clearly defined, offender sub-populations. As the Virginia legislature has recognized, when system procedures do not result in the "right" youth being consistently linked with the intervention designed for them, there are a number of potentially negative consequences including:

- increased risk to public safety, as a result of high risk and/or violent youth being placed in settings that are not sufficiently restrictive to control their behavior;
- inefficient use of system resources resulting from the placement of non-violent or non high-risk youth in overly restrictive settings;
- inequities resulting from the placement of youth with similar offense/risk/need characteristics at different levels of intervention (Wiebush et. al. 1995)

Because of these potential problems, juvenile justice agencies (as well as criminal justice and child welfare systems) have shown an increasing interest in more formalized procedures to assist system officials in their decision making. These have included the use of sentencing guidelines, standardized risk and need assessment instruments, and structured classification systems. It appears that risk assessment and classification strategies are now widespread, if not the norm. Barton and Gorsuch (1988) for example, conducted a survey to determine the extent to which risk assessment tools were being used by state juvenile corrections agencies. Of the responding states (n=37), almost half (47%) used formal risk assessment tools to inform classification decisions. An additional 30% of the agencies had formal classification procedures (that did not include risk assessment tools) and only 22% reported using no formal assessment or classification instruments. One additional measure of the increased use of risk assessment is the number of jurisdictions that have worked with the National Council on Crime and Delinquency to develop, implement or revise risk assessment and classification systems. Between 1990 and 1995, NCCD has been involved with approximately 30 state and local jurisdictions on these issues. As Professor Todd Clear has noted: "The choice is not so much whether or not to use (risk assessment) approaches in corrections, but when and how to use them." (1988, p.3).

The HJR 70 Study Group

To carry out its legislative mandate, the Department of Juvenile Justice convened a group of juvenile justice system officials to provide leadership, input and oversight to the risk instrument development process. Consistent with the legislative mandate, this "HJR 70 Study Group" consisted of judges, representatives from the Virginia Sentencing Commission and the Department of Criminal Justice Services, as well as DJJ administrative, research and field staff. The Study Group took several related steps to fulfill its mission including:

- orienting members to the purpose of HJR 70 and the nature of risk assessment;
- developing and executing a Request for Proposals to identify an expert consultant who would: 1) conduct a literature review on risk assessment; 2) provide training and technical assistance to the Study Group; and, 3) be responsible for the actual development of the risk tool;
- selected the National Council on Crime and Delinquency as the consultant;
- participated in a series of meetings with NCCD that included further training on risk assessment, specification of the parameters of the risk assessment tool, review and comment on draft products and ultimately, approval of an NCCD-developed risk instrument for submission to the legislature.

This process began in late Spring 1996. The consultant was selected in September. The final risk assessment tool was approved in October and the Final Report was completed in December 1996.

NCCD Experience and Qualifications.

NCCD is a private, non-profit research and consulting firm that was founded in 1907. The organization specializes in juvenile justice, criminal justice and child welfare. Agency policy is established by a Board of Directors consisting of national leaders from government, business and academia. The organization is supported by federal and state contracts as well as foundation grants and private contributions. NCCD maintains offices in San Francisco, CA; Madison, WI; and Washington, D.C. Satellite staff are located in Baltimore, Lansing, Lexington, Milwaukee, New York and Phoenix.

In recent years, NCCD has emphasized working with federal, state and county agencies to link research results to policy development and to translate policy into practice. This approach is best represented by NCCD's successful efforts working with juvenile justice, child welfare and adult correctional agencies to design and evaluate programs, implement risk-based classification and case management systems and design management information systems.

NCCD is the nation's leading authority on risk assessment, classification and structured decision making in juvenile justice. Over the past decade, the organization has developed and implemented risk-based classification systems to structure the way in which juveniles are selected for, and transitioned through, various supervision and placement options. These projects have included analyses of custodial and community supervision populations, the assessment and development of guidelines for placement decisions, the development of empirically-based risk assessment

instruments, the development of consensus-based risk assessment tools, the design of needs assessment systems, the computer simulation of correctional populations, and the design of continuums of care. A partial listing of recent projects in these areas - each of which included the design of risk assessment systems - includes:

Risk Assessment for Placement Decision Making and Master Planning

- Arizona Dept. of Youth Treatment and Rehabilitation (1994, 1995, 1996)
- Maryland Department of Juvenile Justice (1996)
- Casey Foundation Detention Initiative (Multi-jurisdiction, 1993)
- Nebraska Division of Youth Services (1993)
- Washington, DC Youth Services Administration (1992)
- Indiana Division of Corrections (1991)
- Rhode Island Department of Children Youth and Families (1991)
- Louisiana Office of Youth Services (1991)
- Delaware Division of Youth Rehabilitative Services (1991)
- Illinois Department of Juvenile Corrections (1990)
- Michigan Department of Social Services (1989)
- Wisconsin Department of Youth Services (1989)
- Oregon Department of Social Services (1987)
- Colorado Division of Youth Services (1984, 1990)

Risk Assessment and Classification for Community Supervision

- Maryland Department of Juvenile Justice (1996, 1994)
- Rhode Island Dept of Children, Youth and Families (1996)
- New Jersey Juvenile Justice Commission (1996)
- Washington, DC Youth Services Administration (1996)
- Travis County (Austin) Texas Juvenile Probation (1995)
- Texas Youth Commission/Parole (1994)
- San Francisco Juvenile Probation Department (1994)
- Maricopa County (Phoenix) AZ Juvenile Probation (1994)
- Milwaukee County Juvenile Probation (1994)
- Washington, DC Juvenile Probation (1994)
- Oklahoma Office of Juvenile Justice (1993)
- Sacramento County Juvenile Probation (1991)
- Ohio Department of Youth Services/Parole (1987)
- Lucas County (Toledo) OH Juvenile Probation (1987)
- Cuyahoga County (Cleveland) OH Juvenile Probation (1987)

The NCCD staff that worked on the Virginia risk assessment project consists of three people who are among the most knowledgeable in the nation on risk assessment research and classification system design and implementation.

Christopher Baird, NCCD Vice-President, is the author of the original risk assessment and classification system for juvenile offenders ("A Model Case Management System for Juveniles", 1984). This seminal work is the basis for all subsequent risk-based classification efforts in juvenile justice. He has conducted risk assessment research and helped design classification systems in scores of juvenile (and adult) agencies over the past 15 years. Mr. Baird was the Project Director for the present project.

Richard Wiebush (the Project Manager) is the author of the monograph "Risk Assessment and Classification for Serious, Violent and Chronic Juvenile Offenders." This monograph is the basis for all assessment and classification policies and procedures in the OJJDP "Comprehensive Strategy for Serious Violent and Chronic Juvenile Offenders". He has designed and implemented risk assessment and classification systems in 10 juvenile corrections agencies nationwide.

Dr. Dennis Wagner is the Director of Research for NCCD and served as the technical consultant for the Virginia risk instrument development. He is the leading national authority in the development of empirically-based risk assessment tools for juvenile and criminal justice populations as well as for child welfare. He has conducted risk research for over 20 agencies.

CHAPTER II
BACKGROUND ON RISK ASSESSMENT AND CLASSIFICATION*

Definition of Risk Assessment and Classification.

Broadly defined, risk assessment and classification in juvenile justice refers to the process of estimating an individual's likelihood of continued involvement in delinquent behavior and making decisions about the most appropriate type of intervention given the identified level of risk. Classification decisions based on risk assessment are made at all levels of system processing including reporting, arrest, intake, detention, prosecution, disposition and placement. For example, in making detention decisions, intake staff attempt to assess juveniles' dangerousness to the community (or themselves) and the likelihood that they will fail to appear for a subsequent court hearing. Judges routinely weigh issues of offender risk when determining whether a youth should be placed on probation, in secure care, or into some type of intermediate sanction. Correctional facility staff must assess an offender's propensity for escape, suicide and/or assaultive behavior in making security and custody decisions. In each of these instances the assessment of risk and other factors lead directly to a "sorting" of juvenile offenders i.e., a classification decision. As Glaser (1987, p. 251) has noted:

> Risk assessments always involve case classification since the person about whom a judgement must be made is implicitly or explicitly equated with others in a more or less clearly conceived group who are categorized as relatively safe or dangerous individuals.

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* This Chapter relies heavily on Wiebush et. al. 1995 "Assessment and Classification for Serious, Violent and Chronic Juvenile Offenders."

Historically, risk assessment and classification have been informal, highly discretionary procedures carried out by individuals who have varying philosophies, different levels of experience and knowledge and who use dissimilar criteria in the assessment process. Such informal procedures have been criticized as resulting in decisions that potentially are: 1) erroneous; 2) inconsistent; 3) inequitable; and, 4) lacking accountability because of the "invisible" rationale and criteria used by the decision maker (Baird 1984; Clear 1988; Glaser 1987). As noted previously, such informal decision making also frequently results in the misallocation of scare correctional resources by failing to accurately match youth characteristics with the level of security/supervision and/or the types of programs intended for them.

Rationale and Goals of Risk Assessment and Classification.

There are two primary rationales underlying the use of formal assessment and classification systems. They are: 1) to provide greater validity, structure and consistency to the assessment and decision making processes; and 2) to more efficiently allocate limited system resources by targeting the most intensive/intrusive interventions on the most serious, violent and chronic offenders. Ultimately, the **goal of risk assessment is to provide greater public safety by more accurately identifying high risk offenders and focusing resources on them**.

Structure and Consistency.

Traditional approaches to decision making in juvenile justice have been characterized as highly discretionary, subjective and intuitive. The information selected to assess any particular case, and how that information is evaluated varies across individual decision makers not only according to their philosophy and experience, but also according to their assumptions about what factors are most relevant to the decision being made (Wagner, 1992). Variation in assessment and classification criteria results in inconsistency across decision makers and ultimately unequal treatment for similarly-situated offenders.

Structured assessment procedures are designed to address this problem by identifying a limited number of factors known or believed to be the most relevant to the decision being made and incorporating them into a simple, standardized format (i.e. a "tool"). The assessment instrument is then applied to all cases by all decision makers and the results are used to classify offenders according to predetermined decision rules (e.g., everyone with a score of 20 or more points is to receive secure placement).

This type of instrument has several benefits. First, it ensures that the same factors are taken into account by all decision makers in all cases, thereby creating greater consistency in the assessment process. Second, the results of the assessment directly inform the classification decision. This means that classification and case handling decisions are more objective and equitable. Third, unlike subjective methods where it is not possible to know how the decision was reached, the rationale

for any decision is rendered visible and explicit. Ultimately this makes both the individual decision maker and the agency more accountable. Finally, because these instruments use a limited number of relatively objective criteria, they are easy to complete and can expedite the decision making process.

Optimized Resource Allocation.

The second major rationale for the use of structured assessment and classification is that it provides a mechanism for more efficient allocation of system/agency resources. Clearly, all juvenile offenders arrested by the police do not need to be detained; all those placed on probation do not need intensive supervision; and all those adjudicated delinquent do not need to be placed in secure care. While differential intervention is a hallmark of juvenile justice, the issue is that traditional, unstructured classification methods lead to interventions that have questionable congruence with more objectively determined levels of "risk" or "seriousness." The result is that truly high risk offenders may not get the level of intervention required to protect public safety, while other, lower risk offenders may receive overly intrusive and expensive interventions. In either event, assessment and classification systems that result in inappropriate placements represent serious inefficiencies in resource allocation.

The results of a recently completed study illustrates these problems. It involved an analysis of the offense histories and risk characteristics of the training school populations in 14 different states (Krisberg et. al. 1993). In each of these states,

researchers had worked with juvenile justice officials to develop a structured risk assessment tool that incorporated the key factors (determined by consensus) in placement decision making. The identified factors reflected an emphasis on public safety concerns and included measures of offense seriousness, offense history and risk of recidivism. The researchers then applied the instrument to the actual training school population to determine the proportion of incarcerated youth who, according to the guidelines: 1) required long-term placement in a secure facility; or, 2) required short-term secure care (1-3 months) followed by movement to a less restrictive setting; or, 3) could be placed directly into a community-based setting. The results showed that in every state at least one-third of the training school population scored "low" or "medium" on the scale and therefore did not require long-term stays in secure care. If these states' placement decisions were made strictly based on the agreed-upon public safety criteria, far fewer youth would be assessed as requiring secure care. Moreover, since states commonly spend between $35,000 and $60,000 per year to incarcerate a youth (Camp and Camp 1990), the reductions in training school placements would translate into considerable cost savings. These savings in turn could be used to develop alternative intervention programs.

Types of Risk Assessment Instruments

There is a wide variety of tools currently used to assess and classify juvenile offenders. The instruments vary by their purposes, structure, content, and the methods used to develop them. This section provides an overview of the key characteristics of

the most frequently used risk assessment instruments and discusses their similarities and differences.

Empirically-Based Risk Assessment Instruments

Empirically-based risk assessment instruments refer to those scales that: 1) are designed to estimate the likelihood that an identified juvenile offender will subsequently commit another offense within a specified follow-up period (e.g., 18-24 months); and, 2) are based on the statistical relationship between youth characteristics and recidivism. These instruments generally are used to determine the level of supervision for probationers and parolees, although they have also been integrated into classification systems used for sentencing/placement decisions. Their purpose is to serve the correctional goal of ensuring public safety by identifying those youth who are most likely to re-offend and providing those youth with appropriate levels of supervision or custody. In short, they are concerned with risk control.

While there are two basic approaches to risk assessment - actuarial and clinical - our definition and focus excludes the latter type. There are two reasons for this. First, clinical predictions are typically based on the interpretation and judgement of staff and are not organized in a structured format. Second, clinical risk assessment repeatedly has been demonstrated to be less accurate than empirically-derived tools (Dawes et. al. 1989; Meehl 1954; Monahan 1981).

The actuarial approach to risk assessment is similar to that used to determine automobile insurance rates. Historical data on offender (or driver) characteristics and

outcomes (new offense; accidents) are analyzed to determine that set of characteristics most closely correlated with negative outcomes. Once those factors have been identified, all newly referred offenders (or drivers) are assessed to determine the extent to which their characteristics are similar to those who have had low, medium or high failure rates in the past. In other words, the individual's future behavior is estimated based on the known outcomes of a group of individuals with similar characteristics (Baird 1984; Wagner 1992).

Since risk instruments are based on group data, their utility is rooted in knowing aggregate outcomes rather than on the accuracy of prediction at the individual level. The field's ability to predict an individual offender's behavior is extremely limited. Even the best risk assessment instruments still result in substantial prediction errors. Many identified high risk offenders never go on to commit another crime while many low risk offenders do. It is for this reason that the corrections field has shifted the goal emphasis in risk assessment from "prediction" to "classification". The classification goal suggests that the key issue in risk assessment is the extent to which it is able to identify groups of offenders with widely different rates of reoffending. Well-designed instruments are typically able to identify a group of high risk offenders whose probability of recidivating is four or five times greater than the identified low risk offenders. For example, in an instrument developed for the state of Michigan, the recidivism rate among Wayne County (Detroit) high risk juvenile offenders was 76%, while that found among medium and low risk offenders was 39% and 19% respectively (NCCD 1990). This ability to discriminate risk potential for different sub-

groups of offenders provides the basis for targeting interventions and resources on those at the highest level of risk while concomitantly reducing efforts for those at the lowest level (Baird 1991; Clear 1988).

Example Risk Instrument and Results. The results of recently completed risk assessment work in the State of Rhode Island (NCCD 1995) provides an example of how empirically-based risk tools discriminate among offenders with varying degrees of risk. (This particular example also shows how empirically-based tools are superior to those developed using consensus methods.)

NCCD was asked to validate Rhode Island's consensus-developed risk instrument (which is used to determine level of supervision for probationers and parolees). Data on a variety of youth characteristics (e.g., number prior referrals, age at first adjudication, substance abuse, peer relationships) were gathered on a sample of 389 youth admitted to probation/parole during 1993. Risk scores from the (original) risk instrument were also collected. Each youth was tracked for an 18-month follow-up period to determine the extent and nature of recidivism. Recidivism was then compared to the youth's risk classification to determine how well the Rhode Island tool identified high risk youth and was able to discriminate between high, medium and low risk cases. The results of this "test" of the Rhode Island tool - using felony recidivism as the outcome measure - are shown in Figure 2-1 on page 18.

The youth identified as high risk were twice as likely as those identified as medium or low risk to have a subsequent felony offense (49% vs 21%) during the 18

month follow-up period. While the scale worked reasonably well to identify high risk cases, it was unable to discriminate between medium and low risk cases (since both groups had identical 21% felony recidivism rates.)

NCCD then reanalyzed the data on the relationship between youth characteristics and outcomes to devise a new, more effective, risk instrument. This effort proved quite successful, as shown in Figure 2-2 on the following page. The new risk scale identified a group of youth who had "very high" felony recidivism rates (63% recidivism) and who were seven times more likely to recidivate than the identified low risk group (9% recidivism). Note also the extent to which the revised risk scale discriminated between all four risk classification sub-groups.

The revised Rhode Island risk scale is shown on page 19. Five of the eight items on the original (consensus) scale were retained on the revised (empirical) scale. These included age at first adjudication, prior placements, school behavior, substance abuse and peer relationships. However, NCCD's analysis identified eight other risk predictors that were included on the revised scale. These items were number of prior referrals, prior VOPs, prior runaways, number of offenses in the current adjudication, prior assaults, special education status, history of abuse/neglect and parent incarceration.

Figure 2-1

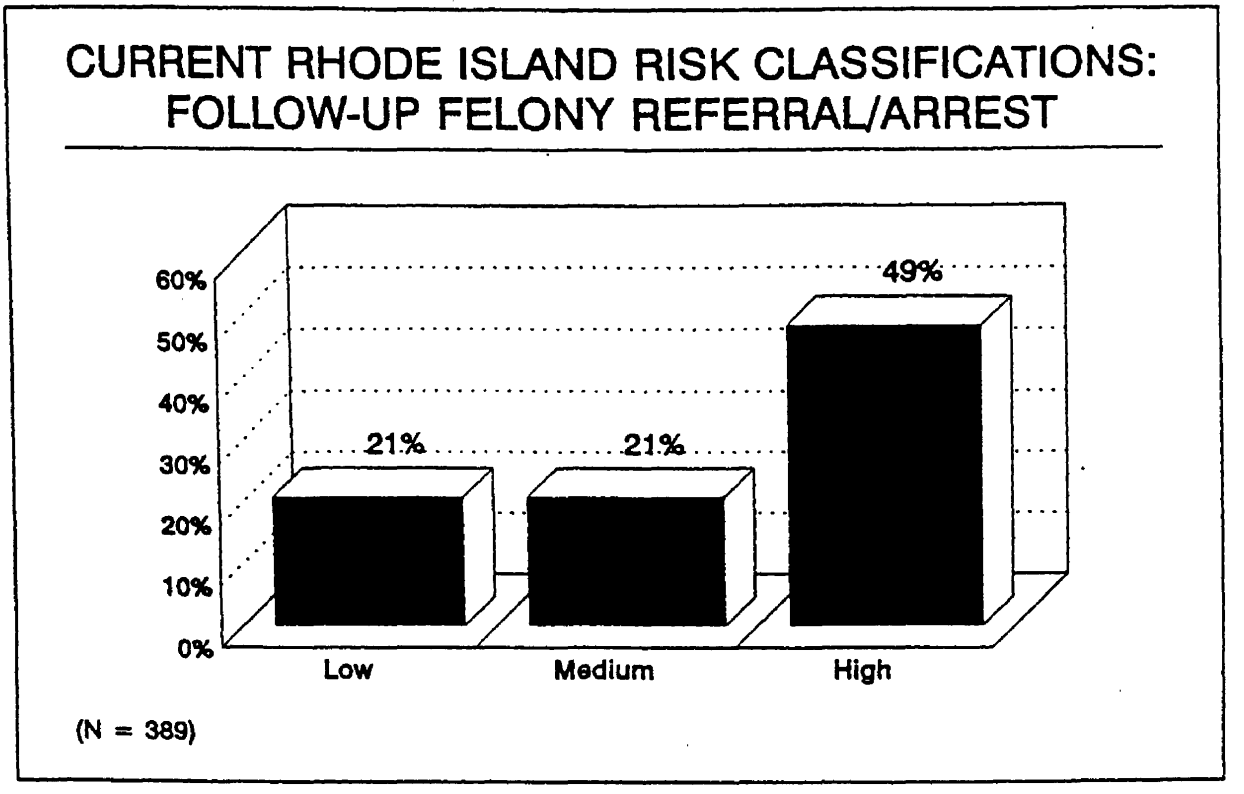
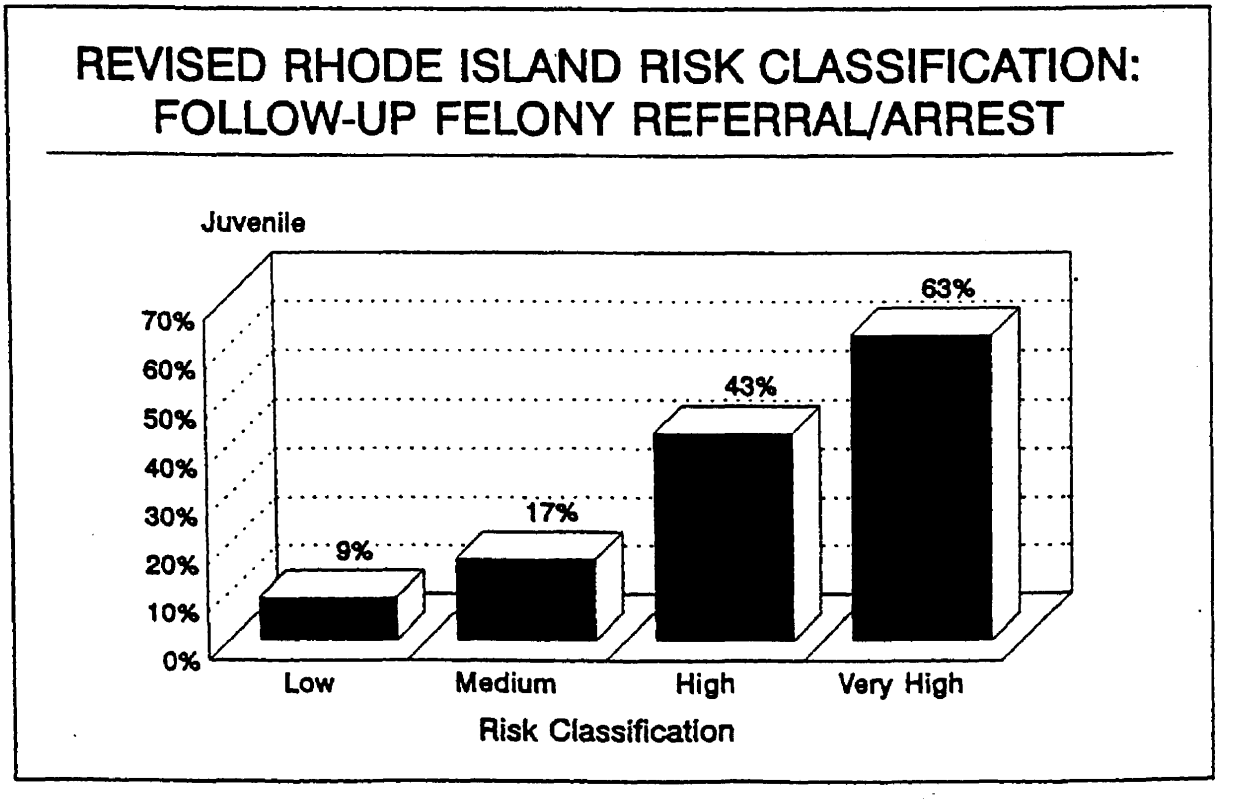


Figure 2-2



RHODE ISLAND JUVENILE RISK ASSESSMENT

Name: _____ DOB: ____/____/____ Court ID#: _____

Worker: _____ Office: _____ Assessment Date: ____/____/____

		Score
R1.	**Prior Referrals to Intake** (includes current)	
	a. One ..... -1	
	b. Two or three ..... +1	
	c. Four plus ..... +2	_____
R2.	**Prior Referrals Violations of Probation/Parole**	
	a. None 0	
	b. One or more ..... +1	_____
R3.	**Age at First Adjudication**	
	a. 16 or older ..... -1	
	b. 14 to 15 years 0	
	c. 13 or younger ..... +2	_____
R4.	**Prior Institutional Commitments or Placements**	
	a. None or one placement 0	
	b. Two plus placements or One plus correctional commitments ..... +1	_____
R5.	**Prior Runaways**	
	a. None or one 0	
	b. Two plus ..... +2	_____
R6.	**Number of Offenses in Current Adjudication**	
	a. One or two 0	
	b. Three or more ..... +1	_____
R7.	**Prior Incidence of Assault**	
	a. None or one 0	
	b. Two plus ..... +1	_____
R8.	**Recent School Behavior Problems**	
	a. None or minor ..... -1	
	b. Suspended one or two times ..... +2	
	c. Suspended three plus times or expelled ..... +3	_____
R9.	**Attending Special Education Classes or Diagnosed as Needing Special Education**	
	a. No 0	
	b. Yes ..... +1	_____
R10.	**Substance Abuse**	
	a. None/ Experimentation/Minor disruption 0	
	b. Major disruption of functioning ..... +2	_____
R11.	**Peer Relationships**	
	a. No identified problem ..... -1	
	b. Some problems with interactions ..... +1	
	c. Not age appropriate/No friends ..... +1	
	d. Negative influence; Companions involved in delinquent behavior ..... +2	_____
R6.	**History of Abuse or Neglect?**	
	a. No 0	
	b. Yes ..... +2	_____
R7.	**Parent Incarcerated in last Three Years?**	
	a. No 0	
	b. Yes ..... +2	_____
	TOTAL RISK SCORE	_____

Total Risk Score	Risk Classification (check)	
-4 to -2	Low	_____
-1 to +5	Medium	_____
+6 to +8	High	_____
+9 to +21	Very High	_____

Risk Predictors. A core set of variables has been identified repeatedly in the research literature as recidivism predictors for juvenile offenders. These include age at first referral/adjudication, number of prior referrals/arrests, number of out-of-home placements or institutional commitments, academic achievement, school behavior and attendance, substance abuse, family stability, parental control, and peer relationships, among others (Baird 1984; Farrington 1983; Farrington and Hawkins 1991; Hawkins et. al. 1992; NCCD 1990; NCCD 1995). In developing his "model" risk assessment tool, Baird (1984) found that the factors identified above provided the best prediction model for a large sample of probationers and parolees in five different sites. However, an examination of research-based risk instruments currently in use shows that there is also a great deal of variation in some of the predictive items. This indicates that there are site-specific factors that influence either recidivism or the measurement of it, and therefore that an instrument developed in one site may not be transferable to another jurisdiction without validation by the adopting agency (Wright, Clear and Dickson, 1986).

Figure 2-3 on the following page compares the risk items found on empirically based scales in eight different jurisdictions. This figure clearly illustrates both the commonality of some risk factors across jurisdictions and the variation across sites in the applicability of other risk factors.

Fi 2-3

COMPARISON OF RISK PREDICTORS IN EIGHT JURISDICTIONS

RISK ITEM	BAIRD MODEL RISK	COUNTY SYSTEMS				STATE SYSTEMS		
		Calhoun	Cobb	Cuyahoga	Lucas	Indiana	Michigan	Wisconsin
Age 1st Referral	x		x	x	x	x	x	x
Number Priors	x		x			x	x	x
Current Offense		x		x	x		x	
Prior Assault	x							x
Prior O/H	x					x	x	x
D/A Abuse	x		x	x	x	x	x	x
School Problems	x	x	x	x	x	x	x	x
Special Ed.					x			
Peers	x	x	x		x	x		x
MH Stability								x
Family Problems/ Parent Control	x	x	x	x	x	x		
Runaway				x			x	x
Victim Abuse/ Neglect				x				x
Gender		x		x	x			
Prior Supervision Adjustment			x			x	x	
Other				x	x			

Risk and Offense Seriousness. In discussions of risk assessment there is often confusion about the relationship between risk and offense seriousness, in terms of: 1) whether the seriousness of the presenting offense is predictive of subsequent recidivism; and, 2) whether risk assessment instruments can predict violent behavior.

Policy makers and practitioners frequently assume that youth who commit serious or violent offenses are more likely to recidivate than those who do not. However, risk research has usually found that the seriousness of the current offense is not highly correlated with, and is often inversely related to, a negative outcome (Clear, 1988). Note that of the eight instruments reviewed above, just four included seriousness of the current offense as a predictive item. On two of these four scales (Calhoun and Cuyahoga), youth who committed felony offenses (but not necessarily violent offenses) were found to have higher recidivism rates than those who committed misdemeanor offenses. However on the other two scales that incorporated this measure, seriousness was inversely related to recidivism. In Lucas County, a misdemeanor offense had a stronger relationship to recidivism than did a felony offense. And in Michigan, non-assaultive offenses were predictive, while assaultive offenses were not. Based on the literature and these scales, it appears that: 1) offense seriousness when measured by violence is not predictive; and, 2) when measured by the felony-misdemeanor dichotomy, seriousness is generally not a predictive item although it has been found to be in some sites.

The second area of confusion is whether risk instruments predict "dangerousness". Since it is much more difficult to predict recidivism for a specific

type of crime than it is to predict recidivism generally, most instruments are designed for the latter purpose only. The problem with predicting violent behavior is that the proportion of youth in any given juvenile offender population who go on to commit a violent offense is quite low (usually less than 10%). This low "base rate" means that it is difficult to identify with statistical certainty those characteristics that serve to discriminate between those who do and do not go on to commit violent offenses (Clear 1988). This technical problem means that most scales are developed using more general outcome measures such as any re-arrest or re-adjudication, or felony rearrest or readjudication, rather than the specific measure of "arrest for a violent crime". Consequently the identification of an individual as "high risk" does not mean that they are more likely than other offenders to commit a violent crime.

Placement or Custody Assessment Instruments

The second type of assessment tool that is widely used is what may be referred to as a "placement assessment" or "custody assessment" instrument. While often described as "risk assessment" tools, their purposes go beyond that of simply assessing the offender's likelihood of committing a new offense. As a result, they incorporate different assessment domains. While frequently including some predictive items, they are generally driven by policy considerations (e.g., offense seriousness) rather than research results. This type of instrument may be used in several different ways:

- o as a screening tool to determine whether a youth should be placed into detention pending an adjudicatory hearing;
- o as a guide for judges or state corrections officials in determining the appropriate placement or level of security;
- o as a method for determining the custody needs of incarcerated youth

The factors incorporated in placement or custody decision making instruments are different from those found in risk instruments because the goals of the assessment and classification process are different. For example, in making placement decisions, judges and corrections officials must assess the juvenile's likelihood of re-offending, but they also need to consider "just desserts" and public sensitivity issues. As a result, instruments designed to guide the selection of an appropriate placement typically include measures of current and prior offense severity. They also give these items relatively greater weight than any predictive factors that may be included in the scale. If a "pure" risk instrument were used to guide placement decisions, it would not capture several dimensions that are relevant to the decision.

Examples of Custody Assessment Tools.

Two examples of risk assessment tools that are used to structure placement decisions are shown on the following pages. They represent two distinct approaches. The Alabama example is a custody decision tool that was developed on a consensus basis by a cross-section of that state's juvenile justice system policy makers and practitioners. It was designed for use by the state corrections agency to determine the most appropriate level of security for youth committed to the agency (DeMuro and

Figure 2-4
ALABAMA DIVISION OF YOUTH SERVICE RISK SCREENING TOOL
(1989 Version)

1. Most Serious Instant Offense ____
   - Class A Felony = 10
   - Class B Felony = 7
   - Class C Felony = 4
   - Misdemeanors = 2
   - Violations = 1

2. Most Serious Prior Offense ____
   - Class A Felony = 7
   - Class B Felony = 5
   - Class C Felony = 2
   - Misdemeanors = 1
   - Violations = 0

3. Prior Felony Adjudications ____
   - 3+ Felonies in past 2 years = 5
   - Else = 0

4. Age at First Adjudication ____
   - 12 or younger = 1
   - 13 or older = 0

5. Instant Offense Gang-Related ____
   - Yes = 1
   - No = 0

6. Pattern of Violence to Women ____
   - Yes = 1
   - No = 0

7. Instant Offense Involved Substance Abuse ____
   - Crack, Cocaine, Heroin = 2
   - Other = 1
   - None = 0

8. Prior Out-of-Home Placement for Delinquency ____
   - Yes = 1
   - No = 0

10+ = Eligible for Secure Care
0-9 = Eligible for Alternative Placement

Butts 1989). High risk youth are presumed to require secure care while other youth are presumed to be eligible for alternative, less restrictive placements. The tool incorporates both offense severity and risk items, with greater weight given to the seriousness of the current and prior offenses.

In contrast, the Michigan instrument (NCCD 1990) uses both offense severity and the results of an empirically based risk scale in a matrix approach. The value of this approach is that it clearly distinguishes between - and treats separately - two primary sentencing concerns: just desserts (current and prior offense severity) and risk control (the risk scale). Moreover, the risk factors were derived through research - rather than consensus - thereby assuring the scale's validity.

This instrument, while originally developed to guide state agency placement decisions for the committed population, has recently been adopted for use at the time of disposition by some Michigan juvenile courts. The Michigan matrix approach also differs from the Georgia custody assessment scale in that it can more precisely and explicitly tie several different combinations of seriousness/risk to an indicated level of custody (as opposed to the Alabama scale where it is not immediately clear what combination of factors is driving the placement decision).

Figure 2-5
MICHIGAN INITIAL SECURITY MATRIX FOR DELINQUENCY

MOST SERIOUS COMMITTING OFFENSE	PRIOR CLASS I OR II ADJUDICATION?	RISK OF REOFFENDING		
		Low	Medium	High
Class I or II	Yes	High Secure	High Secure	High Secure
	No	Medium Secure	Medium Secure	High Secure
Class III	Yes	Low Secure	Medium Secure	Medium Secure
	No	Community Based	Community Based	Low Secure
Class IV or V	Yes	Community Based	Community Based	Low Secure
	No	Community Based	Community Based	Community Based

Prior Risk Assessment Development Efforts in Virginia.

Since 1990, there have been several risk-related research projects undertaken in Virginia. Most of these projects however have had different purposes and target populations than the HJR 70 risk assessment project. These related studies are highlighted below.

Virginia Criminal Sentencing Commission.

The Sentencing Commission was awarded a grant in 1995 to develop an empirically-based risk assessment scale to assess likelihood of reoffending among adult felony offenders. This project was initiated in response to a directive from the General Assembly in September 1994. The intent is to use the scale in conjunction with the sentencing guidelines. The rationale for the use of this instrument is virtually identical to that of the HJR 70 risk assessment tool i.e., to more accurately identify offenders with varying degrees of risk so that limited resources (prison beds and alternatives) can be used in a more efficient and effective manner (Kern 1995). The intended use of this scale, its rationale, and its' empirical basis all mean that it can be thought of as the adult counterpart to the present risk assessment effort. The Sentencing Commission's risk instrument has not yet been completed.

DJJ Risk Assessment for Committed Youth.

In 1995, the Department of Criminal Justice Services awarded a grant to DJJ to develop an empirically-based risk tool for youth committed to DJJ. The intent is to use

the tool to classify youth on the basis of their likelihood of committing: a) subsequent violent offenses and b) subsequent non-violent offenses. The scale will help identify which youth might be appropriate candidates for intensive parole supervision and will also be used to identify risk factors that can be addressed through interventions while youth are in the institutional phase of commitment (Brock 1995). This developmental effort is similar to the HJR 70 work because its purpose is to classify youth on risk dimensions. It is different from the HJR 70 study in that it has a different target population (i.e., committed youth instead of adjudicated youth). Currently, the project is in the final phase of data collection and analysis.

Another DJJ development is related to this project. In the summer of 1996, the Department decided to adopt an empirically-based scale that was originally developed in Michigan. This instrument is currently being used to identify high risk parolees for placement into DJJ intensive supervision caseloads. This tool will be used on an interim basis, pending completion of the risk tool described above.

DJJ Risk Assessment for the Intensive Parole Program.

Virginia is currently one of four sites nationally that is testing the viability of a model intensive parole program for high risk juvenile parolees. The model was developed by Altschuler and Armstrong (1994) and is funded by OJJDP. The model specifically targets high risk parolees and required each site to develop a research-based instrument to identify these youth. In 1992, prior to implementation, DJJ developed the risk tool using a sample of approximately 200 parolees. This

instrument continues to be used for its original purpose. (It is not used however, to classify or differentially supervise other, non-high risk parolees.)

Risk Assessment for Adjudicated Youth.

In the early 1990's a project was undertaken to design and implement: 1) a risk assessment scale for adjudicated youth to identify high risk offenders; and, 2) a "restrictiveness" classification instrument intended to guide commitment decisions for adjudicated youth. This research and development effort was conducted by Dr. Donna Towberman from Virginia Commonwealth University (Towberman 1990) in conjunction with the courts and DJJ. The two instruments were piloted in six Virginia counties and subsequently evaluated by a DJJ "Risk-Needs Steering Committee". For a number of reasons - including the cumbersome nature of the tools, the fact that the application of the risk scale did not lead to any decision and the inappropriate use of a committed sample for developing a risk tool to be applied to an adjudicated population - this project was considered a failure. The evaluation results led the Risk-Needs Steering Committee to recommend against full implementation of any of the scales (Risk-Needs Steering Committee 1993).

CHAPTER III
DEVELOPMENT OF THE VIRGINIA MODEL RISK SCALE

Key Decisions Made by the HJR 70 Study Group.

The HJR 70 study group made several key decisions that heavily influenced the risk assessment development process.

First, the group made clear that the term "risk" was intended to mean risk of re-offending. This meant that the intended purpose of the Virginia scale was to classify adjudicated youth based on their likelihood of future recidivism, rather than on the seriousness of offenses already committed.

Second, the study group decided that a research-based model was preferable to one developed through a consensus-building approach. In the latter process group members reach agreement about what factors they believe are important in assessing risk. While appropriate for the development of policy-based custody assessment tools, concensus building is an inappropriate method for developing scales designed to predict risk of re-offending.

Third, the group also decided that it did not want to simply adopt an empirically-based scale developed in another jurisdiction. In developing a validated risk scale, it is necessary to analyze the characteristics and outcomes of the youth in the jurisdiction for which the scale is being developed. While there are certain predictor variables that apply in most jurisdictions, previous research has also shown that each jurisdiction has some unique variables that serve to increase the predictive and classification power of the risk tool. Using the local population insures a "best fit" between the scale and the

youth it is used to assess.

However, due to the abbreviated time frame for development of the Virginia instrument (about 4 months), it was not possible to conduct the research necessary to develop and validate a risk tool using the characteristics and outcomes of Virginia delinquents. As a result, the HJR 70 study group opted to pursue the development of a "model" empirically-based scale, as recommended by NCCD in its proposal. (See below.)

A final important decision concerned the population to be assessed using the risk instrument. Although HJR 70 specified that the risk tool was to be used for felony offenders, the study group felt that risk assessment is an important function in all cases and that a well-designed tool that worked well for all offenders would have greater utility to probation staff and the courts. This sentiment was discussed with the primary sponsor of HJR 70, who agreed to support this more inclusive function.

METHODS

Overview

The idea of a "model" scale is that if a certain core set of risk predictors can be identified that "work" in several other jurisdictions, they should also work reasonably well when applied to Virginia's delinquent population.

The basic NCCD approach to creating and testing a "model" risk scale was to:

- o identify a set of jurisdictions for whom NCCD had recently developed empirically-based risk scales;

- identify the risk variables that were common to each of the selected sites;
- use only those variables to create a new scale;
- test this new, "model" scale for its predictive and classificatory ability by applying it to the sample youth in each of the original jurisdictions.

Although the idea of a model scale was originally presented as one option for the study group to consider, the appeal of a research-based instrument that worked across multiple jurisdictions resulted in this approach becoming the preferred development strategy. The group endorsed this approach recognizing that there can be no guarantee that a "model" scale will work well in Virginia, and that Virginia would still need to validate the tool on its juvenile offender population.

Site Selection.

The NCCD research sites that were selected to inform development of the model scale were the states of Nebraska and Rhode Island, and Travis County (Austin) Texas. These jurisdictions were selected for several reasons, including:

- they represented geographical diversity;
- they included urban, suburban and rural jurisdictions;
- the instruments were based on research on samples of all adjudicated juvenile offenders (as opposed to training school populations);
- the research was conducted within the past two years; and,
- the sites used reasonably similar item definitions (on the common variables), similar outcome measures (subsequent arrests of any type and subsequent felony arrests), and similar follow-up periods for tracking recidivism (12-18 months).

These three sites represented a total sample of 1,365 adjudicated youth. These

included 674 delinquent youth from Nebraska, 389 Rhode Island juvenile offenders and 302 delinquents from Travis County. The original risk scales from these three jurisdictions are shown in Appendix A.

Identification of Variables Common to All Three Risk Scales.

The first step was to examine the original scales to determine the extent to which there were variables common to all. These items were:

- number of referrals
- age at first referral/adjudication
- peer relationships
- substance abuse and
- school problems

These five variables became the basis for the "model" tool. A sixth variable - "number of assaultive offenses/incidents" - appeared on two of the scales but not on Travis County's. To determine whether this item might be included on the model scale, NCCD re-examined the offense history items in the Travis County data base. We were able to create a variable (two or more assaultive offenses) and examine its relationship to recidivism in that sample. This analysis showed that the 2+ assaultive offenses variable did provide some discrimination between success and failure in that site. As a result it was selected for inclusion in the model scale.

Outcome Measures.

Consistent with the wishes of the HJR 70 study group, two measures of recidivism were used throughout the development of the model risk tool:

- o any rearrest as a juvenile or adult within the follow-up period; and
- o rearrest for a felony offense as a juvenile or adult within the follow-up period.

Use of both measures did not pose a problem since NCCD had used both these outcome measures in the development of each of the three scales. Note however that there were differences across the scales in the follow-up period employed. Travis County's follow-up was twelve months while an 18 month period was used in both Nebraska and Rhode Island. No attempt was made to standardize these periods across sites.

Standardizing Item Values and Weights.

The specific values and weights associated with each of the variables differed somewhat across sites. For example in Rhode Island and Travis County, the "age at first referral" variable had a value of "13 and younger", while in Nebraska the corresponding value was "12 and younger". Similarly, the scales had different groupings for the number of prior offenses. The Rhode Island "cuts" were 1 vs. 2 or 3 vs. 4+, while the Nebraska scale divided priors by 1 vs 2+ and the Travis County configuration was 1-3 vs. 4 vs. 5+.

To address these differences, NCCD conducted a series of analyses to see which standardized value definition would work best across all sites. Obviously, the standardization process resulted in some loss of discriminatory power in some sites for each of the variables that required standardization (since the original item "cuts" had been selected because of their ability to separate high, medium and low recidivism rates in each site). Nonetheless, as will be shown below, the variables were able to withstand this tinkering and still produce an effective model scale.

Similar standardization problems had to be addressed with respect to the weights associated with each variable (relative to the other variables) and to the weights associated with item values. The relative weight given to each variable on the model scale resulted from a comparative analysis of each variables importance on the original scales. If an item consistently had a relatively high weight on the original scales, it was given a relatively high weight on the model (e.g., school problems, delinquent peers). The model weights given to the specific values for each variable were also determined by comparing value weights across the original scales. In some cases this was a straightforward process. For example, on all three scales, those first referred at age 16 or older had a weight of -1, while those first referred at 13 or younger had a weight of +1.

In all cases where variable and/or item weights were dissimilar, NCCD conducted a series of analyses in an iterative fashion to determine which standardized weight would provide the best discrimination (in terms of recidivism) across sites. These several analyses resulted in the identification of a preliminary "model" scale.

Relationship Between Model Risk Score and Recidivism.

The next major step was to assess all youth in each site using the model scale (i.e., score them on the instrument) and to examine the relationship between risk scores and recidivism. Two important findings emerged. First, in each site, higher risk scores were associated with increasing levels of recidivism. This finding indicated that in a general way, the model scale "worked". Second, the "natural" classification cut-off scores (i.e., those points on the risk score continuum used to divide the sample into low, medium and high risk sub-groups) differed from site to site. To insure standardization on this issue, NCCD conducted additional analyses to determine the common cut-off scores that would provide the best results for all three sites and for both outcome measures.

RESULTS

These several steps resulted in a "model" risk assessment tool that is shown on the following page. The six item scale has a potential scoring range from -4 points to +12 points. The risk score/recidivism analysis showed that in each site there were four distinct groups of youth with differing probabilities of recidivism. Consequently the classification scheme consists of four levels: low risk, medium risk, high risk and very high risk.

PROPOSED "MODEL" RISK ASSESSMENT INSTRUMENT

1. **Total Number of Referrals to Court** ____

1	=	-1
2 or 3	=	+1
4 or more	=	+2

2. **Age at First Referral** ____

16 or older	=	-1
14 or 15	=	0
13 or younger	=	+2

3. **Total Number of Assaultive Offenses/Incidents** ____

0 or 1	=	0
2 or more	=	+1

4. **Peer Relationships** ____

Friends Good Support and Influence	=	-1
Some Negative Influence or Loner	=	0
Strongly Delinquent Peers/Gang Member	=	+2

5. **Substance Abuse** (Drug or Alcohol) ____

No/Some Problem	=	0
Major Problem	=	+2

6. **School Problems** ____

No Truancy or Discipline Problems	=	-1
Some Truancy or Discipline Problems	=	0
Major Problems or Dropped Out/Expelled	=	+3

TOTAL RISK SCORE _____

Risk Classification

-4 to -2 =	Low Risk
-1 to +2 =	Medium Risk
+3 to +7 =	High Risk
+8 or higher=	Very High Risk

VIRGINIA MODEL RISK ASSESSMENT DEFINITIONS

1. Total Referrals to Court Intake:

Number of different dates youth was referred to court intake for a new offense. Include the present referral. If multiple complaints or counts in any one referral date, count as one referral. The ultimate outcome of the referral (e.g., informal, dismissed, adjudicated) makes no difference.

2. Age at First Referral:

The youth's age at the time of the first referral. Subtract the youth's DOB from the first referral date.

3. Total Number of Assaultive Offenses/Incidents:

For this item, consider both referrals to juvenile court and assaultive incidents that did not result in a referral. Any combination of referrals or incidents equaling two or more qualifies the youth for a score of "1" on this item.

Referrals:

The number of different referral dates that included referrals for murder, assault, robbery, carjacking, sex offenses and other crimes of violence against a person. Do not include simple weapons possession, burglary or drug dealing. Do not include "resisting arrest" unless the resisting involved assaultive actions. Include present referral (if assaultive).

Incidents:

In counting assaultive incidents, include all instances in which the youth physically attacked another person (and which did not result in a court referral). Include domestic violence perpetrated by the youth, assaults on authority figures such as teachers or counselors and assaults on peers. Do not include verbal assaults. Do not include pushing and shoving or horseplay between the youth and siblings or peers. Do not include simple fights between peers unless it is clear that this youth was the perpetrator/instigator of a physical attack.

4. Peer Relationships:

Friends Good Support/Influence: friends not known to be delinquent or to have influenced youth's involvement in delinquent behavior. No referrals involved co-defendants.

Some Negative Influence or Loner: some companions involved in delinquent behavior. Has had co-defendants in one-two arrests, and/or some friends have been referred to juvenile court. Also include here any youth who is a "loner" in delinquent and/or social activity.

Strongly Delinquent Peers/Gang Member: primary peer group has strong delinquent orientation and/or most friends have been referred to juvenile court and/or codefendants in three or more referrals; gang member or affiliate.

5. Substance Abuse (Drug/Alcohol; within past 2 years):

Indicate the degree to which the youth's involvement with drugs/alcohol has affected normal functioning. Consider only the youth's involvement with drugs/alcohol during the two years preceeding the present offense. Note that use in and of itself does not necessarily constitute a problem. Consider both frequency (e.g. "occasional" "frequent") and effect of use ("some" or serious" disruption/interference).

Note: The existence of either "no problem" or "some problem" results in a score of "0" for this item. Only if the youth has a "major problem" will he/she receive a score of "2".

No Problem: no use or experimental/infrequent use only (less than once per month). Relationship with parents is not strained over use or involvement with using peers; no school problems associated with use; no arrests for drug/alcohol-related offenses (past two years).

Some Problem: occasional use (less than once per week); and/or use is asociated with some disruption of functioning. Family relationships may have become strained over use or involvement with using peers; may be some deterioration in school performance believed to be drug/alcohol related; may be one or two school disciplinary actions related to substance use; no more than one substance abuse-related arrest (past two years).

Major Problem: serious disruption of functioning and family relationships; strong ties to drug/alcohol-involved peers; use is once per week or more; admitted or diagnosed dependency; two or more D/A related offenses; drastic deterioration in school performance related to substance abuse; three or more school disciplinary actions (past two years).

6. School Problems: (within past 9 school months)

No Truancy or Discipline Problems: no problems or minor problems handled by parent or school officials; no suspensions or expulsions or pattern of truancy (truant less than 10 days in past 9 months of school). Dropped out of school, but working or in full-time training program. Graduated or GED.

Some Truancy or Discipline Problems: Truant 10-20 days in past 9 school months and/or one or two suspensions for behavioral problems during past 9 school months. No court referrals for truancy or behavior problems.

Major Truancy or Discipline Problems: Truant more than 20 days during past 9 school months and/or suspended three or more times for behavioral problems; referred to court in past year for truancy or behavior problems; expelled; dropped out and not employed or in full-time training program.

The Relationship Between Model Risk Classification and Recidivism

When the model scale and the classification scheme was tested against the actual outcomes of the youth in each site, the results showed that the model worked well. As shown in Figures 3-1 through 3-6, the model scale generally was able to: 1) accurately identify high risk youth; and, 2) provide good discrimination between groups with different probabilities of reoffending.

Figures 3-1 and 3-2 display the results of the model risk scale in Nebraska using the outcome measures of "any recidivism" and "felony recidivism", respectively. Figures 3-3 and 3-4 show the results in Rhode Island, while the Travis County data are presented in Figures 3-5 and 3-6.

Each graph shows the proportion of youth in each model risk classification that actually recidivated during the follow-up period. (At the bottom of each graph the percentage of youth scoring at each risk level is also shown.) For example, Figure 3-1 shows that a fairly small percentage (6%) of the Nebraska youth scored "very high" risk on the model scale. However, of these youth, 74% had a subsequent arrest for a felony or misdemeanor ("any recidivism") during the 18 month follow-up period. In contrast, of those youth who scored "low" risk (21% of the sample), just 23% had been rearrested during the follow-up. In other words, those youth identified by the model scale as "very high" risk were three times as likely to be rearrested as the youth identified as "low" risk. Even better results were seen for felony recidivism (Figure 3-2). The youth identified as "very high" risk were sixteen times more likely to have a subsequent felony offense than the low risk youth.

VIRGINIA MODEL RISK ASSESSMENT
RECIDIVISM BY CLASSIFICATION GROUP USING MODEL SCALE

Figure 3-1

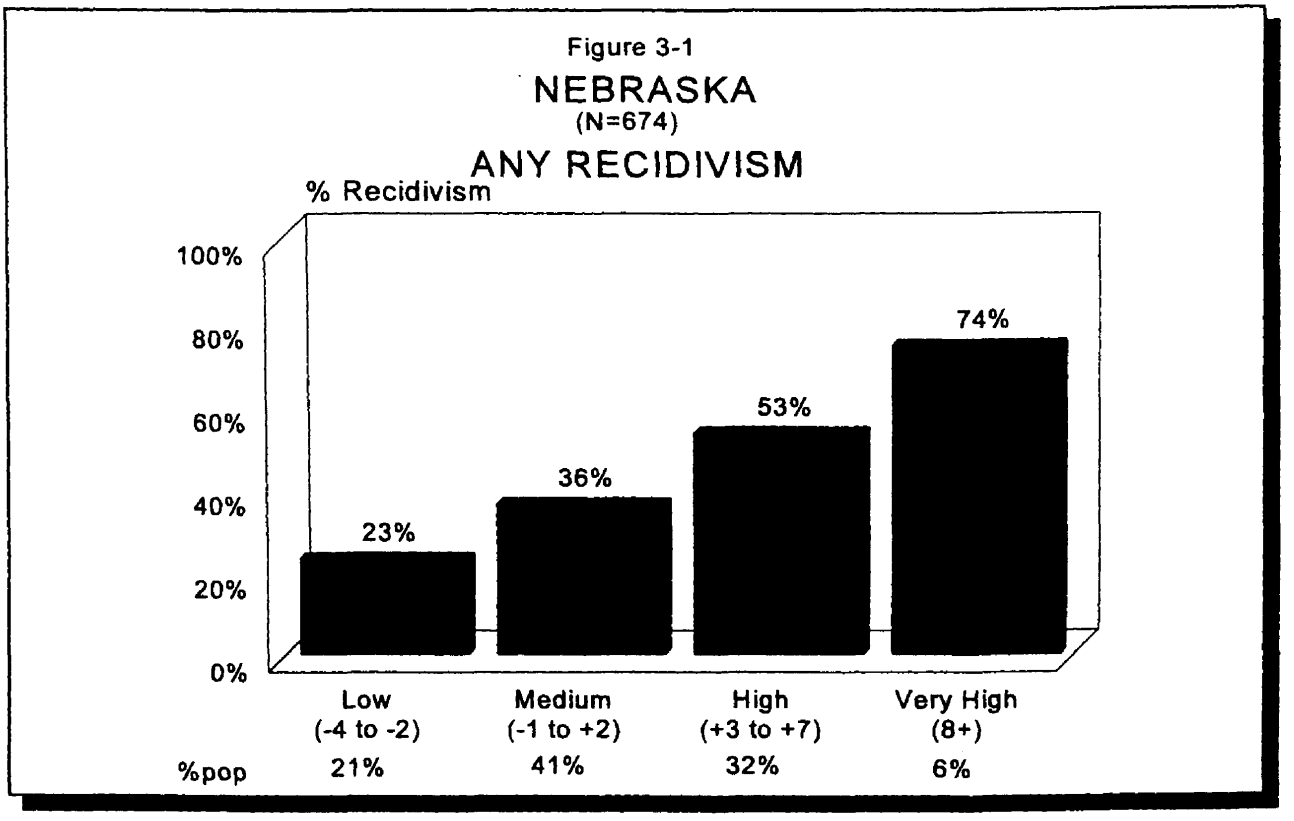
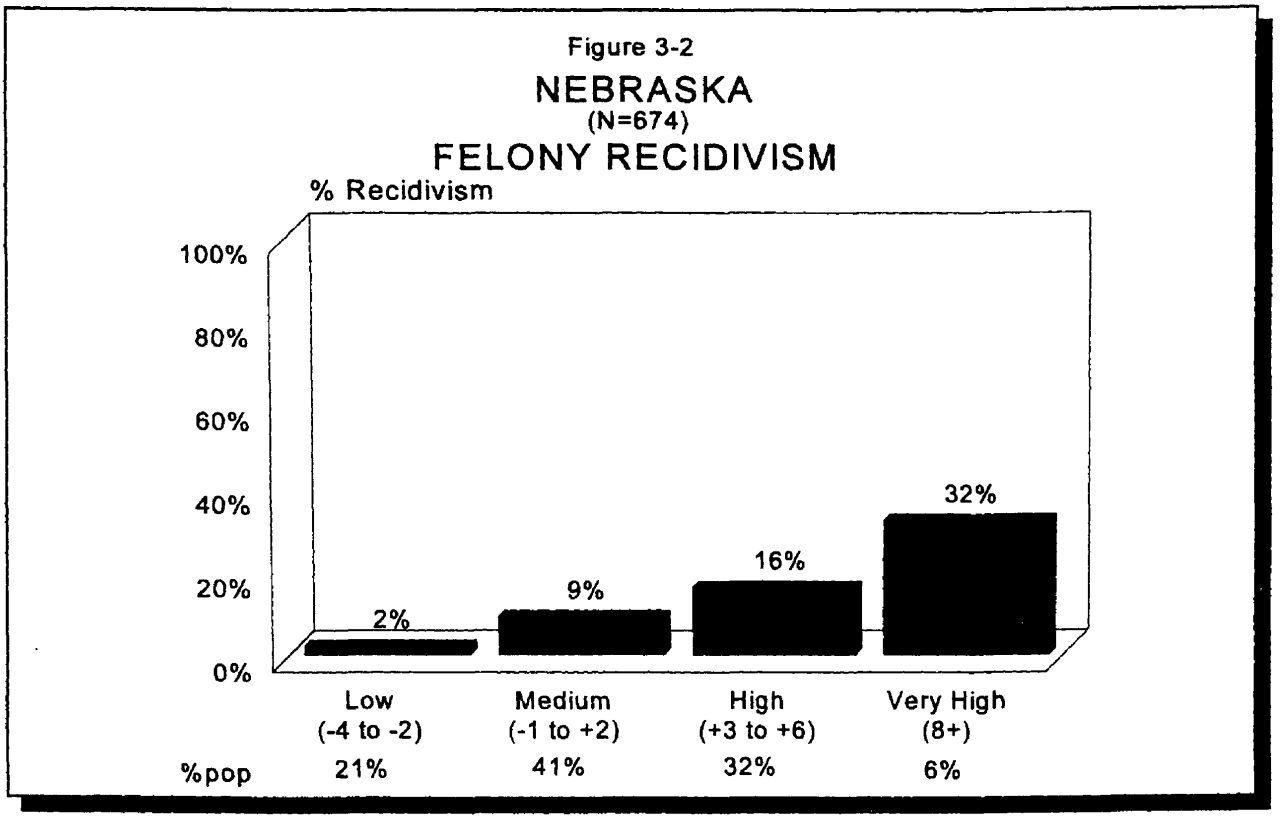


Figure 3-2



VIRGINIA MODEL RISK ASSESSMENT
RECIDIVISM BY CLASSIFICATION GROUP USING MODEL SCALE

Figure 3-3
RHODE ISLAND
(N=389)
ANY RECIDIVISM

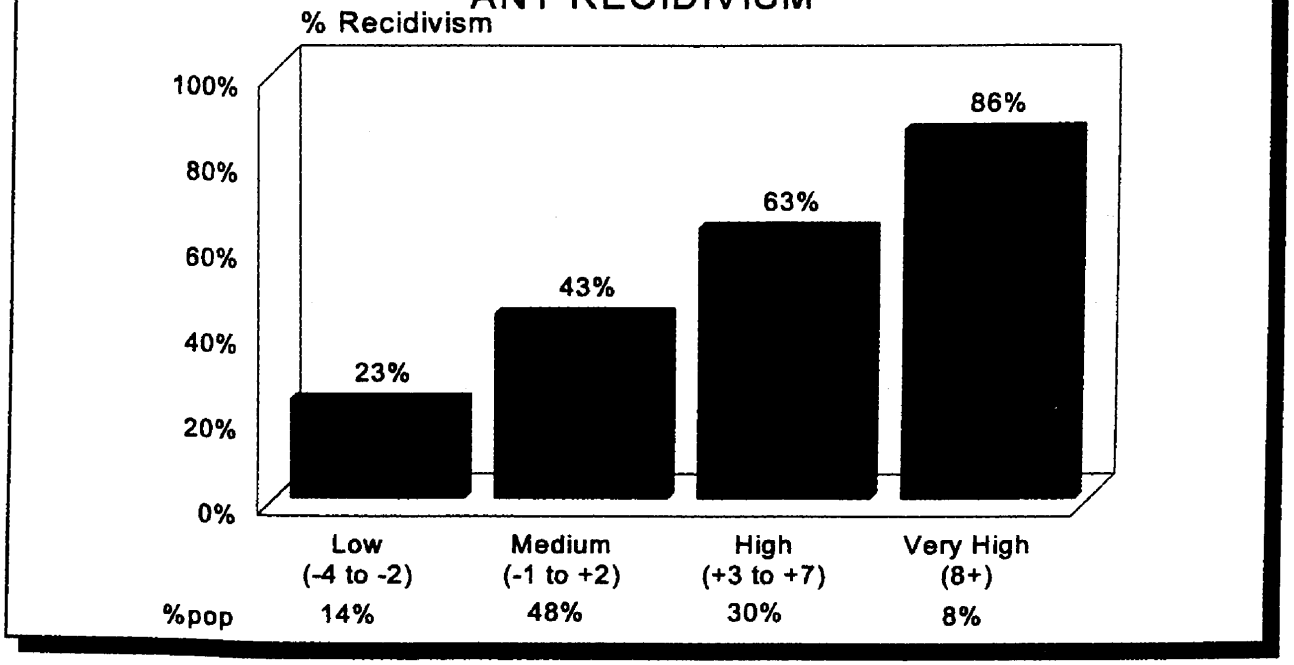
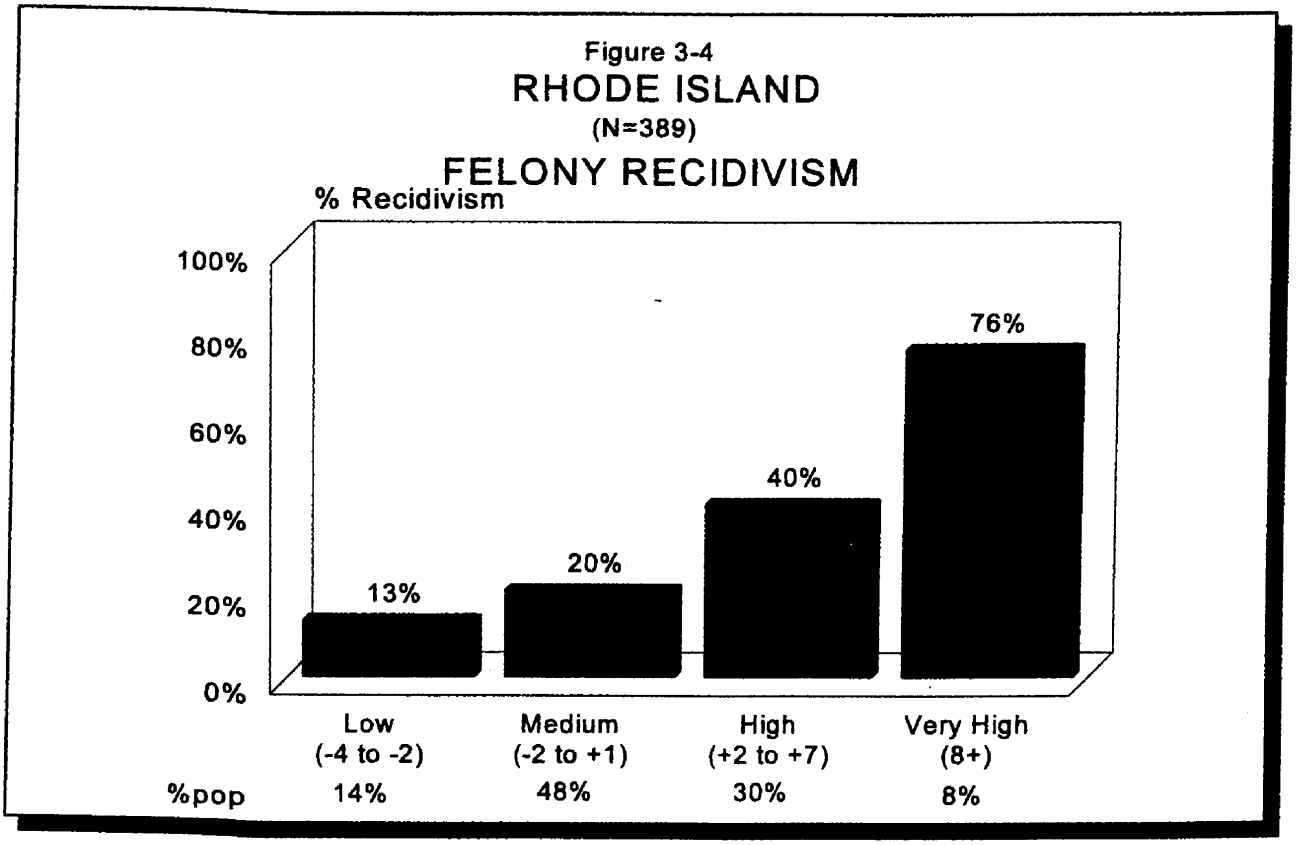


Figure 3-4
RHODE ISLAND
(N=389)
FELONY RECIDIVISM



VIRGINIA MODEL RISK ASSESSMENT
RECIDIVISM BY CLASSIFICATION GROUP USING MODEL SCALE

Figure 3-5

TRAVIS COUNTY, TEXAS

(N=302)

ANY RECIDIVISM

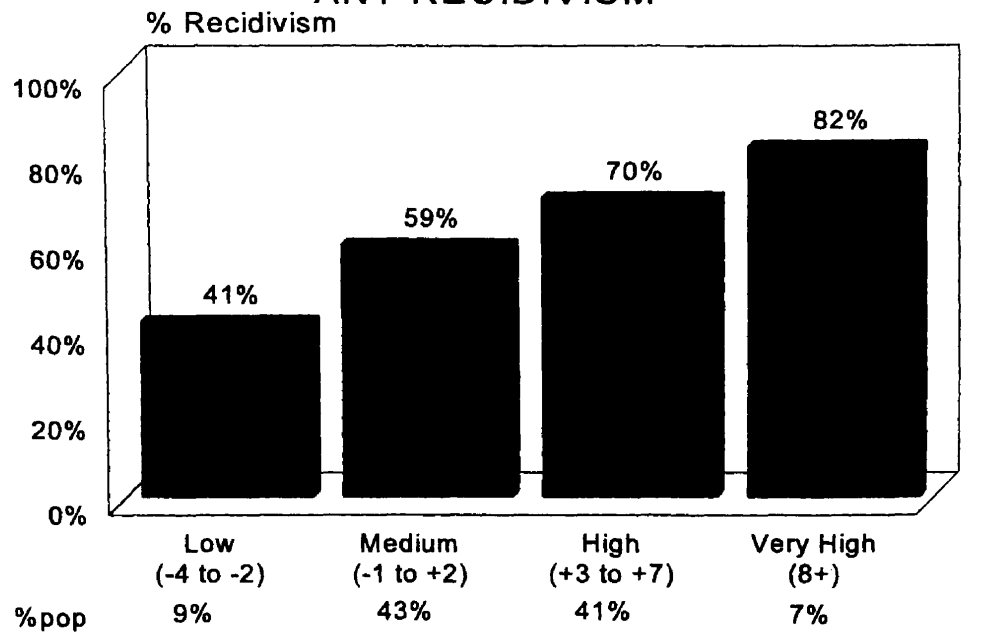
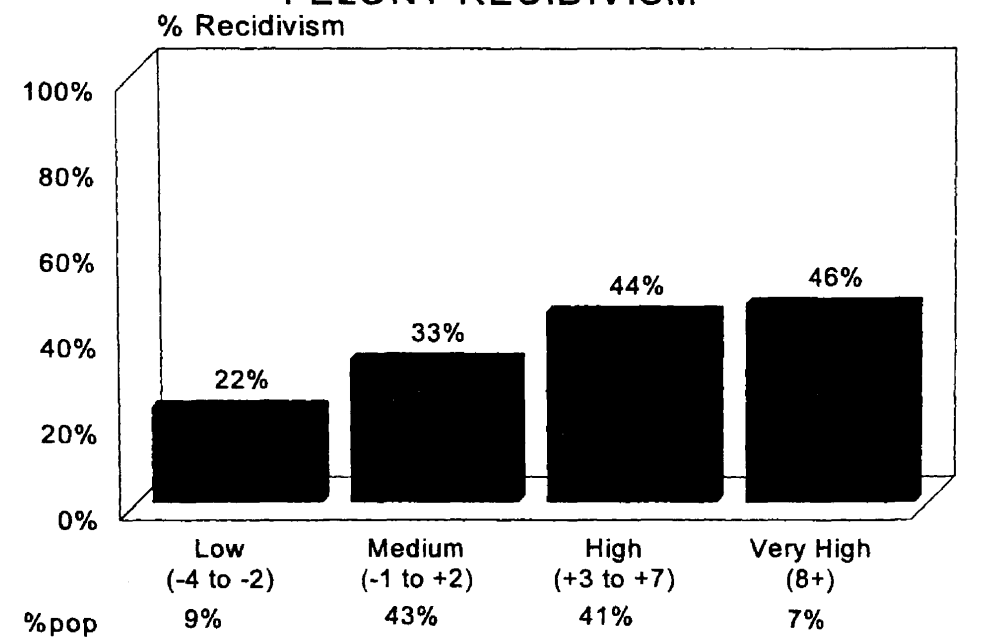


Figure 3-6

TRAVIS COUNTY, TEXAS

(N=302)

FELONY RECIDIVISM



Similar findings emerged when the model scale was applied to the Rhode Island sample. There, eight percent of the offender population was classified as very high risk. These youth had recidivism rates of 86% and 76% for "any recidivism" and "felony recidivism" respectively. Clearly the model tool effectively identified a sub-set of youth who were at extremely high risk for recidivating. Moreover, it also served to sharply discriminate between the very high and low risk offenders in Rhode Island. On the "any recidivism" measure, the very high group was four times as likely to recidivate as the low group and on the "felony recidivism" measure they were approximately six times as likely to recidivate as the youth classified as low risk.

What is particularly noteworthy about these Nebraska and Rhode Island results is that the model scale worked as well as - and in some instances better than - the original risk instrument in these two sites (cf. the original scale results in Appendix A).

The model scale worked least well in the single-jurisdiction Travis County sample. There, very high risk youth were just twice as likely as low risk offenders to commit any subsequent offense or a subsequent felony offense. Further, the model provided very little discrimination in terms of felony recidivism rates between the "high" and "very high" risk groups in that site. Finally, the recidivism rate among "low" risk youth (41%), although twice as low as that found for the very high risk group, is nonetheless much higher than that typically found for "low" risk offenders in other studies (and in the other two sites in this study). Why the model tool worked less well in Travis County is a matter of conjecture. Possible explanations include its application to an exclusively urban jurisdiction and the difference between Travis

County and the other sites in the length of the follow-up period. In spite of the weaker power of the model scale in Travis County however, it is important to keep in mind that the instrument still identified a group of high risk youth that were twice as likely as the low risk group to commit any subsequent offense and a subsequent felony offense.

To summarize the key findings from the test of the model scale on the three jurisdictions:

- In each site, the model scale identified a small group (6% - 8% of the population) of "very high" risk offenders who were two-three times more likely to recidivate than were the low risk youth. These very high risk youth were also at least twice as likely as low risk offenders to commit a subsequent felony offense.

- The model scale worked best on the two statewide samples. In Nebraska and Rhode Island, very high risk juveniles were at least three times more likely than low risk offenders to commit any subsequent offense, and they were at least six times as likely to commit subsequent felony offenses. The model worked least well in Travis County, but still served to identify youth who were twice as likely to recidivate as others.

CHAPTER IV
CONCLUSIONS AND RECOMMENDATIONS

The goal of creating a model risk assessment instrument that would successfully classify offenders in multiple jurisdictions based on their risk of reoffending was largely attained in this developmental effort. In all sites the scale was able to identify a group of very high risk offenders who were at least twice as likely to recidivate as the identified low risk offenders. That the scale worked reasonably well across a variety of jurisdictions should provide Virginia officials with a greater degree of confidence that the scale will work reasonably well in Virginia. Moreover, the items included in this scale are those that are most frequently found in juvenile risk instruments nationally.

RECOMMENDATIONS

1. **Undertake the research necessary to validate the model scale on Virginia's juvenile offender population.**

The present study did not test the scale on Virginia youth. Consequently, the extent to which it "works" in Virginia isn't known for certain. The tool should be validated through research on the characteristics and outcomes of a large sample of Virginia delinquents. Validation is important because previous risk research has shown that a scale developed in one jurisdiction may not work as well in a different site, due to differences in offender characteristics, system practices, or both. Even if the instrument performs well, the validation research may be able to identify additional

predictive variables that would serve to create an even more powerful assessment tool. (See Appendix B for a discussion of validation issues and alternative approaches to the process.)

2. The HJR 70 study group should consider making available the "model" risk assessment instrument for interim implementation in Virginia.

In spite of the need for validation, NCCD believes that the model scale holds considerable promise and that it could be used on an interim basis. It could provide a simple, structured format for assessing and classifying adjudicated juveniles on the basis of risk. This information could be used by the judiciary as an aid to dispositional decision making. It may be particularly beneficial in informing decisions as the range of sanctioning options continues to expand in Virginia. Historically, the disposition decision has been limited primarily to a choice between probation and commitment. As the range of dispositional choices opens up, there will be a need for better information about offenders and more refinement in the disposition decision making process. NCCD believes that the results of formal risk assessment could help address both those needs.

Obviously, risk should be just one of several factors taken into account in the sentencing decision (or in probation recommendations to the judiciary about dispositions). We stress that the risk scale results should never be used as the sole criteria in the dispositional decision. There are three reasons for this. First, risk alone is clearly an insufficient basis for sentencing. Factors such as the severity of the current and prior offenses must also be taken into account. Second, risk levels

describe aggregate populations. They describe "probabilities" of reoffending among groups of youth and do not always predict accurately at the individual level. For example, even though 60% of a high risk group can be expected to reoffend, 40% of that same group won't reoffend. Making critical decisions about individuals (e.g., to commit or not) using just risk assessment is therefore inappropriate. Third, this "model" scale has not yet been validated on the Virginia population.

There are other potential uses for an interim (and validated) risk assessment tool. For example, the scale could be used by Court Service Units as a basis for classifying probationers into different levels of supervision based on their risk of re-offending. Our caveats about the use of risk as the sole criterion for disposition decisions do not apply as strongly to the probation "level of supervision" decision. For youth on probation, the major "in/out" decision has already been made, so risk isn't being used as the basis for depriving someone of their liberty. Moreover, risk of re-offending is a major concern for youth placed in community settings. This suggests that the use of risk tool to determine level of supervision is not only appropriate for community youth, but necessary.

3. **Use of the model scale and/or a validated instrument must be preceded by thorough training on the rationale for risk assessment, the instrument development process, its limitations and its intended and potential uses.**

Comprehensive training is critical to the successful use of any risk instrument. If people do not understand where it came from, how it works and what it is supposed to do, risk assessment will be rejected or, at best, end up as a "paper process" only.

Training on the intended use of the model instrument will be particularly important since - as currently envisioned - there is no clear, formal link between risk results and an indicated case decision. That is, if a youth is classified as "high" risk as a result of the application of the risk tool, there is no guideline for what that risk level - or any other - should mean in terms of the disposition. Should high risk indicate commitment?; probation?; placement in an intermediate sanction? Absent the creation of a link between assessed level of risk and an indicated disposition, there is the possibility that probation staff and/or judges will view the risk results as a meaningless exercise. (This problem was one of the key criticisms of the Towberman risk scale.) Consequently, training will need to emphasize how risk can (informally) inform case decisions and case planning.

Any training on risk assessment should include not only CSU staff and the judiciary, but also other "customers" who may be affected by risk-informed decisions. At minimum, these include prosecutors, public defenders and service providers.

Training and general education efforts should incorporate presentation and discussion of the potential uses of risk assessment for decision making in the juvenile justice system. This discussion would address how a validated risk assessment tool could play a central role in dispositions, disposition recommendations, and/or other decisions, if it were incorporated along with other key criteria (e.g. seriousness current and prior offenses) in a more formal structured decision making system. One such approach (the Michigan matrix) was described in the body of the report and could provide a starting point for discussion.

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APPENDIX A

NEBRASKA, RHODE ISLAND AND TRAVIS COUNTY RISK SCALES AND RESULTS

PRELIMINARY NEBRASKA JUVENILE RISK ASSESSMENT

		SCORE
R1.	**Number of Prior Arrests**	
	0 to 1 0	
	2 or More 2	_____
R2.	**Age at First Juvenile Arrest**	
	12 or Younger 2	
	13 to 15 0	
	16 or Older . . . . . -1	_____
R3.	**Prior Petition for Burglary or Theft**	
	None 0	
	1 or More 1	_____
R4.	**Prior Petition for Auto Theft or Robbery**	
	None 0	
	1 or More 3	_____
R5.	**Prior Out of Home Placements, e.g. Group Home, Residential Treatment Facility, State Secure Facility**	
	None 0	
	1 or More 4	_____
R6.	**Peer Relationships**	
	Good Support and Influence . . . . . -1	
	Negative Influence or Not Peer Oriented 0	
	Strongly Delinquent Peer Group/Gang Affiliation 4	_____
R7.	**School Truancy History**	
	No History of Truancy . . . . . -1	
	Occasional Truancy Last School Period (1-2 days/month) 0	
	Frequent or Habitual Truancy (More than 2 days/month) 3	_____
R8.	**Educational Achievement**	
	Youth is Placed at Expected Grade Level 0	
	Youth is Placed Below Expected Grade Level 3	_____
R9.	**Alcohol or Drug Problems**	
	None or Experimental Use Only/No Serious Disruption of Functioning . 0	
	Serious Substance Abuse 3	_____
R10.	**History of Neglect**	
	None 0	
	Neglect Documented, or Reported by Youth 2	_____
	TOTAL RISK SCORE	_____

Figure 1

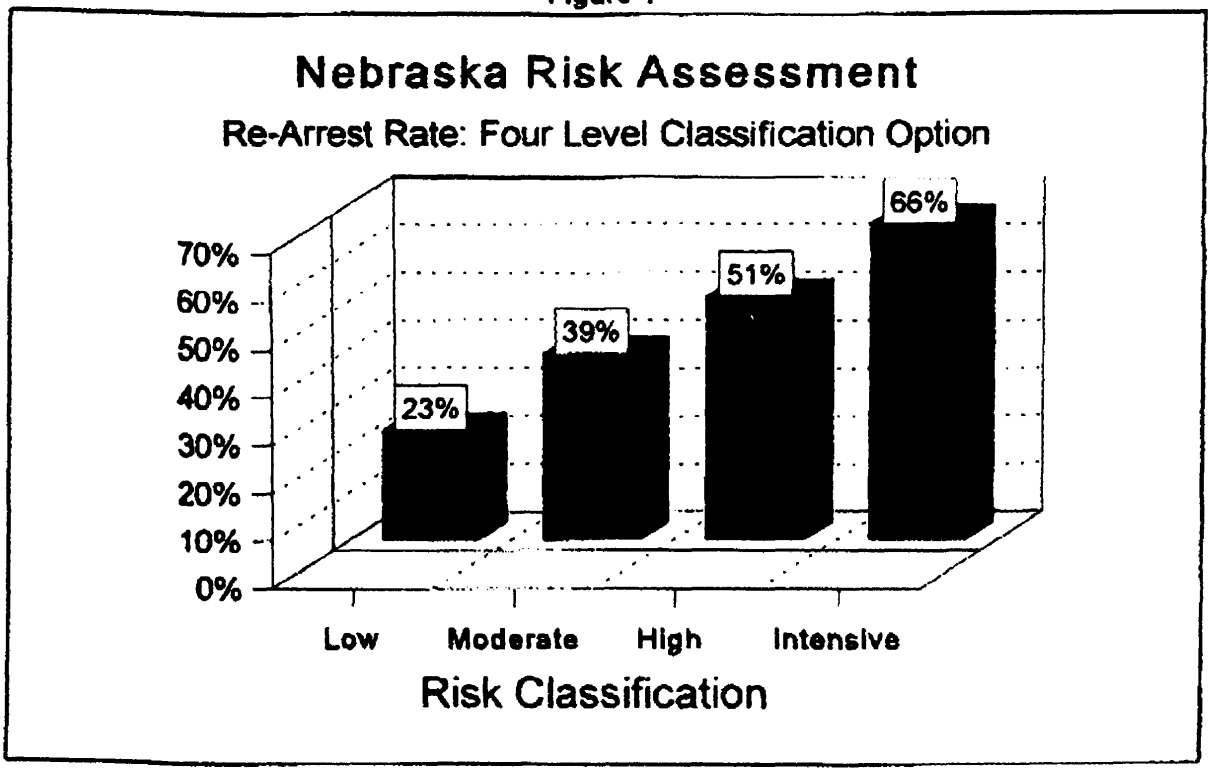


Figure 2

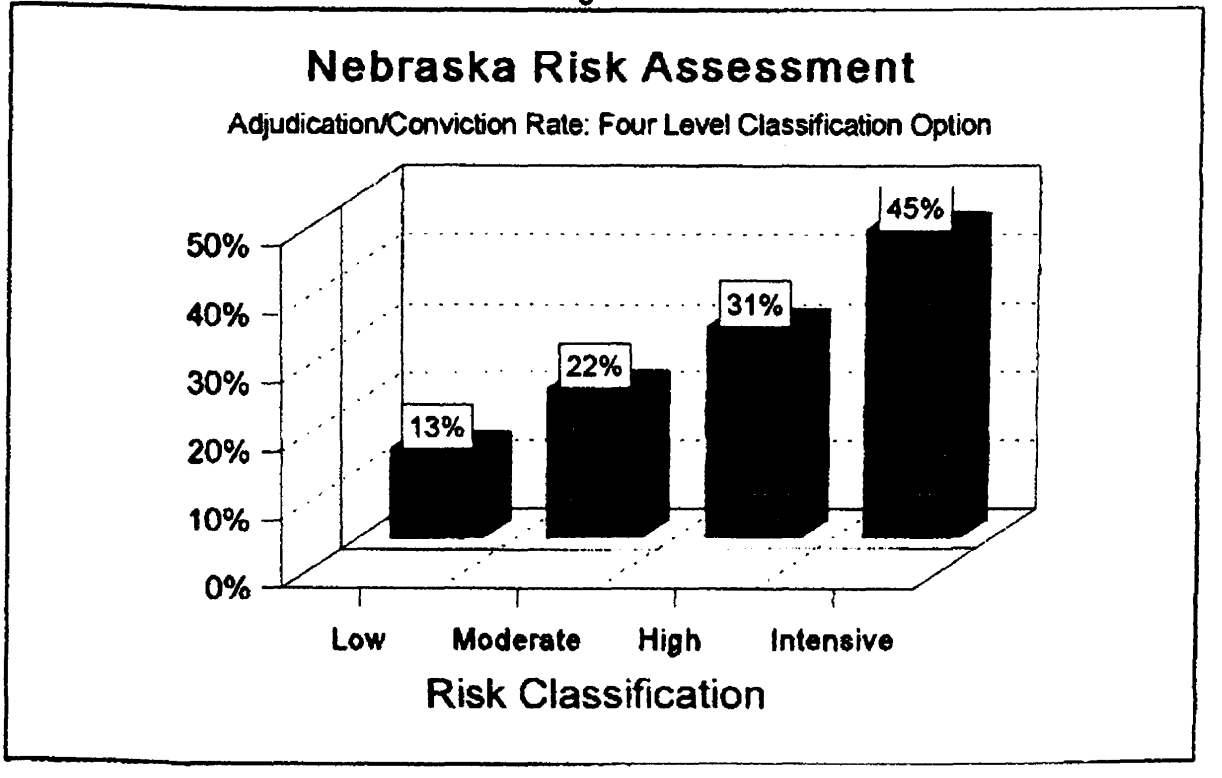
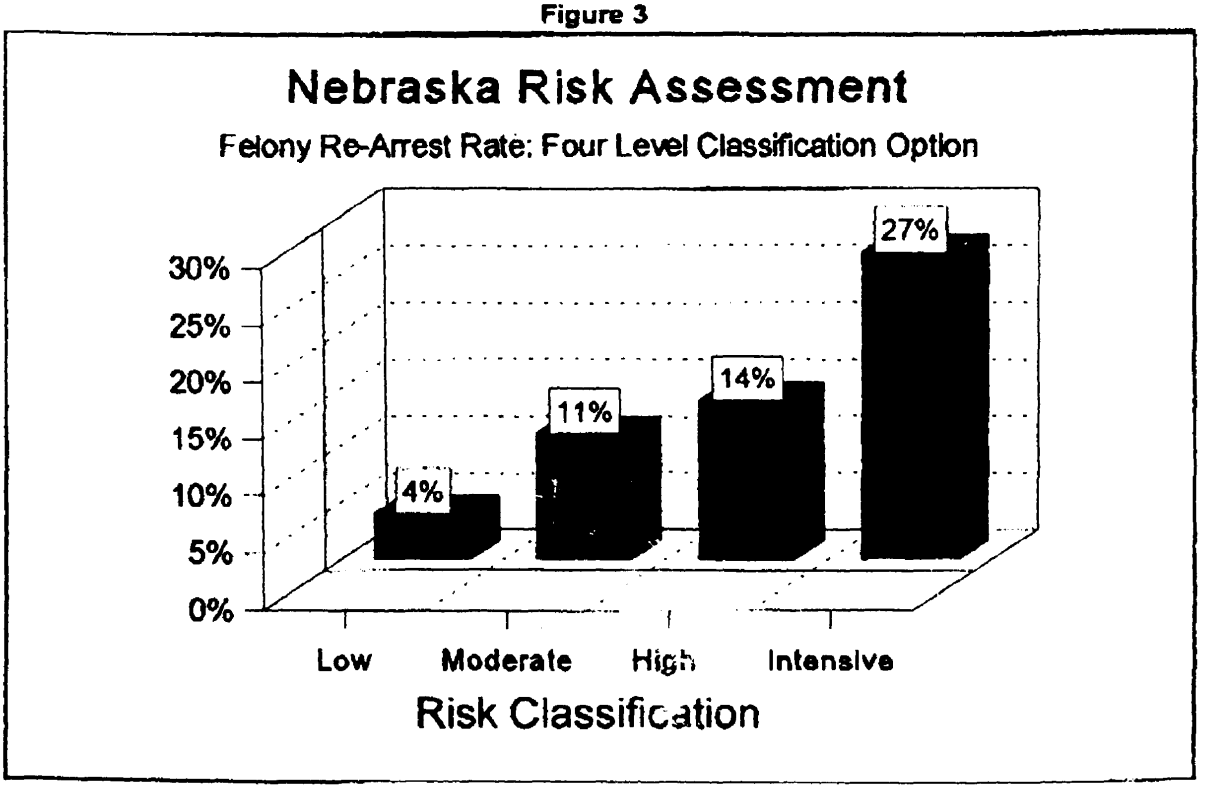


Figure 3


Nebraska Risk Assessment
Felony Re-Arrest Rate: Four Level Classification Option
30%
25%
20%
15%
10%
5%
0%
4%
11%
14%
27%
Low
Moderate
High
Intensive
Risk Classification

RHODE ISLAND JUVENILE PROBATION/PAROLE RISK ASSESSMENT

		Score
R1.	**Referrals to Court Intake** (includes current)	
	a. One ..... -1	
	b. Two or three ..... +1	
	c. Four plus ..... +2	_____
R2.	**Prior Referrals for Violations of Probation/Parole**	
	a. None 0	
	b. One or More ..... +1	_____
R3.	**Age at First Adjudication**	
	a. 16 or older ..... -1	
	b. 14 to 15 years 0	
	c. 13 or younger ..... +2	_____
R4.	**Prior Court-Ordered Commitments or Placements**	
	a. None or One Placement 0	
	b. Two plus Placements or One plus Correctional Commitments ..... +1	_____
R5.	**Prior Runaways**	
	a. None or one 0	
	b. Two plus ..... +2	_____
R6.	**Number of Adjudicated Petitions in Current Appearance**	
	a. One or Two 0	
	b. Three plus ..... +1	_____
R7.	**Prior Assaultive Incidents**	
	a. None or One 0	
	b. Two plus ..... +1	_____
R8.	**Recent School Behavior Problems**	
	a. None or minor ..... -1	
	b. Suspended one or two times ..... +2	
	c. Suspended three plus times or expelled ..... +3	_____
R9.	**Attending Special Education Classes or Diagnosed as Needing Special Education**	
	a. No 0	
	b. Yes ..... +1	_____
R10.	**Substance Abuse**	
	a. None/ Experimentation/Minor Disruption 0	
	b. Major Disruption of Functioning ..... +2	_____
R11.	**Peer Relationships**	
	a. No identified problem ..... -1	
	b. Some problems with interactions ..... +1	
	c. Not age appropriate/No friends ..... +1	
	d. Negative influence; Companions involved in delinquent behavior ..... +2	_____
R12.	**Prior Petition for Abuse or Neglect?**	
	a. No 0	
	b. Yes ..... +2	_____
R13.	**Parent Incarcerated in Last Three Years?**	
	a. No 0	
	b. Yes ..... +2	_____
	TOTAL RISK SCORE	_____

Total Risk Score	**Risk Classification** (check)	
-4 to -2	Low	_____
-1 to +5	Medium	_____
+6 to +8	High	_____
+9 to +21	Very High	_____

Figure 1

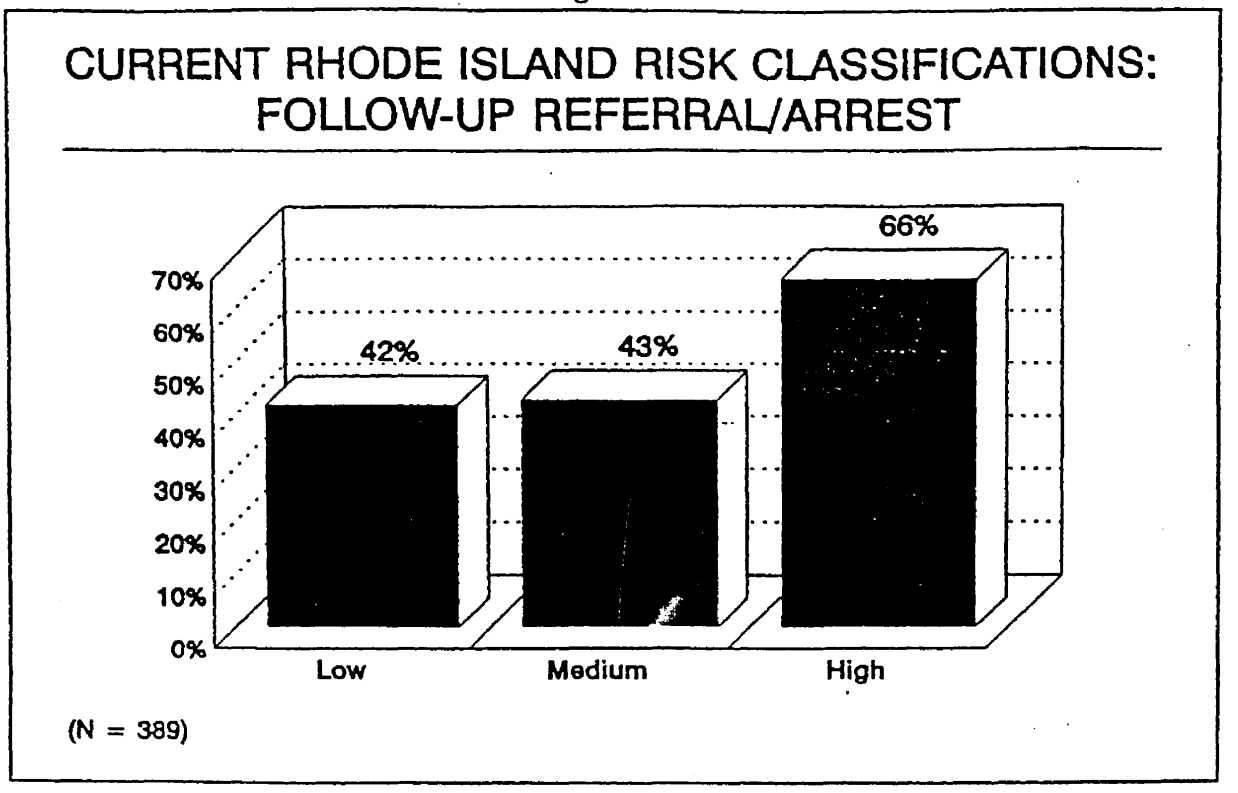


Figure 2

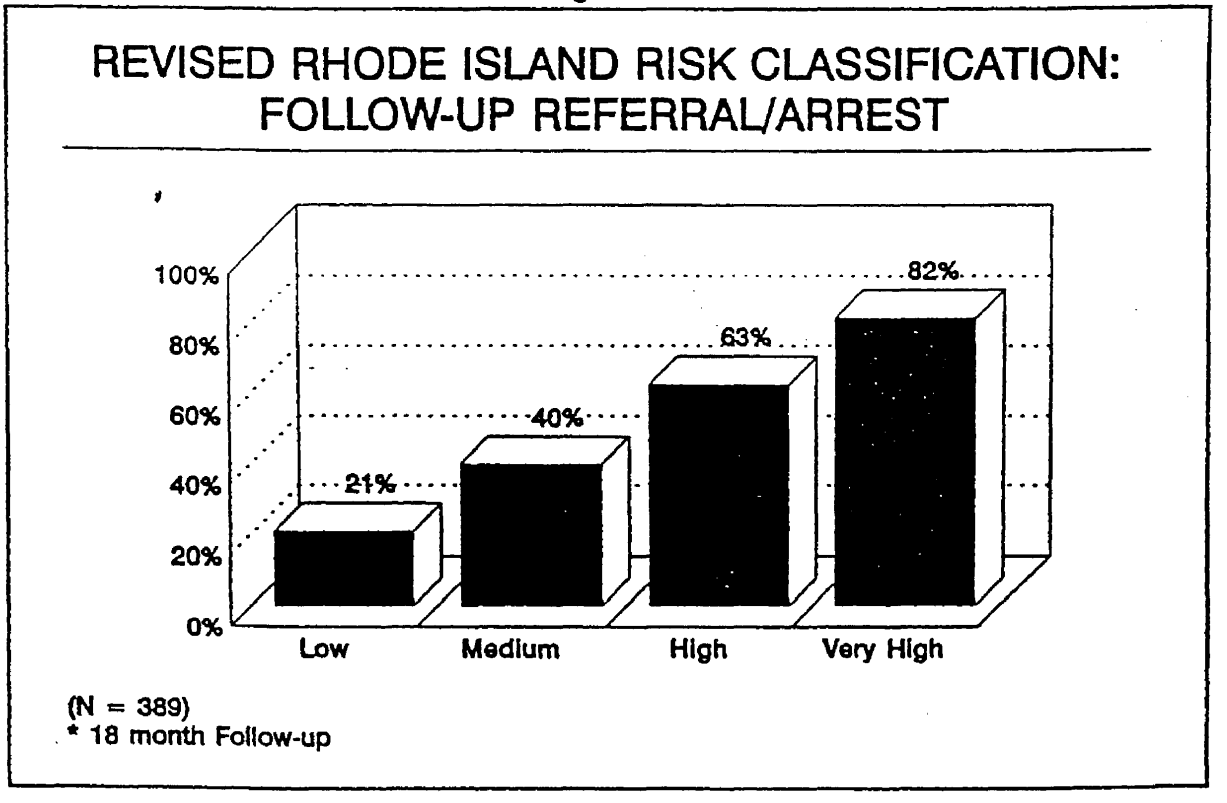


Figure 3

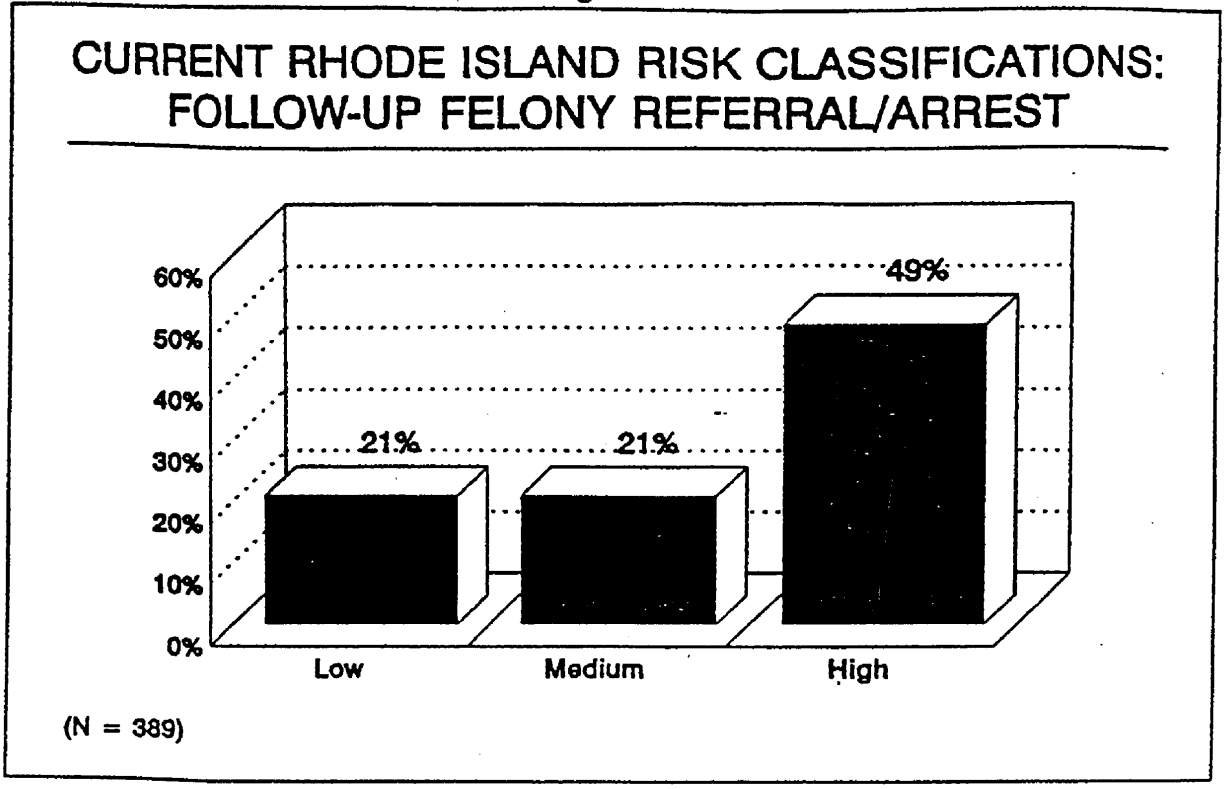


Figure 4

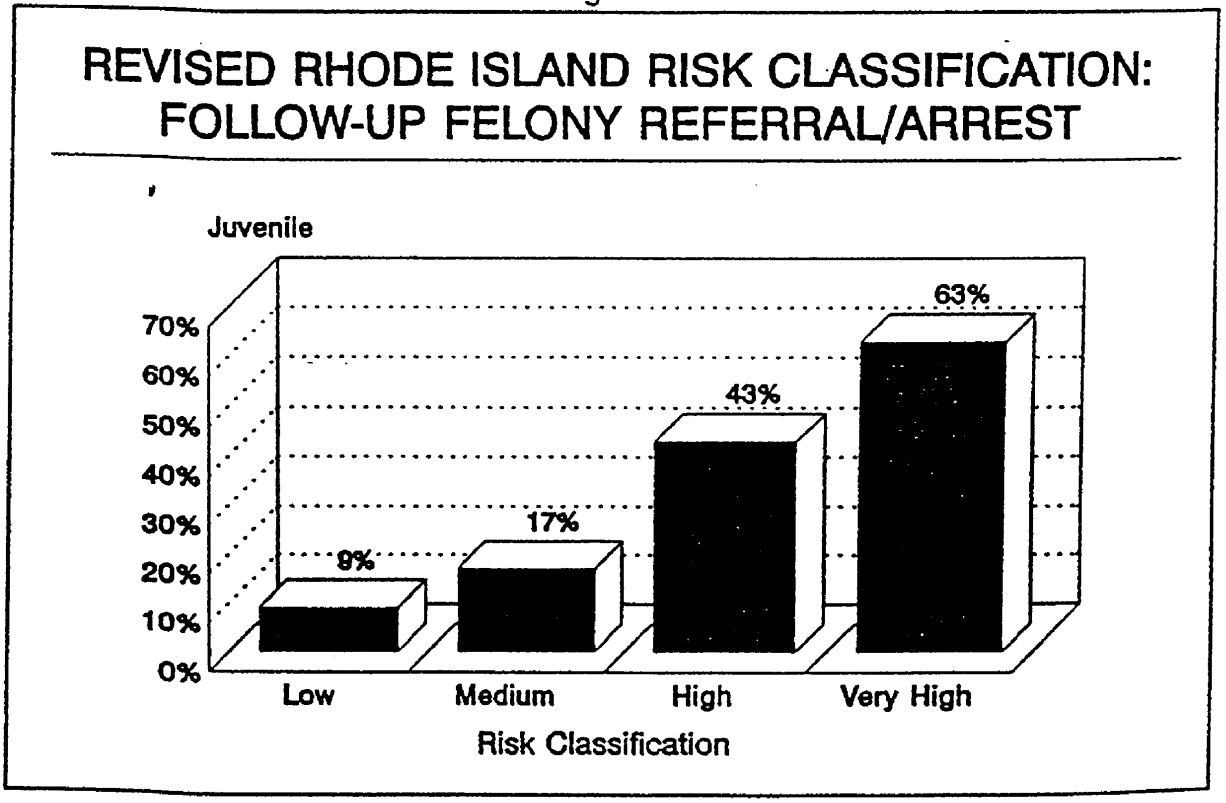
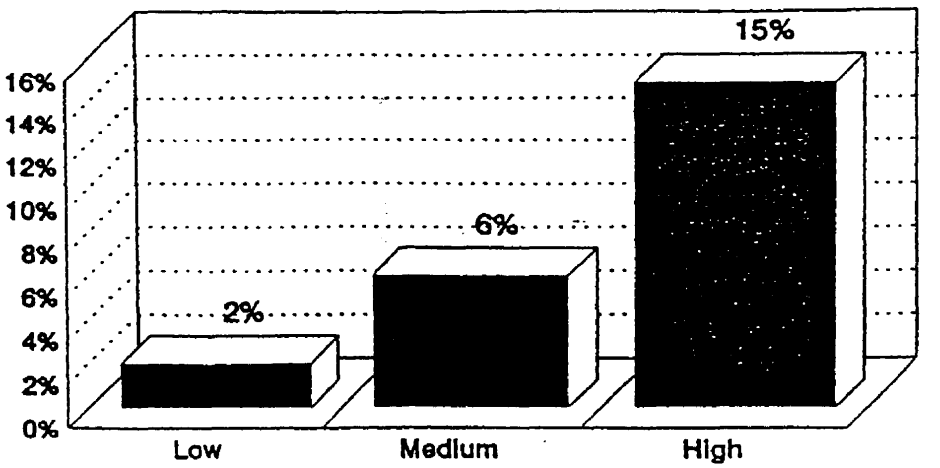


Figure 5

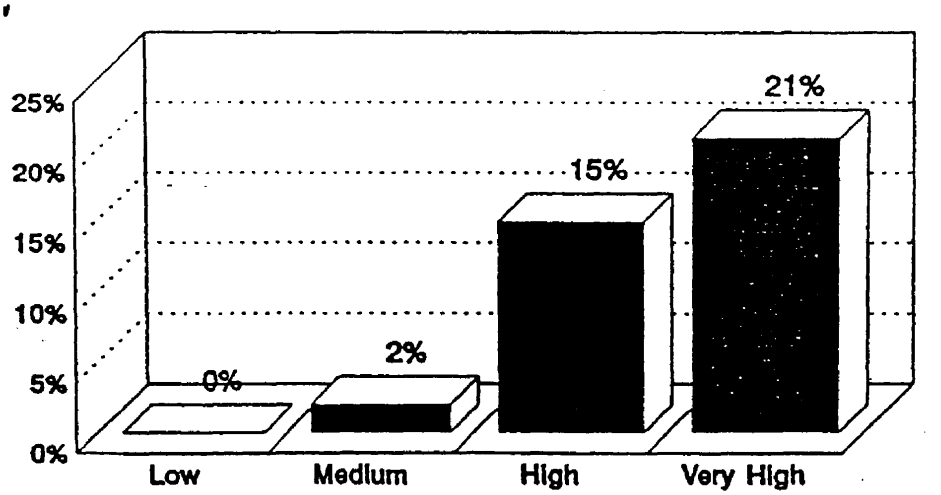
CURRENT RHODE ISLAND RISK CLASSIFICATIONS: FOLLOW-UP ASSAULTIVE REFERRAL*



(N = 389)
* Juvenile only

Figure 6

REVISED RHODE ISLAND RISK CLASSIFICATION: FOLLOW-UP ASSAULTIVE REFERRAL*



(N = 389)
* Juvenile only

TRAVIS COUNTY JUVENILE RISK ASSESSMENT

Number of Prior Referrals (include current) (____) — SCORE

1 to 3 ..... -1
4 0
5 or More ..... +1 ____

R2. Number of Prior Counts Adjudicated (include current) (____)

1 0
2 ..... +1
3 or More ..... +2 ____

R3. Age at First Juvenile Referral (____)

13 or Younger ..... +1
14 or 15 0
16 or Older ..... -1 ____

R4. Prior Referral History (include current)

R4A. Number of Referrals for Assault (____)

0 or 1 0
2 or More ..... +1 ____

R4B. Number of Referrals for Theft/Car Theft (____)

0, 1, or 2 0
3 or More ..... +1 ____

R4C. Number of Referrals for Felony Offenses (____)

0, 1, or 2 0
3 or More ..... +1 ____

R5. Prior Referrals for Burglary/Robbery/Trespass/Damage (____) (include current)

0 ..... -2
1 to 3 ..... +1
4 or More ..... +2 ____

R6. Delinquent Peer Group/Gang Affiliation

No Problem ..... -1
Delinquent Peer Group 0
Gang Affiliation ..... +2 ____

R7. School Status

Not Attending/Expelled from School 0
Attending with disciplinary problems 0
Attending with no disciplinary problems ..... -2 ____

R8. Known Alcohol or Drug Problems

None 0
Marijuana/Alcohol/Other Drug Problems ..... +1 ____

TOTAL RISK SCORE ____

TABLE 3

TRAVIS COUNTY RISK ASSESSMENT CLASSIFICATION BY SUBSEQUENT JUVENILE ADJUDICATION/ ADULT CONVICTION RATE*

Risk Score	Risk Classification	Cases Sample (%)	Juvenile Adjudication/Adult Conviction Rate
Low to -3	Very Low	53 (17%)	4%
-2 to 1	Low	95 (32%)	13%
2 to 6	Moderate	121 (40%)	41%
7 Plus	High	33 (11%)	61%
TOTAL		302 (100%)	29%

*Any Juvenile Adjudication or Adult Conviction

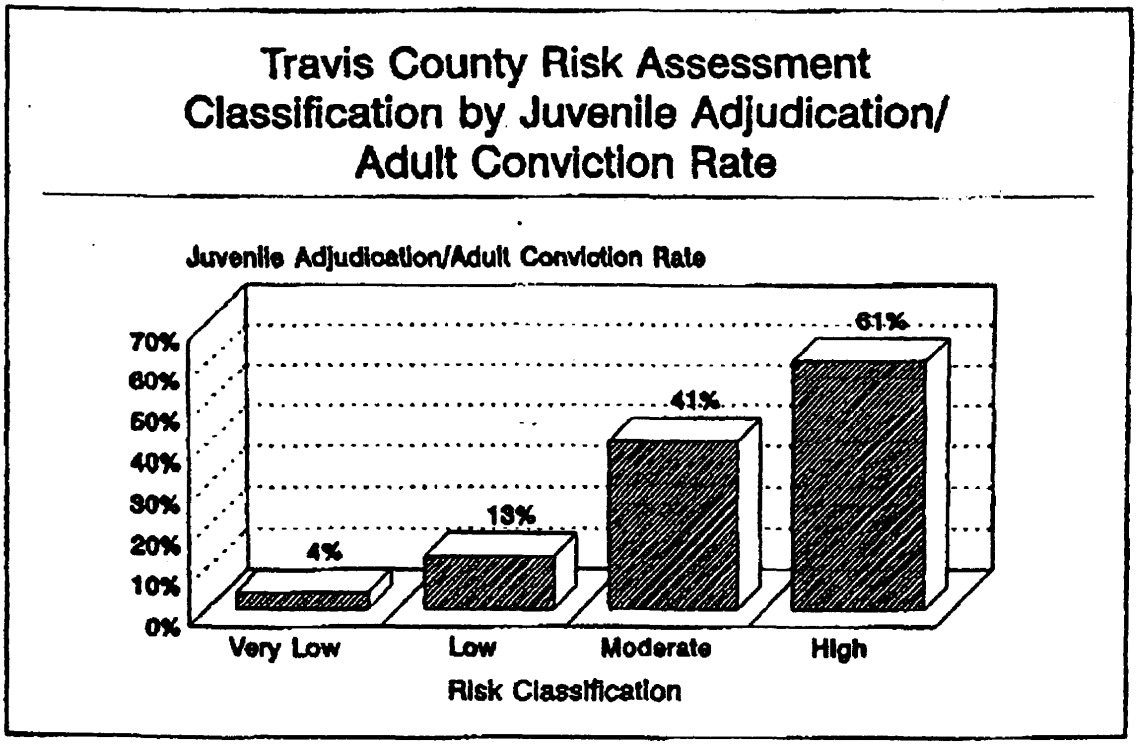
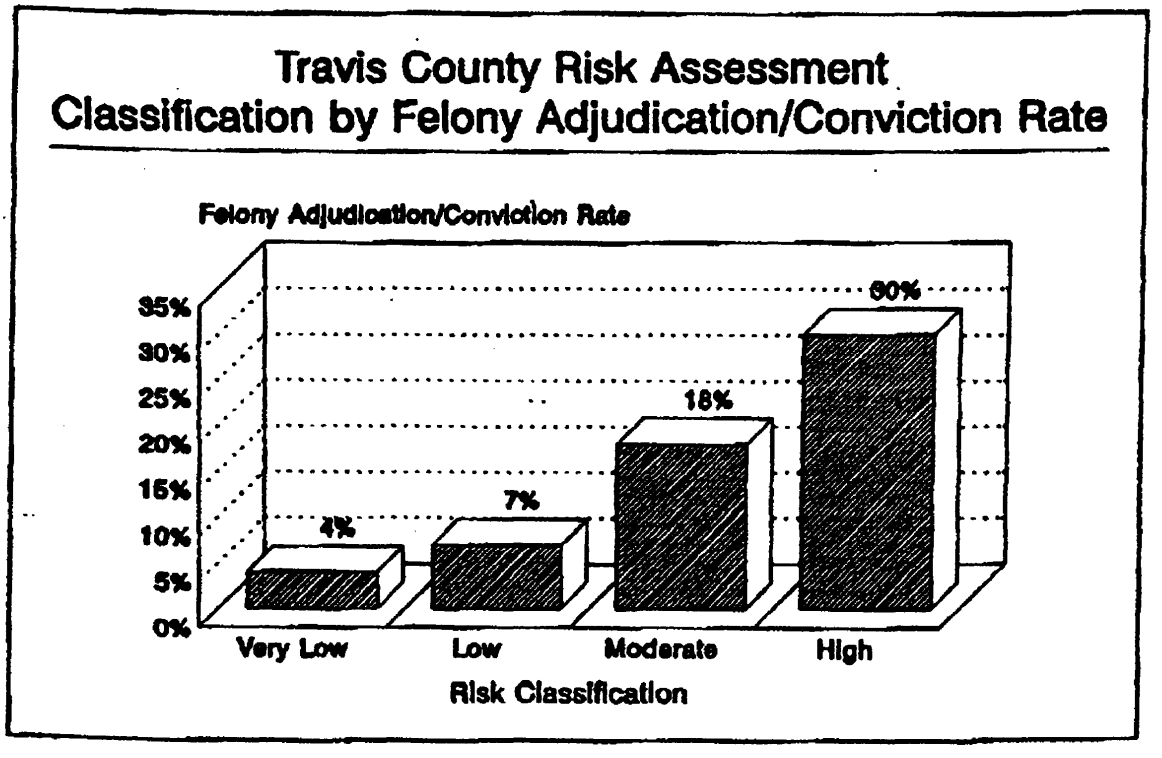


TABLE 4

TRAVIS COUNTY RISK ASSESSMENT CLASSIFICATION BY SUBSEQUENT FELONY ADJUDICATION/ CONVICTION RATE*

Risk Score	Risk Classification	Cases Sample (%)	Felony Adjudication/ Conviction Rate
Low to -3	Very Low	53 (17%)	4%
-2 to 1	Low	95 (32%)	7%
2 to 6	Moderate	121 (40%)	18%
7 Plus	High	33 (11%)	30%
TOTAL		302 (100%)	14%

*Juvenile Felony Adjudication or Adult Felony Conviction



APPENDIX B

VALIDATION ISSUES AND APPROACHES

VALIDATION ISSUES

Validation of the model scale will require the collection of data on the characteristics and outcomes of a large sample of Virginia youth. Since there is likely to be interest in testing the effectiveness of the scale for several different offender sub-populations (e.g., urban, suburban, rural), a minimum sample size of 1,000 is likely required.

The data on youth characteristics must include those found on the model risk scale and a range of characteristics that are not on the scale, but which have been found to be associated with risk in other studies/jurisdictions. The variables should include:

- number and nature of prior offenses
- history of abuse/neglect
- special education status
- prior out-of-home placements (correctional and other)
- mental health status
- family functioning
- parental control
- parental criminality
- sibling involvement in delinquency
- prior adjustment under supervision
- history of runaways/escapes
- involvement in structured community activities

Data on multiple outcome measures should be used including technical violations, rearrests and readjudication. Distinctions should also be made between technical violations, status offenses, misdemeanor offenses, felony offenses and violent offenses. The follow-up period for determining recidivism should be standardized for each youth, should be at least 12 months and should be measured

beginning at the time of adjudication or, for youth placed out of the home, beginning at the time of release from the facility.

There are two basic approaches that can be used for the validation process: retrospective and prospective. A retrospective validation would involve the collection of data on adjudicated youth during some previous time period (e.g., a sample of youth adjudicated during 1994) and then tracking their recidivism. A prospective validation would involve data collection on a sample of youth starting at some point in the future (e.g., when the model tool is implemented). The advantage of a retrospective validation is that a final risk tool could be available in the near future, since the recidivism tracking period is already over (i.e., there's no need to wait to see what the outcomes will be.) The primary disadvantages are the cost (either in dollars or staff time) associated with mounting a large scale data collection effort on past cases and, perhaps more importantly, the likely lack of consistency in the availability of some data. A prospective study can avoid these problems by making data collection a part of routine operations for a certain period of time and by specifying that certain types of information must be collected as part of pre-disposition social history investigations (or other methods). The downside to prospective studies is that a validated scale would likely not be available for another two years.