

The author(s) shown below used Federal funds provided by the U.S. Department of Justice and prepared the following final report:

**Document Title: A Comparison of Risk Assessment Instruments
in Juvenile Justice**

**Author(s): Chris Baird, Theresa Healy, Kristen Johnson,
Ph.D., Andrea Bogie, Erin Wicke Dankert, Chris
Scharenbroch**

Document No.: 244477

Date Received: December 2013

Award Number: 2010-JR-FX-0021

This report has not been published by the U.S. Department of Justice. To provide better customer service, NCJRS has made this Federally-funded grant report available electronically.

<p>Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.</p>

A Comparison of Risk Assessment Instruments in Juvenile Justice

August 2013

Chris Baird
Theresa Healy
Kristen Johnson, PhD
Andrea Bogie
Erin Wicke Dankert
Chris Scharenbroch

National Council on Crime and Delinquency

This study was funded by *Grant 2010-JR-FX-0021 from the Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, US Department of Justice*. Points of view in this report are those of the authors and do not necessarily reflect the official position or policies of the US Department of Justice.

Acknowledgments

A study of this magnitude requires a tremendous amount of commitment from participating agencies. The National Council on Crime and Delinquency would like to thank the following individuals for their remarkable efforts in making this study possible. From the Arkansas Division of Youth Services, thank you to Ron Angel, Elbert Grimes, Lisa Hutchinson, and Mickey Yeager; from the Arizona Administrative Office of the Courts, Chad Campbell, Amy Stuart, and David Redpath; from the Arizona Department of Juvenile Corrections, John Vivian, PhD, and Tasha Fox; from the Nebraska Office of Probation Administration, Corey Steele and Amy Latshaw; Peg Barner with the Nebraska Office of Juvenile Services; from the Virginia Department of Juvenile Justice, Beth Stinnett; from the Florida Department of Juvenile Justice, Mark Greenwald and Julie Lauder; Dee Bell and Josh Cargile from the Georgia Department of Juvenile Justice; Lisa Wamble and Earl Montilla with Solano County Probation Department; Cherie Lingelbach from Oregon's Youth Authority; and Torri Lynn, who represented the county directors from across the state of Oregon. We also extend our gratitude to the members of the project's advisory board for their extensive voluntary efforts. Thank you all for your dedication and hard work on this study; it could not have been done without you. Your contributions were essential to this effort in moving the field of juvenile justice risk assessment forward.

This report does not necessarily reflect the views or positions of any of the agencies that participated in the study. Dissenting opinions from the advisory board are included at the end of the report in the discussion section.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
I. INTRODUCTION	1
A. The Historical Background of Risk Assessment in Juvenile Justice	2
II. RESEARCH METHODOLOGY	5
A. Goals	5
B. Research Questions	6
C. Risk Assessment Instruments Evaluated	6
D. Participants	7
E. Advisory Board	10
F. Measures	11
1. Reliability	12
a. Calculating Reliability	12
b. Methods Used to Study Reliability	14
2. Validity	19
a. Construction and Validation of Revised Risk Assessments	23
3. Equity	24
4. Cost	25
III. FINDINGS	25
A. Findings by Risk Assessment Instrument	26
1. The Georgia CRN	26
a. Summary of Findings	34
2. Solano County JSC and Girls Link Risk Assessments	34
a. Summary of Findings	37
3. Florida PACT	38
a. Summary of Findings	45
4. Virginia YASI	46
a. Summary of Findings	51
5. Nebraska and Arkansas YLS/CMI	51
a. Summary of Findings	55
6. Arizona AOC Risk Assessment Instrument	55
a. Summary of Findings	60
7. Arizona DJC DRI	61
a. Summary of Findings	65
8. Oregon JCP Assessment	66
a. Summary of Findings	68
B. Comparison of Results Across Jurisdictions and Assessments	68
1. Reliability	68
2. Validity	72
3. Equity	76
4. Revised Risk Assessment Instruments Constructed in the Study	78
5. Efficiency and Cost	82

TABLE OF CONTENTS (continued)

IV.	DISCUSSION	86
A.	Instruments Developed for General Use	87
1.	Overall Results	87
2.	Developmental Methods.....	88
3.	Other Design Issues.....	91
4.	Would Simpler Models Transfer Better Among Agencies?	94
5.	Are Complex Scoring Algorithms or Classification Methods Needed or Beneficial?	98
B.	Risk Instruments Developed for a Specific Agency	100
C.	Comments From Advisory Board Members and Authors' Responses	103
1.	Best-Practice Implications of the Study Findings: Comments on the Validity, Reliability, and Equity of Commonly Used Juvenile Risk Instruments, by James Howell, PhD, and Aron Shlonsky, PhD.....	103
2.	Youth Risk Assessment Approaches: Lessons Learned and Questions Raised by Baird et al.'s Study (2013), by Jennifer Skeem, PhD, and (in alphabetical order) Robert Barnoski, PhD, Edward Latessa, PhD, David Robinson, PhD, and Claus Tjaden, PhD.....	108
a.	Overview.....	108
i.	Context and Purpose.....	108
ii.	Summary of Key Points.....	109
b.	Conclusions Supported by Data	110
c.	Open Question: Does Reduction-Oriented Risk Assessment Add Value?.....	119
3.	Authors' Responses to Comments.....	121
V.	LIMITATIONS.....	132
VI.	CONCLUSION.....	134
	REFERENCES.....	135

APPENDICES

Appendix A:	Risk/Needs Assessment Systems
Appendix B:	Validation Results by Site
Appendix C:	Reliability Results by Site
Appendix D:	Expert Scorer Qualifications
Appendix E:	Staff Perceptions
Appendix F:	Administrator Advice

EXECUTIVE SUMMARY

Juvenile justice service staff began exploring the use of actuarial risk assessments that classify offenders by the likelihood of future delinquency with earnest in the 1970s, but actuarial risk assessments have been used by public social service agencies in the United States since 1928. The value and utility of a valid, reliable, and equitable risk assessment within a broader practice reform effort was made clear to justice agencies in 1998 when the Office of Juvenile Justice and Delinquency Prevention (OJJDP) published the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders. OJJDP's reform effort illustrated how juvenile justice agencies could better ensure the effectiveness and appropriate targeting of services by implementing both an actuarial risk assessment to accurately, reliably, and equitably classify youth by the likelihood of future delinquency and an equally effective needs assessment to identify an intervention and treatment plan tailored to an individual's needs. This approach built upon the efforts of the National Institute of Corrections' Model Probation/Parole Management Project that combined actuarial risk assessment, individual needs assessment for effective treatment planning, regular reassessments of risk and needs and risk-based supervision standards, and workload-based budgeting.

Other models of risk assessment were introduced over subsequent decades, and researchers began categorizing and comparing them as generations of risk assessments. The first generation of risk assessments were not actuarial—individual workers assigned risk levels without the aid of actuarial instruments. Generation 2 instruments were statistically derived, but relied heavily on static criminal history factors to assess risk. They tended to be developed using local data for specific jurisdictions, typically consisted of fewer than a dozen factors (e.g., the California Base Expectancy Tables developed in the 1960s), and focused on identifying groups of offenders with distinctly different risks of future offending. Many of today's instruments, often referred to as generation 3 or generation 4, have expanded beyond the singular objective of risk assessment to classify individuals by risk of delinquency. These instruments often contain dozens of factors (for example, the Correctional Offender Management Profiling and Alternative Sanctions [COMPAS] Youth risk assessment instrument). They frequently divide risk factors into two groups: "static" and "dynamic" (see, for example, Schwalbe, 2008; Hoge, 2002). Static factors are generally measures of prior delinquency. Dynamic factors are commonly referred to as "criminogenic needs" and represent conditions or circumstances that can improve over time (Andrews, Bonta, & Wormith, 2006). In addition, protective factors and references to "responsivity" have been added to generation 4 instruments. Responsivity is intended to reflect an individual's readiness for change and gauge a youth's ability to respond to particular treatment methods and programs (Andrews, 1990). Generation 4 instruments contain anywhere from 42 to approximately 150 factors.

These variations in methodology and philosophy raised questions about which types of instruments most accurately and effectively help jurisdictions differentiate between low-, moderate-, and high-risk youth. Many evaluations of risk assessments based validity on correlation coefficients or other measures of association. Those that examined the degree of difference in recidivism rates observed for youth identified as low, moderate, or high risk often found little differentiation; results could vary

substantially by race, ethnicity, and gender. Few jurisdictions conducted local validation studies to ensure a risk assessment's validity and reliability, and now one foundation-funded reform effort is telling agencies that local validation is not required if an instrument has been validated in three agencies or for similar populations.

Perhaps the most significant change in the last few decades has been the emergence of commercially available risk assessment systems. Prior to this development, risk assessment studies were generally conducted by universities, nonprofit research organizations, or research units within government agencies. Claims made about the validity and reliability of some of these tools have been challenged by other researchers (Skeem & Eno Loudon, 2007; Baird, 2009). In response to concerns about the classification and predictive validity of several risk assessments voiced by juvenile justice practitioners and researchers, OJJDP funded a proposal submitted by the National Council on Crime and Delinquency (NCCD) to evaluate commonly used risk assessments by comparing their predictive validity, reliability, equity, and cost. NCCD is a nonprofit social research organization, and its researchers conducted the study of eight risk assessments in 10 jurisdictions in consultation with an advisory board of juvenile justice researchers and developers of commercial juvenile justice risk assessment systems included in the study.

The 10 jurisdictions use a variety of risk assessment instruments, ranging from commercially available systems to models developed for use by a specific agency. The seven agencies that use risk assessment models created for general use include the Arkansas Department of Human Services, Division of Youth Services; Florida Department of Juvenile Justice; Georgia Department of Juvenile Justice; Nebraska Department of Health and Human Services, Office of Juvenile Services; Nebraska Office of Probation Administration; Solano County, California; and the Virginia Department of Juvenile Justice. The three that were validated on and for local populations are Arizona and Oregon tools (Table E1).

Table E1			
Sites and Risk Assessments Evaluated for Inter-Rater Reliability and Validity			
Site Agency	Risk Assessment Instrument	Who completes risk assessment protocol?	What decisions does it inform?
Arizona Administrative Office of the Courts (AOC)	Risk/needs system validated for Arizona youth placed/referred to juvenile court	Probation officers	Supervision type and level, services
Arizona Department of Juvenile Corrections (DJC)	Dynamic Risk Instrument (DRI), validated for secure care/committed population	Secure commitment facility staff	Placement decisions, treatment planning, case planning, release decisions
Arkansas Department of Human Services, Division of Youth Services (DYS)	Youth Level of Service/Case Management Inventory (YLS/CMI) for youth in secure commitment	Case coordinators and service managers	Establishment of treatment goals, program placement

Table E1			
Sites and Risk Assessments Evaluated for Inter-Rater Reliability and Validity			
Site Agency	Risk Assessment Instrument	Who completes risk assessment protocol?	What decisions does it inform?
Florida Department of Juvenile Justice (DJJ)	Positive Achievement Change Tool (PACT)	Probation officers	Supervision levels, services
Georgia Department of Juvenile Justice (DJJ)	Comprehensive Risk/Needs (CRN) assessment, an early derivative of COMPAS Youth	Probation/commitment assessment specialists	Supervision levels, commitment and placement decisions
Nebraska Department of Health and Human Services, Office of Juvenile Services (OJS)	YLS/CMI for youth in secure commitment	OJS evaluation coordinators	Supervision levels, commitment decisions
Nebraska Office of Probation Administration	YLS/CMI	Probation officers	Supervision levels, case planning
Oregon Juvenile Justice	Juvenile Crime Prevention (JCP) assessment developed for youth referred to juvenile justice system	Probation officers, detention workers, and prevention workers	Direct service supervision, case plan
Solano County, California	Gender-specific risk assessments in JAIS for youth referred to probation	Probation officers	Risk informs supervision and service intensity, needs assessment case plan
Virginia Department of Juvenile Justice (DJJ)	Youth Assessment and Screening Instrument (YASI) for youth on probation, facility or parole	Probation officers and facility staff	Supervision levels, number of probation contacts, case plan

Inter-Rater Reliability Testing

Inter-rater reliability is a necessary quality in an assessment because it helps ensure that different caseworkers, faced with the same case information, will reach the same scoring and recommendations for key decision thresholds such as risk of future delinquency. If assessment items are not reliable, it is unlikely that they will be predictive.

We measured the inter-rater reliability of risk assessment items by asking a sample of officers/caseworkers to review case files for 10 youth, observe a videotaped interview of each youth, and score a risk assessment (or risk/needs assessment) for each youth. The number of raters varied by site between five and 69, with most sites engaging 25 or more workers in testing (selection was random in some sites but voluntary in others). We used multiple measures to assess inter-rater reliability, as each has limitations that are important to understand. Percent agreement is and has been our primary measure for comparison across items and assessments because it is easy to understand and transparent; the limitation is that it does not control for the likelihood that caseworkers would randomly reach the same response by chance.

In a comparison of assigned risk level by each assessment for 10 test cases, most tools achieved high percent agreement between workers. Fewer instruments achieved high levels of agreement with an expert score (five of the 10), intra-class correlation coefficient with risk score at or above .80 (five), and kappa above .6 (three). Of most interest is that only three of the risk assessments had positive indications of inter-rater reliability across every measure: Arizona's homegrown AOC assessment, Solano County's gender-specific assessments, and Virginia's YASI. Overall, prior delinquency history and other similar static risk factors demonstrated higher levels of inter-rater agreement than dynamic factors; this was especially true for more subjective measures such as youth attitudes.

Validity and Equity Testing

In order to effectively target limited resources, a risk assessment needs to result in valid and equitable classifications. Testing the predictive validity and equity of the risk assessments involved sampling a cohort of youth on probation or released from a facility (i.e., post-commitment). Recidivism was tracked over a 12-month follow-up period for all sites but one (where only nine months of outcomes were available). Outcome measures were obtained from agency databases and include subsequent arrests, subsequent adjudications, and subsequent placement in a juvenile facility. Exceptions were two sites for which recidivism was limited to return to a correctional facility for youth released from facilities. Findings showed that several of the evaluated risk assessment systems failed to provide the level of discrimination needed by probation and correctional service staff if they are to optimize decisions regarding supervision requirements.

Three systems, the Oregon JCP, Solano County's Juvenile Sanction Center risk assessment for boys, and the YASI model used in Virginia, demonstrated considerable capacity to accurately separate cases into low, moderate, and high risk levels with progressively higher recidivism with each risk level increase. The area under the curve (AUC) and Dispersion Index for Risk (DIFR) scores for these risk assessments were also acceptable. Other instruments evaluated suffered from a lack of distinction between risk categories by outcomes examined. The AUC and DIFR were also insufficient for several risk models.

In all jurisdictions where sample size allowed, NCCD conducted additional analyses to determine if a simple actuarial risk instrument would provide better classification results. This effort was restricted by available data, but better results were obtained in most instances using simple construction scale methods such as analyses of correlations and regression models. In two agencies with large study cohorts available, cases were divided into construction and validation samples and results from the validation samples presented. This step is recommended because results from a construction are generally the best that will be attained. When tested on an independent sample, the level of discrimination attained tends to decline. In this exercise, we found minimal "shrinkage." The combined results of all analyses conducted suggest that limiting factors on a risk assessment to those with a strong, significant relationship to outcomes will result in a more accurate risk classification.

Some members of the advisory board claim that little difference was shown in predictive efficacy of many of the instruments tested in this study. They base these conclusions primarily on a comparison of AUC values. Their viewpoint, comments from other advisory board members, and our responses appear in the “Discussion” section of the report. In short, risk assessments should be evaluated based on how the information informs practice; thus, we assessed predictive validity using multiple measures, with recurrence of delinquency by risk classification level as our primary measure. The reasoning for this approach is further described in the body of the report.

Implications for Practice

The proper use of valid, reliable risk assessments can clearly improve decision making. Results of this study show, however, that the power of some risk assessment instruments to accurately classify offenders by risk level may have been overestimated. The first step in remedying this situation is to ensure that everyone working in the field of juvenile justice understands the importance of valid, reliable, and equitable risk and needs information. Although the study provided fodder for many areas of policy and practice, as well as future research and development, researchers, practitioners, and advocates should focus attention on the following points.

- A. Jurisdictions must be able to ensure that the risk assessment completed by field staff to inform case decision making is reliable, valid, and equitable. Decisions about youth are based on the level of risk assigned. Thus, the primary measure of validity must be the level of discrimination produced. This study clearly demonstrates that similar AUCs do not translate into similar classification capability. Jurisdictions should expect reliability testing and validation studies when assessment models are transferred to other jurisdictions and would benefit from making evaluation of assessments part of a more comprehensive approach to evidence-based practice.
- B. National standards could provide juvenile justice administrators with clear guidelines for assessing the reliability, validity, and equity of existing models. Such standards could also help agencies develop the capacity to construct instruments for their populations and understand how valid risk and needs information can help them monitor and improve practice. National standards could be established to help ensure due diligence, such as ensuring reliability testing and validation studies before and after risk assessment instruments are transferred to other jurisdictions and emphasizing measures that are most applicable for practice conditions and easier for administrators to understand. Measures emphasized over the last decade have significant shortcomings and fail to convey that which is most important to correctional administrators: the level of discrimination in outcomes attained between risk levels and the proportion of cases assigned to each risk level. The purpose of risk assessment is to classify offenders into groups with substantially different probabilities of future offending; measures such as correlations (frequently depicted as effect size) and AUC, while useful, are not by themselves adequate measures of validity. Likewise,

while correlations are not adequate measures of reliability, they sometimes are the only measure reported.

- C. Risk assessment should focus solely on identifying cases most and least likely to be involved in future offending, e.g., limiting the list of contributing factors to items significantly related to delinquency in the expected direction. Simple, straightforward, actuarial approaches to risk assessment generally outperform more complicated approaches.

Risk assessment should be a simple process that can be easily understood and articulated. This study's findings show that simple, actuarial approaches to risk assessment can produce the strongest results. Adding factors with relatively weak statistical relationships to recidivism—including dynamic factors and criminogenic needs—can result in reduced capacity to accurately identify high-, moderate-, and low-risk offenders.

INTRODUCTION

This study examined the validity, reliability, equity, and cost of nine juvenile justice risk assessment instruments. Though many researchers and practitioners believe that risk assessment is critical to improving decision making in the juvenile justice system, the range of options currently available makes the selection of the most appropriate instrument for each jurisdiction a difficult choice. This study was designed to provide a comprehensive examination of how several risk assessments perform in practice.

Further, the study helps establish an agenda for both researchers and practitioners to explore questions relating to risk assessment construction, evaluation, and use in practice and offers possible solutions to issues identified in the study. Using data available in each agency's data extract, additional analyses were undertaken to determine if validity and equity could be improved using actuarial scale construction methodology. These analyses are presented and discussed in the "Discussion" section of the report.

The study is premised upon the need for valid, reliable, and equitable risk assessment instruments in juvenile justice. Broadly defined, risk assessment refers to the process of estimating an individual's likelihood of continued involvement in delinquent behavior. A risk instrument can inform crucial decisions, including whether and where youth will be incarcerated, how they will be supervised in the community, and in which programs they will participate. A valid, reliable, and equitable assessment of risk, when used in concert with sound clinical judgment and effective delivery of appropriate services, can be essential to treatment, reentry, and rehabilitation. Accurate assessment can also help juvenile justice agencies allocate resources to youth who need them most, which can then impact the safety and well-being of communities.

The study examined the Positive Achievement Change Tool (PACT), the Youth Assessment and Screening Instrument (YASI), the Youth Level of Service/Case Management Inventory (YLS/CMI), the

Comprehensive Risk and Needs Assessment (CRN, a derivative of Correctional Offender Management Profiling and Alternative Sanctions [COMPAS] Youth), the Juvenile Sanctions Center (JSC) risk assessment instrument, the Girls Link risk assessment instrument, the Arizona Administrative Office of the Courts risk assessment instrument, the Arizona Department of Juvenile Correction Dynamic Risk Instrument (DRI), and the Oregon Juvenile Crime Prevention (JCP) assessment.

The National Council on Crime and Delinquency (NCCD) conducted the study between 2011 and 2013. The study was supported by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and overseen by an advisory board that approved study design and implementation.

A. The Historical Background of Risk Assessments in Juvenile Justice

Recent literature on risk assessment describes four different generations of risk assessments. Variations in methodology and philosophy have developed over time, and the objectives of risk assessment have expanded beyond classification. This expansion has raised questions about which types of instruments most accurately and effectively help jurisdictions differentiate between low-, moderate-, and high-risk youth; whether the instruments are consistently completed by line staff; and whether the instruments equitably assign youth to risk levels by race and gender.

Early approaches to risk assessment are generally known as “generation 1” and “generation 2.” In generation 1, risk levels were assigned by individual workers without the aid of actuarial instruments. Generation 2 instruments were statistically derived, but relied heavily on static criminal history factors to assess risk. They tended to be developed using local data for specific jurisdictions, typically consisted of fewer than a dozen factors (e.g., the California Base Expectancy Tables developed in the 1960s), and focused on identifying groups of offenders with distinctly different risks of future offending. Juvenile risk instruments were first developed in the 1970s.

Many of today's instruments, often referred to as generation 3 or generation 4, have expanded beyond the singular objective of risk assessment. These instruments are meant for general use, as they most often have not been constructed for a particular jurisdiction's population. They often contain dozens of factors (e.g., the COMPAS Youth risk assessment instrument). They frequently divide risk factors into two groups: "static" and "dynamic" (see, for example, Schwalbe, 2008; Hoge, 2002). Static factors are generally measures of prior delinquency. Dynamic factors are commonly referred to as "criminogenic needs" and represent conditions or circumstances that can change over time (Andrews, Bonta, & Wormith, 2006).

In addition, protective factors and references to "responsivity" have been added to generation 4 instruments. Responsivity is intended to reflect an individual's readiness for change and to gauge a youth's ability to respond to particular treatment methods and programs (Andrews, 1990). This change has sometimes resulted in the addition to these instruments of "protective factors"—conditions, circumstances, or strengths that may help a youth overcome obstacles to success in the community. Generation 4 instruments now contain anywhere from 42 to approximately 150 factors.

Some generation 3 and 4 instruments incorporate risk factors identified in prior research studies and in one or more theories of criminal or deviant behavior. The YLS/CMI, for example, includes "those items that previous research had indicated were most strongly associated with youthful criminal behavior" and were also based on the "General Personality and Social Psychological Model of Criminal Conduct" (Andrews & Bonta, 2003). Similarly, the COMPAS Youth risk assessment instrument is based on theories of criminal/deviant behavior (Brennan, Dieterich, & Ehret, 2009).

A principle of risk assessment is that services should be targeted to the highest-risk cases (Andrews & Bonta, 1995). Therefore, if a risk assessment instrument does not accurately identify high-risk cases, the instrument does not achieve its primary purpose. It does little good to identify service needs unless services are directed toward youths who are truly "high risk." If changes to risk assessment instruments have resulted in diminished capacity to accurately discriminate among high-

moderate-, and low-risk youth, then decision making in juvenile justice has been adversely affected, regardless of other features added to the instruments.

Evaluations of individual instruments have been conducted in recent years. In some instances, researchers have found little differentiation between low, moderate, and high risk levels. For example, a 2007 study of YASI in the state of New York found only a 3.8% difference in outcomes between moderate- and high-risk cases (Orbis Partners, 2007).¹ A study of the PACT risk assessment instrument in Florida found little difference in recidivism rates among moderate-risk, moderately high-risk, and high-risk probationers (Baglivio & Jackowski, 2012). In another study, eight particular factors from the Level of Service Inventory-Revised (LSI-R) produced far better discrimination than the entire 54-item scale for offenders in Pennsylvania (Austin, Coleman, Peyton, & Johnson, 2003). A recent validation of the adult COMPAS model in California found that better discrimination could be attained using four simple risk factors (Farabee, Zhang, Roberts, & Yang, 2010).

In addition, relatively few published studies of these risk assessment instruments have included an item analysis—that is, an analysis of how well each of the factors individually corresponds to the risk of recidivism. Of those that did include item analysis, some found only modest and often insignificant relationships between risk factors and outcomes. For example, a study of the LSI determined that a substantial number of factors in the instrument demonstrated little or no relationship to recidivism (Flores, Travis, & Latessa, 2003).² A review of COMPAS (Skeem & Eno Loudon, 2007; p.17, 19) found “no evidence that the original COMPAS basic scales, higher-order scales, or risk scales predict recidivism ... available data provide no evidence that the original COMPAS risk scales

¹ The 3.8% difference cited above reflects the difference in arrest rates 12 months from the date of the assessment. The difference in adjudication rates was 3.7%. Twelve-month rates were reported for arrests and adjudications because those were the recidivism measures available in the jurisdictions that participated in this study. While overall base rates for these two outcomes increased substantially at 24 months in New York, differences observed between cases rated moderate and high risk increased only slightly, from 3.7% to 5.9% for adjudications and from 3.8% to 6.6% for arrests. Even at 24 months, the differences remain well below those found in many effective classification systems.

² The Youth Level of Service Inventory (LSI) is an adaptation of the YLS used in adult corrections. The YLS/CMI also includes a case-planning component.

predict reoffending of any sort.” The original COMPAS was validated by estimating the relationships between COMPAS scores and *prior* criminal activity.

Some studies of generation 3 and 4 instruments used small samples and overstated their conclusions. For example, in one recent publication reporting on results of 47 studies of LSI validity, only correlations were reported (Vose, Cullen, & Smith, 2008). The correlation coefficients obtained varied substantially, and coefficients as low as 0.137 were cited as evidence of validity. (The threshold for validity was a statistically significant relationship between the total LSI-R score and some measure of recidivism.) Of these studies, 22 used samples of less than 200 cases. In another meta-analysis of 22 LSI validation studies, eight studies used samples of 100 or fewer offenders, and only two examined samples of 300 or more cases. Only correlations were reported, and the average correlation between LSI scores and recidivism was 0.24 (Campbell, French, & Gendreau, 2007).

Few of the existing evaluations include studies of reliability and equity. The existing studies tend to focus on a single risk instrument at a time and use various methods to examine validity, reliability, and equity, making comparisons across instruments as well as generalizations about the field difficult. This study examines the validity, reliability, and equity of nine instruments using the same methodology to review validity, reliability, and equity.

II. Research Methodology

A. Goals

This project was designed to provide the field with an objective study of the validity, reliability, and equity of different approaches to risk assessment. A second goal was to review methods currently used to evaluate validity and reliability and to discuss the strengths and weaknesses of each. A third goal of the research was to provide the field with clear and relevant information on each instrument’s capacity to estimate risk across all major race/ethnicity groups. Ensuring that risk assessment

instruments equitably classify all youth could help reduce the incidence of minority overrepresentation in the juvenile justice system. A fourth goal of the study was to report basic cost parameters about each of the risk assessment instruments reviewed.

B. Research Questions

This study posed the following questions.

1. Is each risk assessment instrument sufficiently reliable (i.e., inter-rater reliability) to ensure that decisions regarding level of risk and identified service needs are consistent across the organization?
2. What specific risk assessment items are associated with less reliability? What items are rated reliably by staff?
3. Is each risk assessment instrument valid? Specifically, what degree of discrimination is attained between assigned risk levels? Could the instrument be improved by adding or deleting specific factors and/or altering cut-off scores?
4. Is each risk assessment instrument valid for population subgroups: White/Caucasian, Black/African American, Hispanic/Latino, females, probationers, and youth in aftercare status? Could equity be improved by adding or deleting specific factors or altering cut-off scores?
5. What costs are associated with each risk assessment instrument?

C. Risk Assessment Instruments Evaluated

The following risk assessment instruments were reviewed for this study:

- Youth Level of Service/Case Management Inventory (YLS/CMI), Multi-Health Systems;
- Positive Achievement Change Tool (PACT), Assessments.com;
- Comprehensive Risk/Needs Assessment (CRN), a derivative of COMPAS Youth, Northpointe, Inc.;
- Youth Assessment and Screening Instrument (YASI), Orbis Partners, Inc.;

- The Juvenile Sanctions Center (JSC) risk assessment, available in the public domain;
- A risk assessment developed for the Girls Link program in Cook County, Illinois, available in the public domain;
- The Oregon Juvenile Crime Prevention (JCP) Assessment, Oregon;
- The Arizona Department of Juvenile Corrections Dynamic Risk Instrument (DRI), Arizona DJC; and
- The Arizona Juvenile Risk and Needs Assessment, Arizona Administrative Office of the Courts.

D. Participants

Participants included juvenile justice agencies that had implemented risk/needs assessments during the past 10 to 12 years. They represent the range of agencies that use risk/needs assessments: county probation, state probation, and state juvenile justice systems responsible for incarcerated youth and those in aftercare. Brief profiles of each agency are provided below.

- Arkansas Department of Human Services, Division of Youth Services (DYS), is a statewide agency responsible for youth in secure commitment. DYS uses the YLS/CMI.
- Florida Department of Juvenile Justice (DJJ) uses the PACT instrument. DJJ is a statewide system that works with juveniles on probation, in secure care, and in aftercare.
- Georgia Department of Juvenile Justice (DJJ) uses the CRN instrument, an early derivative of the COMPAS Youth. DJJ works with youth on probation, in secure commitment, and in aftercare in 142 of 159 “dependent” counties (17 other counties have their own “independent” court services).
- Virginia Department of Juvenile Justice (DJJ) is a statewide agency that works with juveniles on probation, in secure care, and in parole. DJJ uses the YASI.
- Nebraska Office of Probation Administration is a statewide agency that works with youth on probation and uses the YLS/CMI.
- Nebraska Department of Health and Human Services, Office of Juvenile Services (OJS) is a statewide agency that works with youth in secure commitment. OJS uses the YLS/CMI.

- Solano County, California, Probation Department, Youth Division, uses the JSC risk assessment for boys and the Girls Link instrument for girls.
- Arizona Department of Juvenile Corrections (DJC) is a statewide agency that at the time of the study used the DRI, a risk assessment instrument developed specifically for the secure care commitment population in the state.
- Arizona Administrative Office of the Courts (AOC) is responsible for setting policies related to youth referred to juvenile court, including youth placed on probation. AOC uses a risk assessment developed and validated specifically for cases referred to juvenile court in Arizona.
- All county-based juvenile justice departments in the state of Oregon. In addition, the state oversight body, the Oregon Youth Authority, which is responsible for youth offenders and other functions related to state programs for youth corrections, was involved. The JCP risk assessment instrument was developed specifically for Oregon.

A comparison of risk assessment instrument use across sites is presented below, including who completes each instrument, when the instrument is completed, and what decisions are informed by the results.³ For copies of each instrument, see Appendix A.

³ Based on interviews with site administrators in September 2012.

Table 1

Use of the Risk Assessment at Each Site

Site	Risk Assessment Instrument	Who completes instrument?	When?	What decisions does it inform?	Shared with courts?
Arizona AOC	Risk and Needs Assessment	Probation officers	At referral and when probation is ordered	Supervision type and level, services	Varies
Arizona DJC	DRI	Secure commitment facility staff	Intake	Placement decisions, treatment planning, case planning, release decisions	Yes, courts can view results on website
Arkansas	YLS/CMI	Case coordinators and service managers	Within 1–3 weeks of commitment to DYS custody	Establishment of treatment goals, program placement	Yes
Florida	PACT	Probation officers and contracted staff (in some instances)	Intake, new violations, and re-assessments every 90 days	Supervision levels, services, risks, needs	Yes
Georgia	CRN	Juvenile probation parole specialists (probation) and assessment and classification specialists (commitment)	Within 30 days of disposition (probation) and prior to the 10th business day after disposition (commitment)	Supervision levels, commitment decisions and placement, custody decisions	Yes, for committed youth
Nebraska OJS	YLS/CMI	OJS evaluation coordinators	After adjudication or if commitment is anticipated	Supervision levels, commitment decisions	Yes
Nebraska Probation	YLS/CMI	Probation officers	Pre-disposition investigation, placed on probation, or new juvenile (if not done previously)	Supervision levels, case planning	Yes
Oregon	JCP	Probation officers, county detention workers, and juvenile crime prevention community agencies	Intake, program referral, or after adjudication (in small number of counties)	Direct service supervision, case planning	Varies by jurisdiction
Solano County, California	JSC; Girls Link	Probation officers	Every six months after the initial assessment	Risk assessment informs supervision levels; risk and needs assessments inform services and case planning	Yes
Virginia	YASI	Probation officers and secure commitment facility staff (as of 7/1/12)	Predisposition reports, when probation is ordered, at time of commitment, and six-month reassessment	Supervision levels, number of probation contacts, commitment case planning	Yes

E. Advisory Board

An advisory board consisting of researchers, a former head of a juvenile corrections department, and purveyors of the various risk assessment instruments examined in the study helped oversee study design and completion. The advisory board met seven times during the course of the project (once in Phoenix, Arizona; once in Baltimore, Maryland; and five times via web-based conference) to review and approve all proposed methods of data collection and analysis, all materials used to conduct reliability testing, and all findings and results. Advisory board members reviewed a draft report and were given an opportunity to include a dissenting opinion on any aspect of the analysis and final report. The advisory board consisted of the following individuals:

- David Gaspar, Senior Program Manager, NCCD; former director, Arizona DJC; former president of Council of Juvenile Correctional Administrators; former member of the Board of Governors of the American Correctional Association;
- Sean Hosman, JD, CEO, Assessments.com;
- James Howell, PhD, Managing Partner, Comprehensive Strategy Group;
- Edward Latessa, PhD, Professor and Director, School of Criminal Justice, University of Cincinnati;
- David Robinson, PhD, Director of Implementation and Development–Assessment, Orbis Partners, Inc.;
- Aron Shlonsky, PhD, Factor-Inwentash Chair and Associate Professor, University of Toronto School of Social Work;
- Jennifer Skeem, PhD, Professor, Departments of Psychology and Social Behavior and Criminology, Law, and Society, University of California, Irvine; and
- Claus Tjaden, PhD, Founder and Senior Partner, Martinez Tjaden, LLP.

Midway through the project, Robert (Barney) Barnoski, PhD, formerly with the Washington State Institute for Public Policy (retired) and adjunct faculty at Washington State University, was added to the board at the request of Mr. Hosman.

F. Measures

The risk assessment instruments evaluated in this study range from simple additive scales contained on a single page to risk assessments completed as part of a more comprehensive system that includes needs assessment. The study sites also differed in philosophy, policies, and procedures. These types of differences have the potential to result in substantial variance in services provided to youth in the justice system and in recidivism rates reported in each jurisdiction. Study methods, described below, attempted to account for these differences.

It is important to recognize the role of base rates (in this report, recidivism rates serve as the base rates). Base rates are the overall recidivism rates observed in each state or county studied and can have a profound impact on the ability to construct valid risk assessment instruments (Gottfredson, 1987). Of the seven probation agencies represented in the study, five had remarkably similar rates of new adjudications reported in the 12-month follow-up period. Oregon, however, reported a rate that was less than half those reported in Nebraska, Arizona, Georgia, Virginia, and Florida. The Solano County, California, cohort used for this study had a much higher base rate than other participating jurisdictions.

Base rates can be affected when an agency screens out or diverts low-risk offenders because the practice essentially results in assessing a higher-risk group, i.e., higher recidivism rates are often observed for those who enter the system. On the other hand, if an agency assesses all cases referred to juvenile court, recidivism rates for these offenders will generally be lower than those observed for an agency that systematically screens out low-risk offenders.

1. Reliability

a. *Calculating Reliability*

Inter-rater reliability is a measure of consistency among workers responsible for completing assessment instruments. Inter-rater reliability can be evaluated by a straightforward measure: percent agreement among raters. This measure is intuitive and has been used extensively in other fields, such as studies of assessment instruments used in child welfare (see, for example, Coohey, Johnson, Renner, & Easton, 2013). Percent agreement among raters indicates how often raters arrive at the same score for each risk factor and for the overall score. Additionally, percent agreement with scores from local experts who have extensive experience administering the assessment provides an indication of the degree to which raters' selections were correct (assuming the expert correctly scores items on the instrument). Inter-rater reliability is calculated with the following formula:

$$\text{Average percent agreement for item } i = \frac{(a_1 + a_2 + \dots + a_n)}{(r_1 + r_2 + \dots + r_n)}$$

where a is the number of raters who agreed with the most common response for item i on each vignette, n is the total number of cases completed for item i , and r is the number of raters on each vignette for item i .

Percent agreement with expert scores is calculated by summing the number of ratings that matched the expert rating across the study cases, then dividing by the total number of ratings.

$$\text{Percent agreement with expert for item } i = \frac{(e_1 + e_2 + \dots + e_n)}{(r_1 + r_2 + \dots + r_n)}$$

where e is the number of raters who agreed with expert score for item i on each vignette, n is the total number of cases completed for item i , and r is the number of raters (excluding the expert) on each vignette for item i .

Kappa, a standardized measure regularly used to measure item inter-rater reliability, tests whether levels of agreement exceed agreement that might occur by chance. A kappa of 0 means that actual agreement is equal to the agreement that would be expected to occur by chance. A positive

kappa indicates a level of agreement greater than what can be accounted for by chance. A kappa of 1 represents perfect agreement among raters. Cohen's kappa applies to two raters, whereas Fleiss' kappa is the recommended statistic for categorical measures and more than two raters (Landis & Koch, 1977a). Using the standardized kappa approach facilitates the comparison of reliability across risk assessment instruments.

The kappa, however, has limitations. Fleiss' kappa can vary with changes in prevalence rates even in the presence of a high rate of actual agreement (Uebersax, 1987; Rodella, 1996). The standardized kappa is also limited to its assumptions about the role and likelihood of chance, for example, that raters make decisions by chance or that workers in practice settings would score the risk assessment by randomly selecting responses.

Kappas are calculated using the following formula:

$$\kappa = \frac{P - P_e}{1 - P_e}$$

where $P = \frac{1}{N} \sum_{i=1}^N P_i$; $P_i = \frac{1}{n(n-1)} \sum_{j=1}^k n_{ij}(n_{ij} - 1)$; $P_e = \sum_{j=1}^k p_j^2$; and $p_j = \frac{1}{Nn} \sum_{i=1}^N n_{ij}$ and N is the number of cases, n is the number of raters, and k is the number of risk categories.

Another standardized measure of agreement is the intra-class correlation coefficient (ICC). The ICC attempts to minimize the effect of rater patterns by accounting for the magnitude of difference between raters' scores. In other words, the ICC measures the degree to which two raters have the same or *nearly* the same ratings. The ICC can be applied to risk scores and levels.

The ICC compares the variance of different ratings of the same case to the total variation across all ratings and all cases. The ICC attempts to account for the absolute differences in rater patterns, which can minimize the effect of rater patterns on the coefficient. One limitation of this measure is that it is possible to obtain a high ICC when the level of actual agreement is low; for

example, when one rater consistently ranks more severely than another. In addition, high correlations can be attained when the number of rankings possible is limited (e.g., a scale that only included three levels: high, moderate, and low risk).

ICC can be calculated using a two-way, mixed-effects analysis of variance (ANOVA) model, with raters as a fixed factor and agreement defined as absolute. The formula is:

$$ICC(2,1) = \frac{BMS - EMS}{BMS + (k - 1)EMS + k(JMS - EMS)/n}$$

where BMS is the between mean square for cases, EMS is the error mean square within raters, JMS is the mean square within raters, k is the number of raters, and n is the number of cases.

To accommodate the strengths and weaknesses of each of these measures, inter-rater reliability was tested in this study using percent agreement, kappa, and ICC. Statistics were computed in the Statistical Package for the Social Sciences (SPSS) or the R software package.

b. Methods Used to Study Reliability

Examining inter-rater reliability typically begins with the construction of cases by: (1) procuring case files from each site and redacting identifying information; (2) creating case vignettes augmented with videotaped interviews and any other information required to complete a risk assessment; or (3) using a hybrid of actual cases and augmenting them with information needed to serve as the basis for risk ratings. In all instances, raters assess cases using the same information.

The current study included videotaped interviews augmented by file information including the offense, prior delinquency, and other factors not covered in the interview. The approach was constant across all sites, and information provided to participants was sufficient to score most of the factors contained in each risk assessment instrument. The cases used did present some limitations for some of the sites, particularly sites that exclusively serve youth committed to secure care facilities. The

interviews used were with youth recently placed on probation and did not include youth placed in state facilities. In addition, because these interviews were used across sites, not all questions could be posed in the exact manner in which staff in all sites were trained and/or are accustomed.

Reliability test cases consisted of videotaped interviews with 10 youth who were clients of a private service provider in the southern United States. To protect youth identity, each youth chose an alias to use during the interview and was instructed to not disclose any personally identifying information such as real name, date of birth, sibling names, and/or addresses. All youth were involved in the juvenile justice system at the time of the interview, and all volunteered to be interviewed. Each youth and/or his/her parent/guardian signed forms consenting to the use of the videos for purposes of this study and other training exercises.

The interview questions were designed to gather information related to the various items/domains from each of the risk assessment instruments included in the study. To ensure that videotapes and supporting documentation contained all information necessary to score all instruments, NCCD researchers identified similarities and differences across the instruments. Questions posed to youth in the interviews reflected a compilation of questions and/or items across all instruments in the study. To the extent possible, all questions from all instruments in the study were included in the interviews.⁴ In addition, any questions/items that could not be incorporated into the interview were provided to study participants in an electronic file. The file listed each youth's offense history along with other information not covered by the interview questions (e.g., number of stays in detention).

Interviews were conducted by two individuals: the executive director of a private, youth-serving agency who had more than 12 years of experience in juvenile justice; and a senior NCCD staff member who was not a member of the project team. This individual had more than 10 years of

⁴ While every effort was made to capture the necessary information in the interviews, not all risk assessment questions could be addressed.

experience in juvenile justice and routinely interviews justice system-involved girls. An NCCD senior researcher assigned to the study observed the interview process to ensure that all youth understood participation was voluntary and they could opt out at any time.

Cases included in the study consisted of interviews with six boys, ranging in age from 13 to 17, and four girls, who ranged in age from 14 to 18. Six of the youth were Black/African American, two were White, one was Hispanic/Latino, and one was an American Indian youth.

In small sites, all staff who routinely complete risk assessments participated in the study as raters. In larger sites, approximately 50 randomly selected staff participated. The two exceptions were Arizona DJC and Virginia DJJ. In Arizona, specialized juvenile justice practitioners complete various portions of the risk assessment, which is embedded in a larger comprehensive assessment of youth needs and functioning in a variety of domains. Each specialist is responsible for scoring items related to his/her specialty and none of the specialists were trained to complete all portions of the assessment. Because of this, a limited number of DJC staff members who were trained and familiar with scoring most of the assessment instrument participated in the study. In Virginia, current agency priorities prohibited a random selection of workers from participating. Rather, Virginia staff who routinely complete the risk assessment were asked to volunteer and per office help ensure appropriate representation. Roughly 16% (80 out of approximately 500 staff) volunteered to participate.

Overall, the majority of raters were women; the average age of raters was 39 years; and most were White. Staff had spent an average of nearly 12 years working in the juvenile justice field, and nearly all had earned a post-secondary degree (Table 2).

Table 2							
Reliability Study Participant Raters Demographics							
Site	# Staff	Gender		Average Years of Juvenile Justice Experience	Average Age in Years	Most Prevalent Race	Percent With Post-Secondary Degree
		Male	Female				
Arizona AOC	46	43.5%	56.5%	13.7	43	White (63.0%)	100.0%
Arizona DJC	6*	33.3%	66.7%	15.6	42	White (66.7%)	50.0%
Arkansas	18*	44.4%	55.6%	14.9	37.5	Black (61.1%)	83.3%
Florida	51	33.3%	66.7%	12	43	White (51.0%)	100.0%
Georgia	54	38.9%	61.1%	8.6	37	Black (53.7%)	96.3%
Nebraska OJS	48	18.7%	81.3%	6.5	33	White (81.3%)	100.0%
Nebraska Probation	28	28.6%	71.4%	6.9	34	White (82.1%)	100.0%
Oregon	46	41.3%	58.7%	14.8	41	White (91.3%)	91.3%
Solano County	27*	18.5%	81.5%	9.5	40	White (40.7%)	100.0%
Virginia	76	22.4%	77.6%	14.5	40	White (60.5%)	100.0%
TOTAL	400	31.5%	68.5%	11.7	39	--	97.0%

Note: Reliability study participant raters were asked to complete a survey; table results are based on staff who completed the survey.

*All staff participated.

All cases in the reliability study were scored by an expert or a team of expert scorers in each jurisdiction to create an answer key for each case in the study. Staff scores were then compared to expert scores to provide a measure of the degree to which staff scored the risk assessment instrument correctly (i.e., consistent with the expert scoring). Experts in each jurisdiction consisted of staff with extensive training and/or knowledge of the risk assessment instrument and its use in the jurisdiction. Some sites identified one expert and others used a team of experts to score each case in the study. Most experts had been with the jurisdiction for an extended period of time, were former field staff, and had extensive experience training the assessment. Expert scorer qualifications can be found in Appendix D.

Reliability testing was conducted between December 2011 and April 2012. Materials included an online version of each instrument, a set of 10 videotaped interviews, and an offense history file to accompany each videotape. Advisory board members and representatives from each site in the study were given the opportunity to review all materials prior to the study start date. Videotaped cases and associated offense history files were posted to a secure website created specifically for this study. The site also contained a link to the online version of the instruments. Prior to the study start, participants were trained via a web-based conference to access the secure website, view the videos and offense history files, and complete the online version of the instrument. Workers were given four weeks to complete risk assessments for all 10 cases. Risk and needs assessment items were tested for inter-rater reliability.

To provide context for comparing the relative inter-rater reliability results, a minimum threshold of 75% agreement was established. The threshold is artificial but easy to understand—it can be interpreted as three of four people agreeing. This threshold was applied to percent agreement with risk levels, risk items, and expert scores.

While researchers do not all agree on acceptable thresholds for the ICC⁵ or kappa,⁶ the following ranges offer guidelines for interpreting results.

Table 3			
ICC and Kappa Inter-Rater Reliability Thresholds			
ICC		Kappa	
0 to 0.2	Poor	<0.2	Poor
0.3 to 0.4	Fair	0.21 to 0.4	Fair
0.5 to 0.6	Moderate	0.41 to 0.6	Moderate
0.7 to 0.8	Strong	0.61 to 0.8	Good
>0.8	Almost perfect	0.81 to 1.0	Very good

⁵ http://www.statstodo.com/ICC_Exp.php

⁶ www.medcalc.org/manual/kappa.php

2. Validity

A validation study measures risk assessment instrument performance on a population that differs from the one used to construct the instrument, or in cases where no construction sample is available, to measure the instrument's performance in the agency where it was implemented. In general, validity can be understood as the extent to which an instrument measures what it is intended to measure. For this study, validity can be understood as the extent to which risk classification and items contained in a risk assessment instrument relate to observed recidivism.

Several methods exist for measuring validity. A useful and intuitive measure is the level of separation in recidivism results attained between groups at various risk classifications and whether offenders are grouped into risk classifications of meaningful size (Gottfredson & Snyder, 2005). The combination of separation (or discrimination between recidivism rates for each classification) and the distribution of cases across the risk continuum is a meaningful measure of the risk assessment instrument's performance in practice.

The Dispersion Index for Risk (DIFR) is a measure of risk assessment accuracy that adjusts for sample size and evaluates classification levels (Silver & Banks, 1998). The DIFR assesses the performance, or "potency," of a risk assessment instrument by assessing how an entire cohort is divided by risk and the extent to which group outcomes (e.g., low, moderate, high) vary from the base rate for the entire cohort. In essence, it weights the distance between a subgroup's outcome rate and the cohort's base rate by the subgroup size to estimate the potency of an instrument. Because this measure considers proportionality and differences in outcome rates among several subgroups, it is a useful measure of the efficacy of a multilevel classification system. The DIFR formula is:

$$DIFR = \sqrt{\sum_{i=1}^k \left(\ln\left(\frac{P}{1-P}\right) - \ln\left(\frac{p_i}{1-p_i}\right) \right)^2 * \frac{n_i}{N}}$$

where k is the number of subgroups in the risk classification model, P is the total sample base rate of the outcome, N is the total sample size, p_i represents the base rate of each of the k subgroups, and n_i is the size of each k subgroup.

A limitation of the DIFR is that it measures relative distance in outcomes between groups. Thus, an instrument used in a jurisdiction with a low rate of recidivism may have a higher DIFR score than an instrument used in a jurisdiction with a higher rate of recidivism, even when the latter instrument provides far greater separation in absolute terms.

Another measure of validity is the receiver operating characteristics (ROC) curve. The ROC tests accuracy by plotting the true positive rate (sensitivity) and true negative rate (1 – specificity) for each risk score (Zweig & Campbell, 1993). The ROC curve represents the range of sensitivities and specificities for a test score.

The area under the curve (AUC) is a single measure used to compare ROC curves (Liu, Li, Cumberland, & Wu, 2005; Zweig & Campbell, 1993). It represents the probability that the value of a positive case (future delinquency) will exceed the value of a negative case (no future delinquency).⁷ A strength of the AUC is that its results are easy to interpret—the greater the AUC, the greater the accuracy of the instrument. The AUC is limited, however, in that it is possible to have a high AUC when the vast majority of people are classified to a single risk level. Attempts to standardize interpretations of the AUC vary (Royston, Moons, Altman, & Vergouwe, 2009; Tape, n.d.) and must take the base outcome rate into account (Rice & Harris, 2005).

An AUC of 1 represents a perfect test (i.e., 100% accurate); an AUC of 0.5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers have employed the following point system, much like the one used in traditional academic grading (Tape, n.d.):

⁷ The AUC equals the probability that a randomly selected youth who has committed a new offense (a positive) will score higher than randomly selected youth who did not recidivate (a negative).

- 0.90–1 = excellent
- 0.80–0.90 = good
- 0.70–0.80 = fair
- 0.60–0.70 = poor
- 0.50–0.60 = fail

Some researchers have suggested that a point system that mirrors academic grading is too stringent. In at least one study, researchers suggested that risk assessment instrument AUCs of 0.70 or higher are acceptable (Van Der Put et al., 2011); others have suggested that, in general, AUCs greater than 0.75 are strong (Dolan & Doyle, 2000). A recent study (Schwalbe, 2007) examined AUCs from 28 studies of risk assessment and found that the average AUC was approximately 0.64. None of these studies, however, suggested thresholds for interpreting the strength of the AUC.

The primary measure of validity used in this study was the degree to which each instrument was able to discriminate between groups of youth with higher and lower rates of recidivism and the distribution of cases across the risk continuum. In addition to discrimination and distribution, two summary statistics were used to provide overall estimates of scale validity: AUC and DIFR. As noted, both of these measures have limitations; however, because the AUC is frequently used as a primary measure of validity in other studies of risk assessment and because the DIFR considers both the degree of discrimination attained and the proportion of cases at each risk level, they were included to augment overall understanding of the relative validity of each risk instrument.

The validation study was based on samples of youth assessed in the sites between 2007 and 2009, with some variation. Recidivism was observed for a 12-month follow-up period, except in Arkansas, where follow-up was limited to nine months.

Several measures of recidivism were used based on data available in each jurisdiction. In most instances, recidivism measures included new arrests, new adjudications, and subsequent placement in a correctional facility. However, data on each of these measures were not available in every participating agency. The primary outcome used in the current study was subsequent adjudication;

however, in two jurisdictions, the only measure available for youth in the commitment cohort was “return to an institution.” Differences in outcomes are noted in the report when relevant.

Sample sizes ranged from 119 in Arkansas to more than 27,000 in Florida. The sample period, size, and outcomes used in each site are shown below in Table 4. (Note that Virginia was in the process of phased implementation; sample size reflects less than one third of youth placed on probation during the sample timeframe.)

Table 4					
Sample Descriptions					
Risk Assessment Instrument	Year of Implementation	Sample Period	Sample Size	Sample Description	Outcomes Examined
Arizona AOC Risk Assessment Instrument	2000	July 2007 – June 2008	7,589	Probation start	Complaint, petition, adjudication
Arizona DJC DRI	2007	July 2007 – June 2008	1,265	Releases from secure care	Commitment
YLS/CMI					
Arkansas*	2008	July 2008 – September 2009	119	Releases from secure care	Commitment
Nebraska Probation	2002	June – December 2009	1,077	Probation start	Offense, offense with sanctions, criminal offense with sanctions
Nebraska Commitment	2002	2008–2009	597	Releases from secure care	Petition, adjudication, commitment
PACT					
Commitment	2006	July 2007 – June 30, 2010	11,154	Releases from secure care	Arrest, adjudication, commitment
Probation	2006	July 2007 – June 30, 2009	27,369	Probation end	Arrest, adjudication, commitment
CRN					
Probation	2001	2008	5,695	Probation start	Arrest, adjudication, commitment
Commitment	2001	2008	469	Releases from secure care	Arrest, adjudication, commitment
Oregon JCP	2000	2007–2008	12,370	All youth assessed with JCP	Offense, adjudication

Table 4					
Sample Descriptions					
Risk Assessment Instrument	Year of Implementation	Sample Period	Sample Size	Sample Description	Outcomes Examined
Public Domain Risk Assessments					
JSC Boys	2007	May 2007 – December 2009	880	Probation start	Offense, adjudication
Girls Link	2007	May 2007 – December 2009	261	Probation start	Offense, adjudication
Virginia YASI	2008	July 2008 – June 30, 2009	1,919	Probation start	Arrest, conviction

*The standardized follow-up period for Arkansas sample cases was nine months; thus, the outcome was re-committed or not within a standardized nine-month period. Ultimately, because of limitations in the number of cases available in Arkansas and the short follow-up period, little could be deduced regarding this application of the YLS/CMI. For all other sites, outcomes were observed for a standardized, 12-month follow-up period.

a. Construction and Validation of Revised Risk Assessments

One question explored by the current study was whether *longer* risk assessment instruments (instruments that include additional goals and objectives and, hence, more items) might introduce “noise” into risk assessment and, as a consequence, reduce discriminatory power. Therefore, using data available in each jurisdiction, simple actuarial instruments were constructed to determine if classification results attained with the risk assessment instrument currently in use might be improved.

To develop revised instruments in sites with sufficient sample sizes, the cohort was divided into construction and validation samples. Because classification results are nearly always more robust for the sample from which a risk assessment instrument has been constructed (because the instrument is essentially tailored to that sample), revised instruments were developed using a construction sample and tested on a validation sample. If sample sizes were not adequate, the risk instrument was constructed on a single sample. For additional detail, see Appendix B.

The analysis did not, however, address the question of what type of instrument might best transfer to other jurisdictions. Therefore, to test the idea that simple actuarial systems might transfer better than more complex instruments and/or systems derived via non-actuarial methods, the study

simulated the use of the JSC instrument in two of the largest sites, Florida and Georgia. Because the simulation was not part of the original study design, results are not included in the findings section and are instead included in the discussion section.

3. Equity

The goal of many agencies is that a risk assessment instrument will work equally well for different racial and ethnic groups and across genders. Validity of these instruments should be established for these population subgroups and taken into consideration when determining policies and procedures that affect individual youth. Efforts to improve equity can help reduce disproportionate minority contact in the juvenile justice system. Youth of color enter all levels of the system at higher rates than White youth (Short & Sharp, 2005; NCCD, 2011; Hartney & Silva, 2007; Pope, Lovell, & Hsia, 2002).⁸ It is critical for assessment processes to treat all groups equitably.

Youth from different racial and ethnic groups labeled high, moderate, or low risk often have different rates of recidivism. When high-risk offenders from one group have similar (or lower) recidivism rates compared to moderate-risk offenders from another racial or ethnic group, the potential for biased decisions increases. The potential consequence is that risk classifications assigned to youth do not accurately represent the overall base expectancy rates used to define and differentiate risk levels.

In addition, there is growing evidence that separate instruments may be required to optimize classification results for girls (Van Voorhis, Salisbury, Wright, & Bauman, 2008; Ereth & Healy, 1997). Recent efforts to improve assessment instruments for girls have attempted to address growing concerns that standard assessment protocols fail to identify issues critical to providing care for girls in the juvenile justice system (Shepherd, Luebbers, & Dolan, 2013).

⁸ A recent study of detention procedures in Cook County, IL, for example, found that Black/African American youth were 46 times more likely to be detained than White youth (NCCD, 2011).

Equity is the degree to which a risk assessment instrument measures outcomes the same way across subgroups (i.e., what “high risk” means for boys and girls and across major race and ethnicity groups). Because equity is an essential measure of instrument validity, validity results presented for each instrument evaluated are delineated by gender, race, and ethnicity. Discrimination, distribution, AUC, and DIFR were employed to assess the equity of each instrument for subgroups and are included when sample sizes were sufficient.

Additional information on all outcome measures across jurisdictions, including comparisons by race and ethnicity and risk assessment item analyses, can be found in Appendix B.

4. Cost

Given the overall objective of this project, sufficient resources to conduct an extensive cost/benefit analysis were not available. Nevertheless, the estimates provided might help agencies determine the best approach considering their needs and circumstance.

Administrators from each of the study jurisdictions provided cost information for each instrument via phone interviews. An NCCD interviewer with experience working in a governmental agency and conducting research interviews conducted all phone interviews using a standardized interview protocol developed for this study. Interviews were conducted in September 2012.

III. FINDINGS

The following section reviews findings from the examination of the reliability, validity, equity, and cost. In addition, it describes results of revisions made to risk instruments currently in use to determine if classification results might be improved.

To construct revised instruments, samples of 2,000 or more cases were divided into construction and validation samples. (The results from validation samples are considered to be a

better indicator of how the instrument will perform in practice.) However, dividing fewer than 1,000 cases into three or four risk levels further delineated by race, ethnicity, and gender can be problematic. The number of cases in these breakdowns is often too small to produce stable, representative statistics. Both construction and validation samples were used in Florida, Georgia, and Arizona AOC (probation).

A. Findings by Risk Assessment Instrument

1. The Georgia CRN

The CRN was developed by Tim Brennan, PhD, of Northpointe, and Claus Tjaden, PhD, of Martinez Tjaden, LLC. In its original form, it was a derivative of COMPAS Youth, a risk assessment instrument developed by Northpointe. The CRN was tailored for Georgia DJJ to aid in making decisions related to security as well as to assess youth criminogenic need factors. It is composed of 27 scales across the following five domains: usual behavior and peers, personality, substance abuse and sexual behavior, school and education, and family and socialization. These domains are used to classify youth as low, medium, or high risk. The centerpiece of the CRN is the interview process with the youth, though additional collateral information is also considered.

The most recent validation of the CRN was conducted in 2006 by Tjaden. The study found that the CRN effectively classified youth by risk level in that high-risk youth reoffended at a higher rate than youth classified as low risk. The CRN was found to have moderate predictive ability, as evidenced by an AUC value of 0.61.

More than 150 items are included in the CRN, but two factors—the age of the youth at first adjudication and the number of prior adjudications—account for two thirds of the possible point total. Of the 150 remaining items, about one third contribute to risk scoring. Combined, they account for only three of nine possible risk points. Theoretically, these variables can account for a maximum of

60% and a minimum of 14% of the total risk score. On average, they comprise 34% of the total score.

An automated scoring process statistically transforms these factors once, transforms them again into normalized values, and then finally aggregates the resulting values into a three-point scale.

The remaining items on the CRN are collected to assess needs for case planning. Each factor is rated on a four- to five-point Likert scale reflecting either the observed frequency or the severity of a behavior or characteristic. The CRN was piloted in Georgia in 2001 and fully implemented in 2002.

The overall results of the validity study are presented in Table 5.

Table 5 Georgia CRN New Adjudications by Risk Level Current Cut Points				
Risk Level	Probation Cases (N = 5,698)		Committed Youth (N = 469)	
	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated
Low	88%	25.3%	25%	23.9%
Moderate	11%	52.4%	37%	43.3%
High	1%	57.5%	39%	45.9%

As shown in Table 5, there is substantial separation in rates of recidivism reported for low- and moderate-risk cases, but little difference between rates observed for moderate- and high-risk youth. This is true for both probation cases and for youth released from state facilities. Second distribution of probation cases across risk levels is limited. Most (88%) of all probation cases are rated low risk, while only 1% are rated high risk. In essence, only two levels of risk are being identified. The limited distribution of cases across risk levels reduces the value of the system to probation, and probation cases represent about three fourths of all cases assessed.

The overall AUC for the current CRN was 0.64. The DIFR score was 0.40, reflecting the problems with distribution noted above.

A change in the cut points used to assign risk levels significantly improves the utility of the Georgia CRN. Current cut points are as follows: 3–5 = low risk; 6–7 = moderate risk; and 8–9 = high risk. Modifying these to 3–4 for low risk, 5 for moderate risk, and 6 and above for high risk produces the following results for all cases (Table 6).

Table 6 Georgia CRN New Adjudications by Risk Level Revised Cut Points* (N = 7,412)		
Risk Level	Percent at Each Level	Percent Adjudicated
Low	59%	22.5%
Moderate	18%	36.2%
High	23%	46.9%

*Cut points were altered so that 3–4 = low, 5 = moderate, and 6 or more = high.

While the revised cut points still put a high percentage of cases at the low risk level (particularly for the probation subgroup), the change produces better distribution across risk levels and greater separation of outcomes for moderate- and high-risk cases. In essence, the revision identifies a moderate-risk group that the current cut points do not distinguish.

The current cut points lead to equity issues as well. Although few cases were classified as high risk, both Black/African American and Hispanic/Latino youth who were classified as high risk had lower recidivism rates than those placed at the moderate-risk level. When the entire sample is considered, moderate-risk males had higher rates of recidivism than high-risk males.

When results were broken down by gender, similar patterns emerged. The current instrument does not distinguish well between high- and moderate-risk cases for either boys or girls. Because current cut points lead to equity issues, and at a minimum changes to cut points are needed, additional discussion of equity would be premature.

The combined predictive power of the youth's age at first adjudication and number of prior adjudications was tested without including other risk factors to give a better understanding of how the CRN's risk classification functions. As noted above, these two factors account for 66% of the average risk score in Georgia. When they are combined and the remaining risk factors left out of risk formula, they produce the classifications that clearly distinguish between low-, moderate-, and high-risk cases (Table 7).

Table 7 Georgia CRN New Adjudications by Risk Level Adjudication Score + Age Score N = 7,412		
Risk Level	Percent at Each Level	Percent Adjudicated
Low	46%	21.5%
Moderate	41%	34.8%
High	13%	48.9%

The factors of youth's age at first adjudication and number of prior adjudications account for virtually all of the predictive power of the CRN instrument (see Appendix B for CRN scoring methods). They also create a much larger moderate-risk group and produce slightly better overall discrimination than what was attained simply by revising the original cut points. While the additional 150 items may provide data for case-planning purposes, they impact risk classification very little.

Selecting factors with the highest correlations with outcomes allowed for the creation of a simple additive risk index to test whether results attained with age and the number of adjudications might perform better. Differences in risk factors for boys and girls led to the creation of two revised risk assessment instruments. These are presented on the following pages.⁹ Results by risk level are presented in Table 8.

⁹ As stated earlier in this report, this analysis was undertaken to investigate the potential for improving the risk assessment instrument. The analysis was limited to variables collected and categorized by the risk model currently in place. Further improvements are possible with the introduction of additional factors to the test.

Georgia Department of Juvenile Justice
Revised Risk Assessment for Community-Placed Boys

		<u>Score</u>
1.	Age at first adjudication	
	a. 15 or older, or no prior adjudications	0
	b. 14 or younger	1
2.	Number of arrests prior to current arrest	
	a. None.....	-1
	b. One or two.....	0
	c. Three or more.....	1
3.	Most serious current offense was property related	
	a. No.....	0
	b. Yes.....	1
4.	Youth had conflicts with teachers	
	a. No.....	0
	b. Yes, either known or suspected	1
5.	Number of classes youth failed	
	a. None.....	-1
	b. One or two.....	0
	c. Three or more.....	1
6.	Number of times youth suspended since first grade	
	a. 0–3 times	-1
	b. 4–6 times	0
	c. 7+ times	1
7.	Youth argues or fights with other students	
	a. No.....	0
	b. Yes, either known or suspected	1
8.	Characteristics of youth’s friends	
	a. None apply	0
	b. One or more apply (mark all that apply and add)	
	___ At least some of youth’s friends are gang affiliated	1
	___ More than half of youth’s friends have been arrested	1
9.	Characteristics of youth	
	a. None apply	0
	b. One or more apply (mark all that apply and add)	
	___ Youth does not participate in any sports, church, creative, or school activities	1
	___ Youth has used marijuana at least once in the last three months.....	1
	___ Youth has used alcohol at least one time per week for the last three months	1
Total Risk Score		<u> </u>

<u>Risk Score:</u> <u> -3–0 </u> <u> 1–4 </u> <u> 5–12 </u>	<u>Risk Level:</u> Low Medium High
-----------------------------------------------------------------------------------------------	----------------------------------------------------

**Georgia Department of Juvenile Justice
Revised Risk Assessment for Girls**

		<u>Score</u>
1.	Number of arrests prior to index arrest	
	a. None.....	-1
	b. One or two.....	0
	c. Three or more.....	1
2.	Number of prior adjudications for property offenses	
	a. None.....	0
	b. One or more.....	1
3.	Age at index arrest	
	a. 11 or under, 17 or older.....	-1
	b. 12 to 16.....	0
4.	Number of times youth suspended since first grade	
	a. 0–3 times.....	-1
	b. 4–6 times.....	0
	c. 7+ times.....	1
5.	Youth had conflicts with teachers	
	a. No.....	0
	b. Yes, either known or suspected.....	1
6.	Youth participates in activities	
	a. Youth participates in at least one sport, church, creative, or school activity.....	0
	b. Youth does not participate in any activities.....	1
7.	Youth’s parent(s) knows who youth’s friends are	
	a. Yes.....	0
	b. No, either known or suspected.....	1
8.	Family characteristics	
	a. None applicable.....	0
	b. One or both apply (mark all that apply and add)	
	___ Youth’s mother was ever arrested.....	1
	___ Youth’s mother was ever in jail or prison.....	1
9.	Youth was raised by a single parent	
	a. No.....	0
	b. Yes.....	1
10.	Youth’s friends have been arrested	
	a. None or some of youth’s friends.....	0
	b. More than half of youth’s friends.....	1
Total Risk Score		<u> </u>

<u>Risk Score:</u>	<u>Risk Level:</u>
<u> </u> -3 to -1	Low
<u> </u> 0–3	Medium
<u> </u> 4–10	High

Table 8				
Georgia				
Revised Risk Assessment Instrument				
Risk Level	Boys		Girls	
	Percent at Level	Subsequent Adjudication	Percent at Level	Subsequent Adjudication
Low	32%	17.0%	23%	11.7%
Moderate	44%	37.1%	54%	21.0%
High	24%	49.1%	23%	33.9%
Base Rate	33.4%		21.8%	
Sample Size	2,506		2,005	
AUC	0.67*		0.64*	
DIFR	0.61		0.46	

*AUC significantly different from 0.50.

Note: Results for boys reflect the validation sample; results for girls are based on single sample.

As the data presented in Tables 8 and 9 illustrate, the revised instrument worked well across all major ethnic and racial groups in Georgia and both genders. Both AUCs and DIFR scores increased across the board for the revised scale. Results delineated by gender are presented in Table 8 and by race/ethnicity in Table 9.

Table 9								
Georgia								
Revised Risk Assessment Instrument								
New Adjudications by Risk Level								
Boys								
Risk Level	All Cases		Hispanic/Latinos		Whites		Black/African Americans	
	% at Level	Subsequent Adjudication	% at Level	Subsequent Adjudication	% at Level	Subsequent Adjudication	% at Level	Subsequent Adjudication
Low	32%	17.0%	40%	6.8%	40%	13.9%	26%	22.2%
Moderate	44%	37.1%	34%	39.4%	45%	30.4%	44%	42.9%
High	24%	49.1%	26%	41.4%	15%	47.7%	30%	50.7%
Base Rate	33.4%		27.0%		26.4%		39.7%	
Sample Size	2,506		111		1,014		1,346	
AUC	0.67*		0.73*		0.68*		0.64	
DIFR	0.61		1.12		0.63		0.50	

*AUC significantly different than 0.50.

Note: Reflects validation sample.

Results for the revised instrument for girls were not as strong, although substantial separation of outcome rates by risk level was attained (Table 10).

Table 10 Georgia Revised Risk Assessment Instrument New Adjudications by Risk Level Girls						
Risk Level	All Cases		Whites		Black/African Americans	
	Percent at Level	Adjudication	Percent at Level	Adjudication	Percent at Level	Adjudication
Low	23%	11.7%	33%	10.4%	14%	14.7%
Moderate	54%	21.0%	52%	16.2%	57%	24.3%
High	23%	33.9%	15%	27.0%	29%	37.0%
Base Rate	21.8%		15.8%		26.6%	
Sample Size	2,005		833		1,080	

Note: The number of Hispanic/Latino girls in the sample was too small for independent analysis. These girls are, however, represented in the “all cases” statistics. Reflects results from a single sample.

a. Summary of Findings

A minor change—altering the cut-off points used to assign risk levels—was found to improve both the distribution of cases across risk levels and the power of the instrument. The CRN’s large number of factors and complex scoring system did not appear to help the instrument produce better results. Simple additive scales using variables selected from the CRN produced better classification and gender equity results than the current instrument.

2. Solano County JSC and Girls Link Risk Assessments

The Solano County Probation Department (Juvenile Division) uses public-domain, gender-specific risk assessment instruments. The instruments are composed of eight to 10 items, which include youth’s age at first referral to juvenile court, school discipline/attendance, substance use, peer

relationships, and parent/sibling criminality. The instruments are embedded in the Juvenile Assessment and Intervention System™ (JAIS).

The risk assessment instrument for boys was created by the National Council of Juvenile and Family Court Judges (NCJFCJ) in partnership with NCCD as a model instrument for NCJFCJ's JSC, an OJJDP-supported initiative (Wiebush, 2002). The basic elements of the JSC risk assessment instrument for boys have been validated in more than a dozen agencies across the United States; the items in the instrument are a composite of those that appear in those instruments (Wiebush, 2002). The risk assessment instrument for girls was developed by NCCD in 1997 for the Cook County (Chicago), Illinois, Girls Link program. Both risk instruments are available in the public domain.

At the time of the current study, the JSC and Girls Link instruments were used at two points in Solano County. First, the county employed a paper copy of the instrument to screen youth coming through juvenile court. Youth who scored in the low risk category—with the exception of those adjudicated for specific felony offenses—were typically placed on informal probation. Minors at the low risk level were routinely contacted by the agency (i.e., at least once every three months) once they completed the court process and were assigned to a caseload. Offenders who scored moderate to high risk received a full risk and needs assessment.

This practice of conducting a pre-screen and then conducting the full assessment for only some affected the study in two ways. First, because most low-risk offenders do not enter probation, the number of cases at the moderate and high risk levels was disproportionately high. Second, this policy also produced an artificially high base rate relative to other probation departments represented in this study. The ideal solution would be to obtain the risk scores for diverted cases and include them in the study to determine if they reoffended; however, these records were not available. Still, of the 1,141 cases in the study sample, about 15% were low risk. In most cases, these were youth committed to probation for felony offenses.

The follow-up period used to test validity was either 12 months from the date of admission to probation or 12 months from the date of assessment if the two dates did not align. Table 11 presents the overall combined results for both the boys' and girls' instruments.

Table 11		
Solano County JSC and Girls Link Risk Assessment Instruments New Adjudications by Risk Level		
Risk Level	Percent of Cases at Level	Percent Adjudicated
Low	15%	20.0%
Moderate	47%	42.4%
High	39%	63.4%
Base Rate		47.2%
Sample Size		1,141

As Table 12 illustrates, the instruments produced substantial separation in outcomes by risk level. The county's policy of screening out low-risk offenders resulted in a somewhat skewed distribution of cases across risk levels, which may have lowered the DIFR scores. The overall AUC for this risk assessment instrument was 0.68 and the DIFR computed for all cases was 0.68.

As illustrated, the instruments produced strong results for major race and ethnicity groups represented in the Solano County population.

Table 12								
Solano County Probation Department JSC Risk Assessment Instrument Recidivism by Risk Level for Boys								
Risk Level	All Cases		Hispanic/Latinos		Whites		Black/African Americans	
	Percent at Level	Adjudication	Percent at Level	Adjudication	Percent at Level	Adjudication	Percent at Level	Adjudication
Low	15%	18.8%	13%	25.0%	21%	20.9%	11%	13.6%
Moderate	43%	47.9%	43%	51.0%	40%	37.0%	44%	53.1%
High	43%	64.4%	43%	65.4%	39%	61.5%	44%	64.0%
Base Rate		50.7%		53.3%		43.1%		53.6%
Sample Size		880		240		202		394

Despite differences in overall rates of reoffending among racial and ethnic groups, the JSC instrument effectively separated youth in each cohort into low, moderate, and high risk groups. AUCs ranged from 0.65 to 0.68, and DIFR scores ranged from 0.55 to 0.73.

Because the risk assessment instruments are actuarial scales, efforts at improvement represented customization to better reflect the probation population in Solano County. While slightly better discrimination was attained with minor changes to the boys' instrument, these gains were offset by distribution issues. The results of the revised instrument are available in Appendix B.

The Girls Link instrument did not produce results comparable to those produced for the boys' instrument. The degree of separation attained for outcomes, while substantial, was lower than that attained for boys.

Minor revisions to the Girls Link instrument improved both the level of discrimination attained and the distribution across risk levels. A comparison of results, pre- and post-customization, is presented in Table 13.

Table 13 Solano County Girls Link Risk Assessment Instrument Comparison of Current and Revised Instruments (N = 261)				
Risk Level	Current Risk Assessment Instrument		Revised Risk Assessment Instrument	
	Percent at Level	New Adjudication	Percent at Level	New Adjudication
Low	16%	23.8%	23%	13.6%
Moderate	59%	29.0%	49%	28.3%
High	25%	42.2%	29%	64.0%

a. Summary of Findings

The boys' JSC risk assessment instrument is an effective classification instrument, as evidenced by the degree of separation in outcomes by risk level. For the Girls Link instrument, the degree of separation attained for outcomes, while substantial, was less than that attained for boys. As a result,

modifications reflecting girls sentenced to probation in Solano County substantially improved results.

Both instruments worked well across the major racial and ethnic groups in Solano County.

3. Florida PACT

The Florida PACT is a derivation of the Washington State Juvenile Court Assessment (WSJCA), a risk assessment instrument developed in the state of Washington in the 1990s through the Washington State Institute for Public Policy in cooperation with the Washington Association of Juvenile Court Administrators. Slightly different versions of the PACT are used in a number of states and county agencies throughout the country. The WSJCA was validated by the Washington State Institute for Public Policy in 2004. The 27-item pre-screen risk assessment had moderate predictive ability in estimating the likelihood of recidivism with an AUC of 0.64 (Barnoski, 2004).

The PACT was designed to assess juvenile offenders' risks, needs, and protective factors. It incorporates an automated criminal history domain, additional mental health and substance abuse questions, and a case-planning module. The full PACT assessment includes a pre-screening component consisting of 44 items to provide workers with a social and criminal history of each juvenile. The pre-screen determines the risk level assigned to each individual. The full assessment is composed of 126 items across the following 12 domains: criminal history, gender, school, use of free time, employment, relationships, family and living arrangements, alcohol and drugs, mental health, attitudes/behaviors, aggression, and skills. With this information, the PACT is designed to obtain risk factor information as well as assess offenders' needs in order to provide targeted treatment interventions.

The PACT instrument has been validated several times since its original implementation (Baglivio, 2009; see also Baglivio & Jackowski, 2012; Winokur-Early, Hand, & Blankenship, 2012). Each of

these three validation studies found the instrument had a moderate ability to appropriately classify repeat offenders, with AUC values of 0.59, 0.63, and 0.59, respectively.

The PACT instrument in Florida is used for all youth in the juvenile justice system. Ten items are scored, and the sum is used to establish a record of referrals (criminal history) risk level; scores from another 11 items are totaled to reach a social history score. Workers consult the following matrix to assign the youth to his/her risk classification.

**Overall Levels of Risk to Re-Offend
Based on Record of Referrals and Social History Risk Scores**

Record of Referrals Risk Score	Social History Risk Score		
	0 to 5	6 to 9	10 to 18
0 to 5	Low	Low	Moderate
6 to 8	Low	Moderate	Moderate-High
9 to 11	Moderate	Moderate-High	High
12 to 31	Moderate-High	High	High

The current analysis focused on youth placed on probation or sentenced to juvenile facilities. Results for each group are reported separately, consistent with prior evaluations published by the State of Florida.

The most recently published evaluation on probation cases (2012) used a follow-up period that began when the probation episode was closed. To keep the Florida evaluation consistent with those conducted in other sites, the outcome measures used in this study were those observed in the 12-month period following admission to probation. Results are presented in Table 14.

Table 14						
Florida PACT: Probation Cases New Adjudications by Risk Level						
Risk Level	All Cases		Boys		Girls	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	67%	30.0%	66%	31.1%	70%	26.8%
Moderate	18%	44.4%	18%	45.2%	17%	41.7%
Moderate/High	10%	48.8%	11%	49.8%	9%	44.9%
High	5%	57.5%	6%	57.4%	4%	58.1%
Base Rate	35.9%		37.0%		32.3%	
Sample Size	27,369		20,621		6,748	

Most (85%) of all youth placed on probation were classified as low or moderate risk. Only 17% of boys and 15% of girls scored moderate/high or high risk, and most of these fell in the moderate/high range. The PACT pre-screen instrument produced some discrimination between outcomes recorded for low- and moderate-risk cases, but only minor separation between the moderate and moderate/high levels, despite the fact that relatively few cases are placed in these risk categories.

Overall, high-risk youth had an 8.7% and 13.1% higher rate of adjudication than youth at the moderate/high and moderate risk levels, respectively, demonstrating a moderate level of discrimination. The overall AUC for PACT was computed for two subscales: the criminal history risk scale and the social history risk scale. Results from the two scales were combined in a matrix to determine the risk level assigned. The AUC for the criminal history score was 0.59; the social history

scale produced an AUC of 0.63. As noted earlier, AUCs under 0.6 are generally considered poor. The overall DIFR was 0.37.

As illustrated in Table 15, the highest level of discrimination (as well as the most meaningful distribution of cases across risk levels) was found for Black/African American youth. Still, little difference between outcomes was recorded for moderate-risk and moderate/high-risk Black/African American youth. This was true for White youth as well. For Hispanic/Latinos, little difference in recidivism rates was shown for those rated low or moderate risk.

The breakdowns by race/ethnicity also revealed some overlap in outcomes among risk levels. Both moderate-risk Black/African Americans and Whites had higher rates of recidivism than moderate/high-risk Hispanic/Latinos (Table 15).

Table 15						
Florida PACT: New Adjudications by Risk Level						
Probation Sample						
Risk Level	Hispanic/Latinos		Black/African Americans		Whites	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	70%	24.5%	54%	34.3%	70%	28.1%
Moderate	17%	26.4%	22%	46.7%	17%	44.8%
Moderate/High	9%	42.7%	15%	50.9%	8%	47.9%
High	4%	50.0%	9%	63.9%	5%	52.7%
Base Rate	29.2%		40.4%		33.8%	
Sample Size	3,885		4,426		11,664	

When the PACT risk assessment instrument was examined for performance for girls, little difference arose in outcome rates by risk level, particularly between the moderate and moderate/high risk (the equivalent of moderate and high risk in other risk assessment instruments) levels. In addition, overlap in recidivism rates by risk level occurred for every race/ethnicity group, particularly

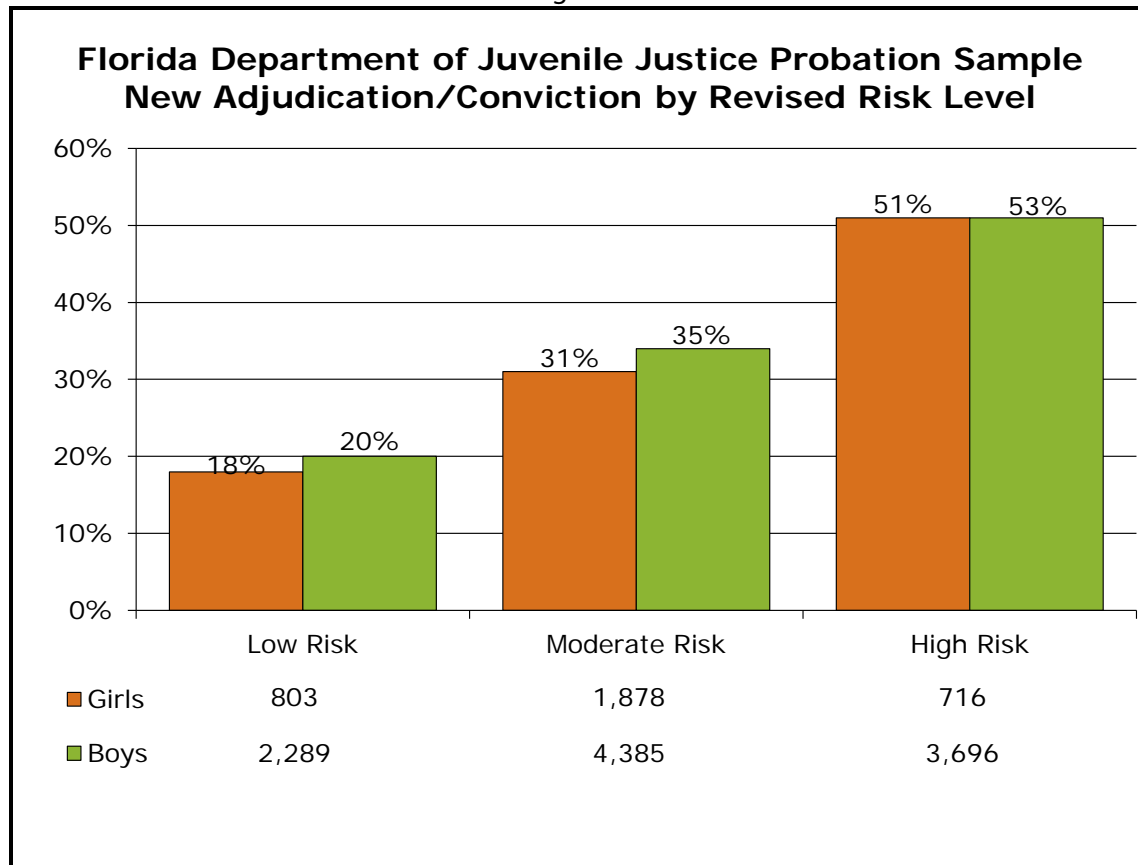
Hispanic/Latina girls. The recidivism rate for moderate/high-risk Hispanic/Latina girls was lower than the rate of recidivism reported for moderate-risk girls of other races/ethnicities (Table 16).

Table 16				
Florida PACT				
New Adjudication by Current Risk Level by Race/Ethnicity				
Girls' Probation Sample				
Race/Ethnicity	N	%	New Adjudication	
			N	%
TOTAL SAMPLE	6,748	100.0%	2,179	32.3%
Black/African American				
Low	1,971	67.7%	553	28.1%
Moderate	510	17.5%	199	39.0%
Moderate/High	278	9.6%	134	48.2%
High	151	5.2%	98	64.9%
Subgroup Total	2,910	100.0%	984	33.8%
White				
Low	2,119	71.8%	573	27.0%
Moderate	490	16.6%	231	47.1%
Moderate/High	228	7.7%	101	44.3%
High	114	3.9%	56	49.1%
Subgroup Total	2,951	100.0%	961	32.6%
Hispanic/Latina				
Low	505	71.9%	108	21.4%
Moderate	122	17.4%	41	33.6%
Moderate/High	52	7.4%	19	36.5%
High	23	3.3%	14	60.9%
Subgroup Total	702	100.0%	182	25.9%

Finally, analysis was undertaken to determine if the PACT's classification power could be improved through an actuarial approach using data currently collected in PACT. The revised instruments increased the balance of the distribution of cases across the categories and increased the

level of separation attained in recidivism rates for cases classified as high, moderate, or low risk (these instruments are presented in Appendix B). Figure 1 outlines the overall results obtained with the revised risk assessment.

Figure 1



The use of the PACT for youth placed in correctional facilities was also examined. Outcomes were analyzed for a 12-month period following release. Although balanced case distribution across risk levels was found for the probation sample, 71% of all cases were classified as either moderate/high or high risk. The new adjudication rates for each of these groups were 45.6% and 49.1%, respectively. Hence, nearly three fourths of youth released from Florida facilities were classified

into two groups with a 3.5% difference in outcomes. These rates of adjudication were reflected in a low AUC (0.58) and a low DIFR (0.28). Table 17 presents these results, delineated by gender.

Table 17						
Florida PACT: New Adjudications by Risk Level Youth Released From Institutions						
Risk Level	All Cases		Boys		Girls	
	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated
Low	13%	29.0%	12%	30.8%	14%	19.9%
Moderate	16%	39.6%	16%	42.5%	18%	25.3%
Moderate/High	33%	45.6%	33%	48.1%	29%	29.8%
High	38%	49.1%	38%	52.0%	39%	33.1%
Base Rate	43.9%		46.6%		28.9%	
Sample Size	11,154		9,449		1,705	
AUC:						
Criminal History	0.58*		0.58*		0.57*	
Social History	0.52*		0.54*		0.52*	
DIFR	0.28		0.28		0.23	

*AUC significantly different than 0.50 (asymptotic significance ≤ 0.05 ; lower bound of confidence interval greater than 0.50).

When evaluated by race/ethnicity, some of the same issues encountered with the probation sample emerged. Moderate- and moderate/high-risk Hispanic/Latinos and moderate-risk Whites all had lower rates of subsequent adjudications than low-risk Black/African Americans. Moderate/high- and high-risk Whites and Hispanic/Latinos had lower rates of recidivism than moderate-risk Black/African Americans (Table 18).

Table 18 Florida PACT New Adjudications by Risk Level by Race/Ethnicity for Youth Released From Institutions						
Risk Level	Black/African Americans		Whites		Hispanic/Latinos	
	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated
Low	11%	34.5%	16%	24.1%	11%	29.5%
Moderate	15%	48.0%	19%	32.9%	16%	31.5%
Moderate/High	36%	51.0%	28%	40.0%	32%	33.3%
High	39%	53.7%	38%	44.7%	41%	42.9%
Base Rate	49.9%		37.9%		36.5%	
Sample Size	5,571		4,093		1,174	

Because PACT items were found to bear little statistical relationship to subsequent recidivism and did not perform equitably across different races and ethnic groups (particularly for boys), a revised risk assessment instrument could not be constructed. For additional information, see Appendix B.

a. Summary of Findings

While the current PACT instrument produced some separation of outcomes by risk level, it did not perform as well as several other instruments tested in this study. In some instances, analysis showed less than a 5% difference in recidivism across three risk levels. Equity problems, particularly for youth placed in facilities, were also in evidence. For probation cases, better results were obtained using simple actuarial scales developed using data collected by the PACT instrument.

4. Virginia YASI

Like the PACT, the YASI evolved from the WSJCA instrument designed in Washington in the 1990s. YASI was implemented in several states including New York, Illinois, and Mississippi in the 2000s and Virginia starting in 2008.

YASI consists of pre-screen and full-screen assessments. The full assessment is composed of 87 items across the following 10 domains: legal history, family, school, community and peers, alcohol and drugs, mental health, aggression, (pro-social and antisocial) attitudes, (social and cognitive) skills, and employment and free time. The YASI generates risk and protective scores in each of these areas.

The pre-screen consists of 32 risk items from the full screen. The pre-screen component is designed to assess a youth's risk level while obtaining a brief social and legal history. For each of its domains, the YASI provides a rating of static and dynamic risks and protective factors, which are designed to help predict recidivism as well as point to behavior patterns that ostensibly need to change in order to reduce future problems. Scores in these areas range from low to very high, using a six-point rating system. The final component of the YASI is a case supervision plan to be used by juvenile justice personnel that builds on problem areas identified in the assessment. The YASI is a product of Orbis Partners, Inc.

The YASI pre-screen is the risk assessment examined for this study. In 2007, Orbis Partners, Inc. conducted a validation study of the YASI in New York (Orbis Partners, 2007). Study results indicated an AUC value of 0.62 for 12-month and 24-month outcome measures.

Limitations were inherent to the evaluation of Virginia's YASI data for the current study. The data were collected during the early stages of YASI implementation in Virginia, and less than one third of cases admitted to probation had YASI scores available. It is possible, therefore, that some selection bias was introduced. However, administrators in Virginia report that the areas first selected for implementation were representative of the entire state. Further, it was difficult to align dates of assessments with probation admission dates because of the timing of implementation. To optimize

the sample size, all assessments conducted up to 90 days prior to the start of probation to 90 days after admission were included. Applying these parameters meant that events used to rate behaviors and possibly even new arrests and adjudications could have occurred prior to the assessment, conflating assessment results and outcomes. Similar issues were encountered in other jurisdictions (Solano County, for example) but follow-up periods could be adjusted to reflect 12 months from the date of assessment rather than admission. In Virginia, outcome rates were computed by department staff, so this adjustment was not possible.

To evaluate the extent to which these limitations affected the study, outcomes were compiled from the portion of the sample assessed prior to the start of probation with those of cases assessed after the admission date. Slightly less separation occurred in outcomes across risk measures for these two samples; however, the percentage of cases assigned to risk levels varied substantially. Comparisons are presented in Table 19.

Table 19		
Virginia YASI		
Percentage of Cases at Each Risk Level by Timing of Assessment		
Risk Level	Pre-Probation	Pre-Admission
Low	22%	45%
Moderate	48%	40%
High	30%	15%
Sample Size	908	1,011

This variance could reflect differences in characteristics of cases from counties that assess youth before and those that assess after probation admission, but the size of the difference suggests other factors may have been at least partially responsible.

Table 20 outlines overall results of the validation study delineated by gender.

Table 20						
Virginia YASI New Adjudications by Risk Level						
Risk Level	All Cases		Boys		Girls	
	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated	Percent at Level	Percent Adjudicated
Low	34%	11.1%	27%	14.4%	53%	6.3%
Moderate	44%	27.3%	46%	28.2%	37%	24.2%
High	22%	41.7%	27%	44.5%	10%	21.2%
Base Rate	25.0%		28.9%		14.4%	
Sample	1,919		1,405		507	

For boys, the distribution demonstrated step-wise increases in recidivism rates as risk levels increased. For girls, considerable discrimination was found in recidivism rates recorded between low and moderate risk, but high-risk girls had a lower recidivism rate than moderate-risk girls. The cohort of high-risk girls, however, was small: only 10% of all girls assessed were rated high risk. These results could therefore be an artifact of the small number of high-risk girls in the study cohort. The AUC for all cases in the sample was 0.68. DIFR scores ranged from 0.57 to 0.74 for girls and boys respectively (see Appendix A for details).

High-risk girls also had a lower rate of recidivism than moderate-risk boys, indicating overlap by gender. The instrument developers had already modified cut points for girls in Virginia, but based on these data, this adjustment did not fully correct the issues discussed. Current cut points are presented in Table 21.

Table 21		
Virginia YASI Pre-Screen Overall Risk Level Cut Points		
Risk Level	Girls	Boys
None	0	0
Low	1–25	1–15
Moderate	26–52	16–38
High	53+	39+

Missing data limited the examination of results by race/ethnicity. Sufficient data were present to disaggregate only for Whites and Black/African Americans. These data are presented in Table 22.

Table 22				
Virginia YASI New Adjudications by Risk Level				
Risk Level	Whites		Black/African Americans	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	39%	8.2%	26%	17.5%
Moderate	41%	23.9%	48%	31.9%
High	20%	34.6%	26%	50.8%
Base Rate	19.9%		33.0%	
Sample Size	1,150		701	

Moderate discrimination was found for both racial groups, although the recidivism rate for high-risk Whites was only 2.7% higher than that found for moderate-risk Black/African Americans. The difference in overall base rates for Whites and Black/African Americans (19.9% versus 33.0%) was more pronounced in Virginia than in most other jurisdictions in the study.

Using the YASI data, simple actuarial instruments were constructed for boys and girls. The boys' instrument resulted in much-improved separation of recidivism rates by risk level without substantially altering the distribution of cases across risk levels. Both the AUC and DIFR values improved as well to 0.71 and 0.80, respectively. Results for the total sample, for Black/African Americans, and for Whites are presented in Table 23.

Table 23						
Virginia						
Revised Boys' Risk Assessment Instrument						
Risk Level	All Boys (n=1,106)		Black/African Americans (n=451)		Whites (n=618)	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	28%	10.7%	23%	13.3%	31%	9.4%
Moderate	48%	30.3%	49%	35.6%	47%	25.8%
High	24%	51.1%	27%	56.5%	22%	45.9%
Base Rate		29.9%		36.1%		25.1%

The risk instrument developed for girls also produced substantially better separation in risk levels than the YASI pre-screen. Results are presented in Table 24.

Table 24						
Virginia						
Revised Girls' Risk Assessment Instrument						
Risk Level	All Girls (n=333)		Black/African Americans (n=124)		Whites (n=191)	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	36%	5.9%	34%	9.5%	36%	2.9%
Moderate	42%	16.3%	43%	17.0%	41%	15.2%
High	22%	38.4%	23%	51.7%	23%	30.2%
Base Rate		17.4%		22.6%		14.1%

The DIFR score for the revised assessment for the entire sample was 0.89; it was 0.90 for Black/African Americans and 1.12 for White youth. The AUC score for the revised girls' instrument was 0.74. These were some of the highest values attained in the current study.

a. *Summary of Findings*

Overall, the YASI produced substantial separation of re-adjudication rates by risk level. Furthermore, cases were well-distributed across risk levels. The instrument appears to work better for boys than girls: moderate-risk girls had higher rates of recidivism than high-risk girls. This result could be an anomaly attributable to the limited sample size.

Development of a 10-item risk instrument significantly improved the level of discrimination attained and produced a balanced distribution of cases across low, moderate, and high levels of risk.

5. Nebraska and Arkansas YLS/CMI

The YLS/CMI was developed in the 1990s by Robert D. Hoge and D. A. Andrews at Carleton University. It is a modified version of the LSI-R, a risk assessment instrument designed in the 1980s to evaluate adult offenders. The YLS/CMI is used by numerous juvenile justice departments in the United States. The YLS/CMI scores 42 risk items in eight major domains: prior and current offenses/dispositions, family circumstances/parenting, education/employment, peer relations, substance abuse, leisure/recreation, personality/behavior, and attitudes/orientation in order to obtain an overall risk level for the youth (low, moderate, high, or very high). Additionally, the instrument is used to indicate needs and special considerations, which may be taken into account to assist with case management.

The YLS/CMI instrument is available through Multi-Health Systems (MHS), an online service that distributes a variety of clinical, educational, and public safety-oriented assessments and tools. An online version of YLS/CMI is also available at Assessments.com.

Several studies have investigated the predictive validity and reliability of the YLS/CMI and have supported the instrument's ability to classify youth appropriately (Onifade, Davidson, Campbell, Turke, Malinowski, & Turner, 2008; Bechtel, Lowenkamp, & Latessa, 2007; Schmidt, Hoge, & Gomes,

2005; Flores et al., 2003). However, a 2004 evaluation of Nebraska's use of the YLS/CMI risk assessment in the juvenile justice system revealed concerns over the propensity of the instrument to classify too many youth as moderate risk (Kadleck, Herz, Gallagher, & Nava, 2004). Flores and colleagues (2003) concluded, "This research indicates that agencies planning to use the instrument only for initial risk assessment should consider a shorter and more economical assessment tool" (p. 47).

The YLS/CMI is used in three agencies that participated in this study: Nebraska Probation, Nebraska OJS, and Arkansas DYS. Nebraska implemented the YLS/CMI in 2002; Arkansas implemented in 2008.

Table 25 outlines the results of the validation conducted in each site. In Arkansas, both the number of cases available for analysis and the length of the follow-up period were limited; hence, these results should be viewed with considerable caution. Still, when combined with results from the two Nebraska agencies, data indicate that the YLS/CMI appears to have limited value as a classification tool, as it produced only minor separation in recidivism rates for cases at different risk levels and a lack of distribution of cases across risk categories.

More than 90% of probation cases in Nebraska were classified to two of the four possible risk levels; no case was rated very high risk and only 6% were classified to the high risk level. Recidivism rates ranged from 18% for low-risk cases to 25% for high-risk youth. This level of discrimination was well below that observed for most other instruments in the study.

Results were not better for youth placed in facilities. In both Arkansas and Nebraska, 95% of all cases were classified as moderate or high risk. No appreciable difference in recidivism rates occurred between these two classifications; in fact, moderate-risk cases had higher rates of recidivism than high-risk youth. In Nebraska, 3% of committed youth were rated low risk and 2% were rated very high risk. Despite the level of selectivity, the difference in recidivism rates between those classified as low risk and those classified as high risk was only 12.2% (Table 25).

Table 25						
YLS/CMI Results for Probation and Committed Youth in Nebraska and Arkansas						
Risk Level	Arkansas		Nebraska Probation		Nebraska OJS	
	Percent at Level	Return to a Facility	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	5%	0.0%	27%	17.9%	3%	10.0%
Moderate	76%	14.4%	67%	23.0%	32%	17.7%
High	19%	0.0%	6%	25.0%	63%	16.8%
Very High	0%	--	0%	--	2%	22.2%
Base Rate		10.9%		21.7%		16.9%
Sample Size		119		1,077		597

Changes to cut points did not improve the instrument's discrimination power. Several other modifications were tested, including selecting cut points that placed 25% (quartiles) of the sample at each risk level (i.e., the 25% of cases with the lowest scores were classified as low risk, the next 25% as moderate risk, etc.). These changes, too, did not improve the level of discrimination observed among risk levels (not shown). Nebraska administrators had, in fact, lowered the cutoff for high-risk offenders from 23 to 16, though as illustrated above, with unsatisfactory results.

These YLS/CMI results stem from low correlations between risk factors and outcomes in the three agencies using the instrument. The best results were obtained for probation cases in Nebraska. However, even for this population, no single item on the YLS/CMI had a correlation of 0.1 or above with recidivism. The highest correlated item was in the prior history domain, three or more prior convictions, which was correlated with recidivism at 0.08 (see Appendix A for site-specific results).

When classification results were delineated by race and ethnicity, the instrument worked well for White youth. The instrument did not perform well for Black/African Americans and Hispanic/Latinos. For Hispanic/Latinos, data in prior records were often unavailable, which may have influenced results for this subgroup.

As expected, given the results outlined above, both the AUCs and the DIFR scores computed for the YLS/CMI in each jurisdiction were very low. AUCs were generally below 0.6 and the highest DIFR score was 0.19 for White youth. Compared to results obtained on other risk assessment instruments in the study, the YLS/CMI provided poor discrimination of outcomes across risk levels and low AUCs and DIFR scores.

The Arkansas database was too small to support the development of an actuarial risk assessment, but actuarial instruments were constructed for both Nebraska Probation and Nebraska OJS. Results are presented in Table 26.

Table 26												
Nebraska Probation and Nebraska OJS Revised Risk Assessment Instruments Recidivism by Risk Level												
Risk Level	All Cases		Boys		Girls		Whites		Black/African Americans		Hispanic/Latinos	
	%	Recidivism Rate	%	Recidivism Rate	%	Recidivism Rate	%	Recidivism Rate	%	Recidivism Rate	%	Recidivism Rate
Nebraska Probation												
Low	26%	12.7%	25%	16.3%	27%	5.5%	28%	11.2%	20%	16.3%	25%	15.0%
Moderate	60%	21.8%	59%	25.2%	62%	15.0%	59%	19.4%	65%	29.3%	55%	19.3%
High	15%	37.2%	16%	36.4%	11%	39.5%	13%	40.0%	15%	40.6%	20%	25.8%
Sample Size	1,077		735		342		659		215		159	
Base Rate	21.7%		24.8%		15.2%		19.7%		28.4%		19.5%	
Nebraska OJS (Commitment)												
Low	16%	6.1%	15%	5.9%	22%	6.7%	16%	5.9%	16%	6.3%	17%	5.3%
Moderate	56%	14.1%	56%	13.9%	55%	14.7%	58%	15.0%	51%	13.5%	50%	15.5%
High	28%	29.1%	29%	27.6%	23%	35.5%	26%	32.1%	33%	27.3%	33%	21.1%
Sample Size	597		461		136		312		101		115	
Base Rate	16.9%		16.7%		17.6%		17.9%		16.8%		15.7%	

While these results represent a substantial improvement over the YLS/CMI, the analysis was restricted, in large part, to elements collected and categorized for the current risk assessment instrument. As a result, this instrument also works better for Whites than for other racial groups.

a. Summary of Findings

Results from three different populations included too little overall discrimination of outcomes by risk level, poor distribution of cases across risk levels, and serious equity issues. A simple actuarial risk instrument, developed using data collected by the current risk assessment instrument, produced much better results.

6. Arizona AOC Risk Assessment Instrument

The Arizona risk/needs assessment was developed for the Arizona Supreme Court AOC, Juvenile Justice Division. The first iteration of the assessment was constructed in the late 1980s in conjunction with the Juvenile Justice Classification Committee and Jim Riggs, PhD, from Research Information Specialists.

The original scale was composed of 10 variables based on their ability to identify the probability of subsequent juvenile criminal offenses and was designed to assess all youth referred to juvenile court. In the early to mid-1990s, AOC collaborated with the Arizona DJC and NCCD to examine factors related to juvenile recidivism and subsequently implemented a revalidated risk and needs assessment to classify every youth upon referral. In 1998, LeCroy & Milligan Associates revalidated and revised the assessment (LeCroy, Krysik, & Palumbo, 1998); and in 2007, another revalidation study found the instrument performing at moderate levels (AUC=0.652), though there were problems with the needs assessment (Schwalbe, 2009).

The risk assessment instrument in use today is the version revalidated in 1998 and again in 2007. It is a composite of three risk assessment “scoring streams” based on a youth’s prior offense

history. One stream is used for youth referred for their first offense, a second stream is used for youth referred for their second offense, and the third stream is used for youth referred three or more times.

Risk scores for each youth are calculated from a set of 10 risk factors, three of which are shared across the instruments. Additional risk items are scored depending on which risk stream is used. These items consist of questions related to type of offense, school-related information, behavioral problems, and peer relationships. Item weights reflect regression coefficients, and risk level cut points vary by scoring stream used. The risk assessment is completed for all youth referred to juvenile court.

In 2011, AOC implemented a new needs assessment, which is a derivative of the needs assessment in the Ohio Youth Assessment System (OYAS). The OYAS is a product of the University of Cincinnati. The Arizona AOC is the only jurisdiction in the United States that uses the risk assessment. The needs assessment was not examined in the current study.

The validity of each of the three scoring streams of the instrument was examined independently. Table 27 presents the combined results of all three scoring streams as well as results for each stream.

Table 27								
New Adjudications by Risk Levels								
Three Versions of the Arizona AOC Risk Assessment Instrument								
Risk Level	Combined Results		Version 1		Version 2		Version 3	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	21%	12.7%	72%	11.2%	22%	18.7%	0%	0.0%
Moderate	25%	22.4%	25%	18.4%	52%	19.8%	17%	27.5%
High	54%	29.0%	35%	22.6%	26%	24.5%	83%	29.6%
Sample Size	7,589		1,788		1,430		4,371	
Base Rate	23.9%		13.4%		20.8%		29.3%	

Over half of the probation population in Arizona was classified as high risk. This is in stark contrast to results in other states, where risk assessment systems tend to place the majority of probationers in the lower risk categories. Distribution issues in Arizona exist in part because the agency assesses all cases referred to juvenile court and diverts low-risk cases. Nonetheless, the low level of separation attained between moderate- and high-risk cases reflects minimal capacity to differentiate between cases at the highest risk levels.

Over half (57.6%) of the cases in the study entry cohort were classified using Version 3 of the system (Table 28). This version classified 83.1% of all cases to the high risk level, placed no case at the low risk level, and showed little separation of moderate- and high-risk cases. In contrast, Version 1 placed nearly 72% of all cases at low risk and only 3.5% at high risk (see Appendix B, page B19).

Table 28		
Arizona AOC Risk Assessment Instrument		
New Adjudication Rates by Version of Instrument Used		
Instrument	Percent of Cases	Percent New Adjudication
Version 1 (n=1,788)	23.5%	13.4%
Version 2 (n=1,430)	18.8%	20.8%
Version 3 (n=4,371)	57.6%	29.3%

More girls are classified by this risk assessment instrument as high risk than boys. However, high-risk girls recidivate at about the same rate as moderate-risk boys. Table 29 breaks down combined results by gender; racial/ethnic breakdowns are presented in Table 30.

Table 29				
Arizona AOC Risk Assessment Instrument New Adjudications by Risk Level by Gender				
Risk Level	Boys		Girls	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	22%	13.4%	18%	9.7%
Moderate	25%	23.6%	26%	18.2%
High	53%	30.6%	56%	23.7%
Sample Size	5,922		1,667	
Base Rate	25.1%		19.8%	

Table 30								
Arizona AOC Risk Assessment Instrument New Adjudications by Risk Level by Race/Ethnicity								
Risk Level	Whites		Black/African Americans		Hispanic/Latinos		Native Americans	
	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication	Percent at Level	Percent New Adjudication
Low	22%	12.1%	22%	14.1%	20%	13.0%	22%	12.9%
Moderate	25%	20.3%	24%	29.3%	26%	23.2%	25%	22.6%
High	53%	27.7%	54%	29.7%	54%	30.5%	54%	27.8%
Base Rate	22.4%		26.2%		25.0%		23.3%	
Sample Size	3,062		625		3,388		433	

A strength of the Arizona risk assessment instrument is that it places a similar population of cases, regardless of race or ethnicity, at each risk level. However, some “overlap” is evident: moderate-risk Black/African Americans had higher recidivism rates than high-risk Native Americans and Whites. In addition, the rates of subsequent adjudication were nearly identical for moderate-risk and high-risk Black/African American subgroups.

A revised instrument greatly reduced the proportion of cases classified as high risk, increased the degree of separation of outcomes between risk levels, and maintained a fair degree of equity

across racial/ethnic groups represented in the Arizona probation system.¹⁰ Results are presented in Table 31.

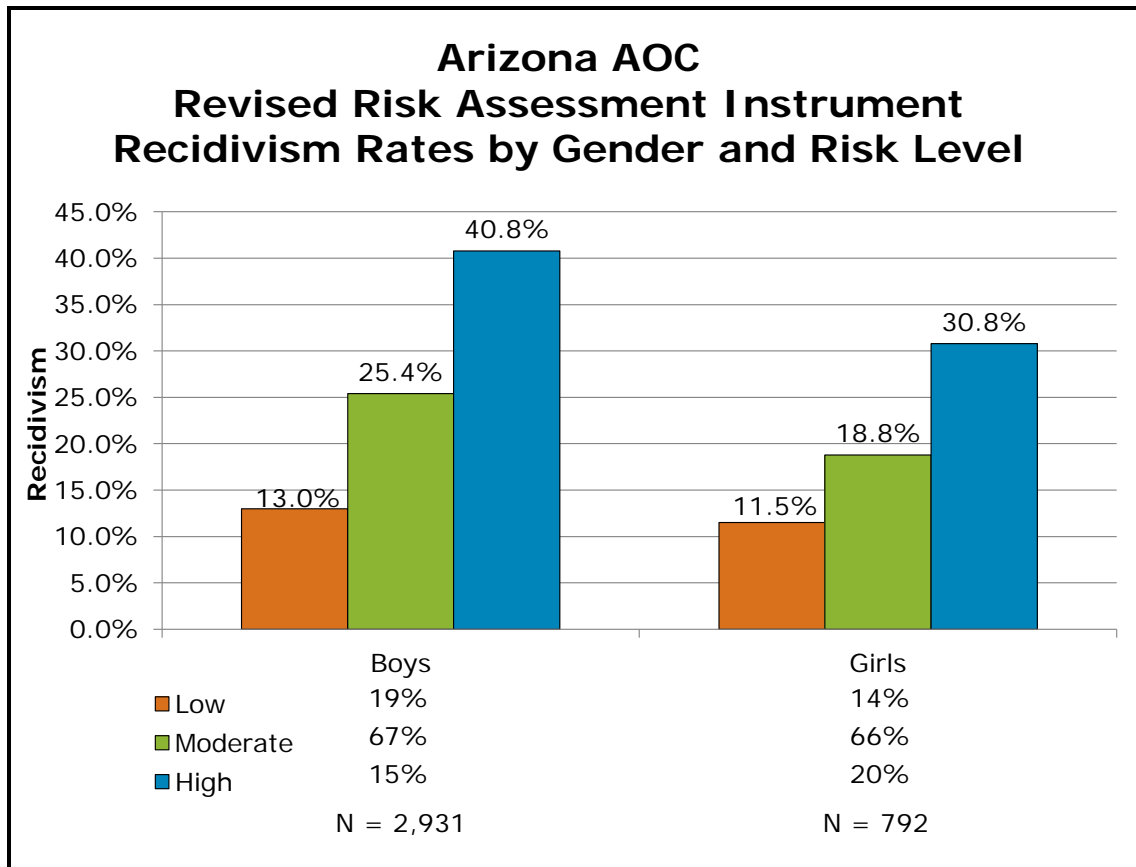
Table 31 Arizona AOC Revised Risk Assessment Instrument New Adjudications by Risk Level										
Risk Level	All Cases		Hispanic/Latinos		Whites		Black/African Americans		Native Americans	
	% at Level	% New Adjudication	% at Level	% New Adjudication	% at Level	% New Adjudication	% at Level	% New Adjudication	% at Level	% New Adjudication
Low	18%	12.8%	16%	12.5%	20%	13.1%	18%	10.3%	15%	16.1%
Moderate	67%	24.1%	68%	24.3%	66%	23.6%	63%	25.0%	67%	23.7%
High	16%	38.1%	16%	38.2%	15%	36.6%	19%	37.7%	17%	45.7%
Base Rate	24.3%		24.7%		23.5%		24.8%		26.4%	
Sample Size	3,723		1,678		1,484		323		2,014	

Note: Reflects validation sample.

The revised instrument also worked similarly for both boys and girls. In particular, this approach significantly reduced over-classification of both boys and girls to the high risk level. Results by gender are presented in Figure 2.

¹⁰ These analyses are presented only as an example of the degree to which risk assessment could be improved in the agency. In Arizona, additional analysis is recommended, especially the testing of additional potential risk factors that could further improve results. Ideally, more cases should be “pushed” into the low- and high-risk groups. Better distribution would significantly increase the potency of the classification system.

Figure 2



a. Summary of Findings

Though based on an actuarial design, the Arizona AOC risk instrument failed to provide substantial discrimination between risk levels. Equity issues were also found. Results may be attributable to two issues. First, the system uses regression coefficients as item weights, which complicates scoring; secondly, it appears that little, if anything, is gained from the three-tiered system of risk assessment. A single actuarial scale with the best combination of risk factors produced better separation and eliminated the equity problems found with the existing instrument.

7. Arizona DJC DRI

The DRI was developed in 2007 by the Arizona DJC in conjunction with LeCroy & Milligan Associates. Arizona DJC is the only jurisdiction in the nation that uses the DRI. The DRI consists of 18 items embedded in a broader assessment of youth functioning, the Criminogenic and Protective Factors Assessment (CAPFA). The CAPFA consists of more than 180 items in 12 domains and is conducted for all juveniles committed to the DJC. The DRI consists primarily of dynamic factors to assess a youth's likelihood of recidivism. According to the DJC, the dynamic components allow for the worker to track a juvenile offender's treatment progress over the duration of his/her system involvement, and these components provide a more comprehensive general picture of the youth. The scoring system employed for the DRI is based on item weights that reflect coefficients computed to the thousandth. For example, a five-point scale for "manipulation" is multiplied by -4.740.

The DRI was validated in 2008 by the Research and Development division of DJC. At the time of validation, the instrument was found to classify youth better than chance according to their likelihood of recidivating as evidenced by an AUC value of 0.64. However, in practice, very little distinction was shown in recidivism rates between medium and high risk classifications. This result was determined by the study's authors to be a product of the sample size and the small number of recidivists in the sample (Chengalath, 2008).

Analysis for the Arizona DJC site was limited by data availability. Data on new arrests, petitions, and adjudications were not available from the agency's information system. Tests of validity were thus limited to a single outcome measure: recommitment within 12 months of release.

The sample comprised a total of 1,265 youth released in 2007 or 2008. The recommitment rate for all cases in the sample was 37.9%. Overall results of the validation study are presented in Table 32, which also provides breakdowns by gender.

Table 32						
Arizona DJC Dynamic Risk Instrument Recommitment Rates by Gender						
Risk Level	All Cases		Boys		Girls*	
	Percent at Level	Percent Recommitment	Percent at Level	Percent Recommitment	Percent at Level	Percent Recommitment
Low	55%	31.1%	52%	30.2%	70%	35.3%
Moderate	20%	45.0%	20%	45.4%	16%	41.7%
High	25%	47.3%	22%	46.7%	9%	61.5%
Base Rate	37.9%		37.9%		38.6%	
Sample Size	1,265		1,112		153	

*The girls' sample was too small to support breakdowns by race/ethnicity in subsequent tables.

As shown in Table 32, girls had a higher base rate of recidivism than boys. Second, despite higher recommitment rates, more girls were rated low risk. High-risk girls had a much higher recommitment rate than high-risk boys, but this may be an artifact of the small number of girls classified as high risk. Only 13 girls were rated high risk and eight of these were recommitted during the 12-month follow-up.

For boys, there was moderate discrimination in recommitment rates between low and moderate risk, but no significant difference in rates reported for moderate- and high-risk groups. Classification was skewed toward low risk for both genders; in total, 55% of the release cohort was classified low risk. The AUC for the total sample was 0.59; the DIFR score was 0.32, both relatively low values.

The DRI is primarily composed of items described in the literature as dynamic (factors that can change over time, or more specifically, factors that can improve as a result of services provided or maturation). However, many of the factors in the DRI have little statistical correlation with recommitment; in addition, several correlations were not in the expected direction. See Appendix B for details.

Table 33 breaks down results of the validation study by race and ethnicity. Within each population subgroup are two classification levels where the difference in recommitment rates between levels is less than 4%.

Table 33						
Arizona DJC Dynamic Risk Instrument Recommitment Rates by Risk Level						
Risk Level	Hispanic/Latinos		Whites		Black/African Americans	
	Percent at Level	Percent Recommitted	Percent at Level	Percent Recommitted	Percent at Level	Percent Recommitted
Low	54%	29.7%	57%	29.2%	56%	37.3%
Moderate	22%	44.9%	17%	43.9%	17%	40.9%
High	24%	47.7%	27%	46.2%	27%	55.6%
Base Rate	37.3%		36.2%		42.9%	
Sample Size	659		398		133	

Results of a revised risk assessment instrument based on available data are presented in Table 34. The revised risk assessment instrument can be found in Appendix B.

Table 34				
Arizona DJC Department of Juvenile Corrections Recommitment by Revised Risk Level				
Risk Level	N	%	Recommitment Rate	
			N	%
Low	343	27.1%	63	18.4%
Medium	638	50.4%	245	38.4%
High	284	22.5%	172	60.6%
TOTAL SAMPLE	1,265	100.0%	480	37.9%

The revised instrument produced a more balanced distribution of cases and a high level of discrimination on recommitment rates. Further, as Table 35 illustrates, the instrument worked equitably across all major population subgroups.

Table 35				
Arizona DJC				
Recommitment by Revised Risk Assessment Level and Youth Race/Ethnicity				
Risk Level	N	%	Recommitment Rate	
			N	%
TOTAL SAMPLE	1,265	100.0%	480	37.9%
Hispanic/Mexican National				
Low	186	28.2%	32	17.2%
Medium	347	52.7%	137	39.5%
High	126	19.1%	77	61.1%
Subgroup Total	659	100.0%	246	37.3%
Black/African American				
Low	29	21.8%	7	24.1%
Medium	64	48.1%	24	37.5%
High	40	30.1%	26	65.0%
Subgroup Total	133	100.0%	57	42.9%
White				
Low	109	27.4%	19	17.4%
Medium	193	48.5%	69	35.8%
High	96	24.1%	56	58.3%
Subgroup Total	398	100.0%	144	36.2%

Gender breakdowns are outlined in Table 36. Results indicated that the revised risk assessment instrument was effective in distributing cases across the risk continuum and separating cases into classifications with substantially different rates of recidivism.

Table 36				
Arizona DJC				
Recommitment by Revised Risk Level and Youth Gender				
Risk Level	N	%	Recommitment Rate	
			N	%
TOTAL SAMPLE	1,265	100.0%	480	37.9%
Girls				
Low	32	20.9%	5	15.6%
Medium	76	49.7%	29	38.2%
High	45	29.4%	25	55.6%
Subgroup Total	153	100.0%	59	38.6%
Boys				
Low	311	28.0%	58	18.6%
Medium	562	50.5%	216	38.4%
High	239	21.5%	147	61.5%
Subgroup Total	1,112	100.0%	421	37.9%

a. Summary of Findings

This risk assessment instrument relies heavily on dynamic factors scored using a complex formula and produces moderate levels of discrimination. Substantial improvements in both distribution and the level of discrimination were attained when the instrument was revised. The revised instrument worked equally well across race/ethnicities and gender. Use of a new risk assessment instrument might substantially improve risk classification in this agency.

8. Oregon JCP Assessment

The JCP risk assessment instrument was developed in the late 1990s by the Oregon Juvenile Department Directors Association. The instrument was used to target high-risk youth and link them to crime prevention services. Oregon is the only jurisdiction in the United States that uses the JCP. The assessment is now used in all 36 counties and nine federally recognized American Indian tribes in Oregon.

Since its inception, the JCP has routinely been evaluated for effectiveness by NPC Research, a social science research organization in Portland, Oregon (see, for example, Finigan, Mackin, Seljan, & Tarte, 2003; Tarte, Mackin, Cox, & Furrer, 2007). In the early 2000s, NPC conducted a risk validation study on the JCP assessment, which resulted in changes to the assessment that were implemented in 2006.

The JCP includes 30 risk factors organized into seven domains: school/academic issues, peers, behavioral issues (this domain captures information on school behavior, criminal history, runaway history, violence/aggressive behavior, and prior use of weapons), family dynamics, substance use, attitudes, and mental health. Risk factors are anchored with explicit definitions and scoring instructions.

The risk assessment instrument is embedded in an automated data collection system that also identifies factors that need to be addressed in case plans and collects data on “test items” (i.e., factors that could be used to improve risk assessments in the future depending on their statistical relationship to outcomes).

The base rates for both new referrals and new adjudications were exceptionally low in Oregon. Despite these limitations, the risk assessment instrument produced substantial discrimination in outcomes across risk levels. The analysis also found that the instrument worked equally well across different racial and ethnic groups. Overall results are presented in Table 37.

Table 37														
Oregon JCP New Adjudication by Risk Level														
Risk Level	All Cases		Boys		Girls		Whites		Black/African Americans		Hispanic/Latinos		Native Americans	
	Percent at Level	New Adjudication	Percent at Level	New Adjudication	Percent at Level	New Adjudication	Percent at Level	New Adjudication	Percent at Level	New Adjudication	Percent at Level	New Adjudication	Percent at Level	New Adjudication
Low	47%	4.9%	45%	5.9%	49%	2.7%	48%	4.6%	40%	5.4%	48%	5.8%	36%	5.1%
Moderate	38%	14.1%	39%	15.3%	36%	11.2%	37%	13.3%	40%	17.2%	37%	16.5%	43%	11.5%
High	16%	22.6%	16%	23.7%	16%	20.1	15%	22.0%	21%	28.5%	17%	22.4%	21%	29.0%
Base Rate			12.3%		8.5%		10.6%		14.9%		13.0%		12.9%	
Sample Size			8,678		3,692		8,305		658		2,440		326	

The AUC and DIFR values for the JCP were 0.70 and 0.71, respectively. The unusually low rate of recidivism observed in Oregon makes results from the JCP difficult to compare with other instruments evaluated in this study. Relative to the overall rate of recidivism observed in Oregon, the JCP achieved substantial separation in new adjudication rates. However, differences in absolute terms were only in the 8% to 10% range.

The low base rate, combined with the relative strength of the existing instrument, made improvements through revision difficult to attain. Efforts to do so resulted in slightly better discrimination, but these were offset by a more skewed distribution of cases across risk levels. Results of this analysis are presented in Appendix B.

a. Summary of Findings

Despite the low rate of subsequent adjudications reported during the 12-month follow-up period, the Oregon JCP produced a high degree of relative separation in recidivism rates recorded for low-, moderate-, and high-risk youth. The low base rate for re-adjudication observed in Oregon made attempts to improve on the current instrument difficult.

B. Comparison of Results Across Jurisdictions and Assessments

The following description of general findings is organized around four major areas of inquiry: reliability, validity (the level of discrimination attained, the distribution of cases across risk levels), equity, and cost.

1. Reliability

In nearly every site, the average percent agreement among workers was at least 75%, the minimum threshold for acceptability. Percent agreement, however, was 75% or higher between

workers and the expert in only five of the 10 study jurisdictions. Risk assessment instruments that exhibited the highest degree of agreement with expert scores were the Solano County JSC; the Georgia CRN (though the CRN levels may reflect an inflated percent agreement due to the way risk levels were calculated for the reliability test),¹¹ the Virginia YASI, and the Arizona AOC instrument. Instruments with lower reliability levels included the YLS/CMI, the PACT, the Oregon JCP, and the Arizona DRI (Table 38).

Table 38						
Inter-Rater Reliability Results Summary by Site						
Site and Assessment	Number of Raters	Percent Agreement		ICC		Kappa
		Among Workers	With Expert	Risk Level	Risk Score	Risk Level
Arizona AOC Risk Assessment Instrument	45	81.9%	79.0%	0.72	0.85	0.56*
Arizona DJC DRI	5	75.6%	55.6%	0.66	0.75	0.44
YLS/CMI						
Arkansas	15	75.2%	68.3%	0.54	0.67	0.33*
Nebraska Probation	26	79.2%	38.8%	0.62	0.80	0.42*
Nebraska Commitment	45	77.4%	73.4%	0.61	0.73	0.40*
Florida PACT	51	76.6%	68.4%	0.83	N/A	0.50*
Georgia CRN	50	92.0%	92.0%	0.88	0.93	0.80*
Oregon JCP	51	77.1%	62.1%	0.68	0.77	0.46*
Solano County						
Boys (JSC)	27	92.0%	92.0%	0.90	0.92	0.78*
Girls (Girls Link)	27	84.3%	83.3%	0.74	0.89	0.65*
Virginia YASI	69	84.7%	79.4%	0.77	0.89	0.61*

*Significant at $p < 0.05$

Note: ICC and kappa calculations include only cases in which workers completed all 10 case vignettes. PACT relies on a matrix of criminal and social history scores; therefore, an ICC could not be computed.

¹¹ The CRN risk levels consist of scores for age at first adjudication, number of prior adjudications, and a general delinquency score. Only general delinquency items were tested. To calculate risk levels for the study, age at first adjudication and number of prior adjudications were automatically scored based on study cases. Therefore, the likelihood of workers reaching the same risk level was enhanced.

Inter-rater reliability findings for individual items on the risk assessments varied by jurisdiction and type of item. Staff agreed at least 75% of the time for the majority of items; two exceptions were Arizona's DRI and Georgia's CRN. More than half of the DRI items (13 of 18) had inter-rater agreement lower than 75%, which is likely related to question content on the DRI that was not addressed or could not be answered based on the video vignette, or, because in practice, multiple specialists complete the DRI. More importantly, the number of raters able to participate was very low (n=5). Across the five raters testing the DRI, the items with lowest agreement were empathy, resistance to peer influence, and respect for authority.

Like the DRI, the majority (63%) of CRN items did not achieve the 75% agreement threshold, though results may be more related to item design than a lack of information in the case vignettes. More possible responses can lead to less consistency. Most items on the CRN allow up to five possible responses, which may have hindered inter-rater reliability. The items that did not reach the threshold included items about promiscuity, substance use, and youth and family functioning. In comparison, the YLS/CMI and the JCP limit item responses to yes or no; the lowest percent agreement obtained on those risk assessments was 65.3% and 56.5%, respectively (Table 39). For detailed inter-rater reliability results, see Appendix C.

Table 39				
Inter-Rater Reliability Summary				
Risk Items				
Risk Assessment Instrument	Number of Items	Minimum Percent Agreement Attained, Any Item	Maximum Percent Agreement Attained, Any Item	Proportion (#) of Items With < 75% Agreement
Arizona AOC Risk Assessment Instrument	13	55.8%	94.6%	23% (3)
Arizona DJC DRI	18	42.2%	100.0%	72% (13)
YLS/CMI				
Arkansas	42	67.6%	97.9%	24% (10)
Nebraska Probation	42	71.2%	98.1%	7% (3)

Table 39				
Inter-Rater Reliability Summary				
Risk Items				
Risk Assessment Instrument	Number of Items	Minimum Percent Agreement Attained, Any Item	Maximum Percent Agreement Attained, Any Item	Proportion (#) of Items With < 75% Agreement
Nebraska Commitment	42	65.3%	96.2%	19% (8)
Florida PACT	44	52.8%	99.4%	4% (5)
Georgia CRN	56	32.1%	97.8%	63%(35)
Oregon JCP	30	56.5%	96.1%	30% (10)
Solano County				
Boys (JSC)	10	56.2%	99.4%	20% (2)
Girls (Girls Link)	8	83.3%	100.0%	-- (0)
Virginia YASI	87	46.3%	100.0%	10% (9)

Various factors related to item design might explain the low inter-rater reliability. More response options (i.e., categories) might have a negative impact on reliability, as may the absence of definitions and clear thresholds. For example, at least two risk assessment instruments (PACT and CRN) ask workers to select one of five responses. One CRN item about how often a youth goes out with friends or is alone after school is measured as never, <1 time per week, 1 to 3 times per week, 4 to 7 times per week, or unknown. Five items related to remorse or guilt include possible responses of definitely no, suspect no, unknown/no opinion, suspect yes, and definitely yes.

In general, items requiring varying degrees of subjectivity were found to be less reliable than clearly objective items. For example, the items with the lowest percent agreement across the assessments were related to disruptive behavior at school, positive friendships, harming or injuring animals, consequential thinking skills, and parental supervision. The most reliable items tended to be related to prior offense history and youth age at first contact with the juvenile justice system. However, these observations cannot tell us exactly why inter-rater reliability is low for a particular item. For additional information on inter-rater reliability results, see Appendix C.

2. Validity

The JSC and YASI instruments achieved the greatest separation in recidivism rates for cases assigned to high, moderate, and low risk levels. A moderate degree of separation between low and high risk was produced by both the PACT and the CRN, but analysis showed little difference in recidivism rates for moderate- and high-risk cases for each instrument. The YLS/CMI produced little separation in any of the three agencies that use this risk assessment instrument, although limitations in both the sample available and follow-up period in Arkansas limit the value of results from that state.

Measures of AUC were highest for the Oregon JCP and the Girls Link and JSC risk assessments that are used in Solano County. Table 40 compares results from all participating sites. This summary of results should be viewed in conjunction with data on case distribution presented in Table 41.

Table 40						
Validity Results by Risk Assessment Instrument						
Risk Assessment Instrument	Recidivism Within 12 Months				AUC	DIFR*
	Recidivism Rate	Recidivism by Risk Level				
		Low	Medium	High		
Arizona AOC Risk Assessment Instrument	24%	13%	22%	29%	0.62	0.40
Arizona DJC DRI	38%	31%	45%	47%	0.59	0.32
YLS/CMI						
Arkansas	11%	0%	14%	0%	0.40	Could not calculate
Nebraska Probation	22%	18%	23%	25%	0.55	0.15
Nebraska Commitment	17%	10%	18%	17%	0.54	0.12
Florida PACT						
Commitment	44%	29%	40%	47%	0.58/0.52**	0.28
Probation	36%	30%	44%	52%	0.59/0.63**	0.37
Georgia CRN						
Probation	29%	25%	52%	58%	0.64	0.40
Commitment	31%	24%	43%	46%		
Oregon JCP	11%	5%	14%	23%	0.70	0.71

Table 40						
Validity Results by Risk Assessment Instrument						
Risk Assessment Instrument	Recidivism Within 12 Months				AUC	DIFR*
	Recidivism Rate	Recidivism by Risk Level				
		Low	Medium	High		
Solano County						
Boys (JSC)	51%	19%	48%	64%	0.68	0.68
Girls (Girls Link)	35%	24%	29%	58%	0.68	0.34
YASI	25%	11%	27%	42%	0.68	0.68

Notes: Recidivism is measured by new adjudication except for Arizona DJC and Nebraska commitment populations (new commitment). DIFR is not applicable when outcome rate is 0% for one or more risk levels. Four agencies assign cases to four different risk levels. In two of those agencies, no one scored at the highest level. In the other two agencies, 5% or fewer were classified at the highest level. For this comparison, the two highest risk levels were combined.

*DIFRs reflect original classifications: four levels for YLS/CMI and PACT; three levels for the other risk assessment instruments.

**Criminal history/social history

Table 41			
Current Risk Assessment Distribution by Site			
Risk Assessment Instrument	Risk Level	Distribution	
		N	%
Arizona AOC Risk Assessment Instrument	Low	1,596	21%
	Medium	1,930	25%
	High	4,063	54%
	Total	7,589	100%
Arizona DJC DRI	Low	695	55%
	Medium	251	20%
	High	319	25%
	Total	1,265	100%
Nebraska Probation YLS/CMI	Low	291	27%
	Moderate	718	67%
	High	68	6%
	Very High	0	0%
	Total	1,077	100%

Table 41			
Current Risk Assessment Distribution by Site			
Risk Assessment Instrument	Risk Level	Distribution	
		N	%
Nebraska Commitment YLS/CMI	Low	20	3%
	Moderate	192	32%
	High	376	63%
	Very High	9	2%
	Total	597	100%
Florida PACT Probation	Low	18,350	67%
	Moderate	4,839	18%
	Moderate-High	2,741	10%
	High	1,439	5%
	Total	27,369	100%
Florida PACT Commitment	Low	1,410	13%
	Moderate	1,830	16%
	Moderate-High	3,636	33%
	High	4,278	38%
	Total	11,154	100%
Georgia CRN	Low	5,692	77%
	Medium	1,395	19%
	High	325	4%
	Total	7,412	100%
Oregon JCP	Low	5,774	47%
	Medium	4,678	38%
	High	1,918	16%
	Total	12,370	100%
Solano County Boys (JSC)	Low	128	15%
	Medium	376	43%
	High	376	43%
	Total	880	100%

Table 41			
Current Risk Assessment Distribution by Site			
Risk Assessment Instrument	Risk Level	Distribution	
		N	%
Solano County Girls Link	Low	17	13%
	Moderate	86	66%
	High	28	21%
	Total	131	100%
Arkansas DYS YLS/CMI	Low	6	5%
	Moderate	90	76%
	High	23	19%
	Very High	0	0%
	Total	119	100%
Virginia YASI Girls Sample	Low	651	34%
	Medium	841	44%
	High	427	22%
	Total	1,919	100%

Distribution (or dispersion) was problematic for several of the instruments evaluated. Some of these distribution patterns can be traced to policy and practice, such as diversion of low-risk cases (Solano County and Arizona AOC). But the YLS/CMI, for example, placed few cases at the very high risk level, regardless of where it was implemented. The Georgia CRN, using current cut points, placed 88% of probationers in the low risk classification and less than 1% at the high risk level, a low level of discrimination.

As noted earlier, base rates for each site are critical for understanding results. In Oregon, nearly half (47%) of the assessed population was rated low risk. These cases had an exceptionally low rate of recidivism (4.9%); hence, the low risk rating can be considered accurate. Rates of subsequent adjudication for moderate- and high-risk offenders were also well under those reported in other jurisdictions. It is possible that the Oregon risk assessment instrument is less likely to adjudicate

(differences in new arrest rates were not pronounced when Oregon was compared to other jurisdictions) and/or that Oregon has effective programs and practices in place that produce higher rates of success for youth on probation.

The high rate of recidivism in Solano County probation results from the fact that most low-risk youth are screened out of probation; only low-risk youth with more serious offenses or low-risk cases that were overridden to higher levels by the officer doing the assessment are admitted to probation. As a result, only 15% of the Solano County cohort was assessed as low risk.

Despite the differences noted in Oregon and Solano County, the risk assessment instruments employed in each of these jurisdictions effectively separated cases to different risk levels, relative to the base rates observed in each jurisdiction. Because data on screened-out cases in Solano County were not available, it was not possible to include these cases in the analysis. It should be noted that this had substantial impact on the proportion of cases at each risk level and probably resulted in artificially low DIFR scores for the Solano County risk assessment instrument.

3. Equity

Equity issues were found with several of the risk assessment instruments evaluated in this study. The YLS/CMI, in particular, exhibited problems: It produced better separation for White youth than for Hispanic/Latinos or Black/African Americans. Problems with equity were also found for the PACT risk assessment instrument used in Florida, particularly for youth who were placed in state facilities. Several instruments, most notably the YASI, did not classify girls appropriately.¹²

Overall equity results are presented in Tables 42 and 43 and are limited to AUC and DIFR. Relative to the other instruments in the study, the AUCs and DIFRs for various race/ethnicities were

¹² Based on YASI system documentation provided to NCCD for this study, YASI developers attempted to resolve this issue by altering cut points to classify girls. However, as results illustrate, the system remained ineffective at classifying girls by the likelihood of recidivating.

strongest for the Oregon JCP, the JSC instrument for boys in Solano County, and the YASI. When examined by gender, the risk assessment instruments that performed well relative to the other instruments included the Oregon JCP, the YASI, and the JSC instrument for boys. Due to the complexity of presenting results from 10 agencies, only summary statistics are presented here.

Table 42							
Validity Results By Race/Ethnicity							
Risk Assessment Instrument	Recidivism Rate*	AUC			DIFR		
		White	Black	Hispanic/ Latino	White	Black	Hispanic/ Latino
Arizona AOC Risk Assessment Instrument	24%	0.62**	0.60*	0.62**	0.41	0.39	0.42
Arizona DJC DRI	38%	0.60**	0.58	0.60*	0.35	0.32	0.36
YLS/CMI							
Arkansas	11%	0.27	0.49	N/A	Could not calculate	Could not calculate	N/A
Nebraska Probation	22%	0.58**	0.48	0.51	0.18	0.02	0.09
Nebraska Commitment	17%	0.57	0.54	0.47	0.17	N/A	0.57
Florida PACT							
Probation Criminal History/Social History	36%	0.59**/0.63**	0.59**/0.63**	0.59**/0.63**	0.38	0.36	0.35
Commitment Criminal History/Social History	44%	0.58**/0.55**	0.56**/0.53**	0.56**/0.54**	0.33	0.23	0.23
Georgia CRN	31%	0.64**	0.63**	0.69**	0.35	Could not calculate	Could not calculate
Oregon JCP	11%	0.70**	0.71**	0.67**	0.73	0.81	0.67
Solano County							
Boys JSC	51%	0.70**	0.65**	0.67**	0.70	0.73	0.56
Girls Link	35%	0.56**	0.70**	0.70**	0.25	Could not calculate	0.64
Virginia YASI	25%	0.68**	0.66**	N/A	0.74	0.57	N/A

*New adjudication except in Arizona DJC and Arkansas (new commitment).

**AUC significantly different from 0.50.

Notes: Could not calculate some cells because recidivism did not increase with each successive risk level and/or recidivism value equaled zero. N/A means the cohort size was too small and/or data were unavailable.

Table 43					
Validity Results by Risk Assessment Instrument By Gender					
Risk Assessment Instrument	Recidivism Rate*	AUC		DIFR	
		Boys	Girls	Boys	Girls
Arizona AOC Risk Assessment Instrument	24%	0.62**	0.60**	0.41	0.40
Arizona DJC DRI	38%	0.60**	0.56	0.34	0.30
YLS/CMI					
Arkansas	11%	0.40	0.45	Could not calculate	Could not calculate
Nebraska Probation	22%	0.52	0.61**	0.11	0.22
Nebraska Commitment	17%	0.51	0.63**	0.23	Could not calculate
Florida PACT					
Probation Criminal History/Social History	36%	0.60**/0.62**	0.58**/0.65**	0.37	0.39
Commitment Criminal History/Social History	44%	0.58**/0.54**	0.57**/0.52	0.28	0.23
Georgia CRN	31%	0.64**	0.61**	Could not calculate	0.31
Oregon JCP	11%	0.69**	0.74**	0.65	0.95
Solano County	47%	0.68**	0.68**	0.68	0.34
Virginia YASI	25%	0.67**	0.71**	0.58	Could not calculate

*New adjudication except in Arizona DJC and Arkansas (new commitment).

**AUC significantly different from 0.50.

Note: Could not calculate some cells because outcome rate did not increase with risk level increase, or outcome rate for a group equaled zero.

4. Revised Risk Assessment Instruments Constructed in the Study

Simple, actuarial risk assessment instruments were created (or modified, for those jurisdictions already using actuarial models) for every study jurisdiction except Arkansas, using data from the existing instrument (the study cohort in Arkansas was too small to support the analyses needed to construct a new risk instrument). As noted earlier, if the cohort of cases available for analyses

exceeded 2,000 it was divided into construction and validation samples, and results from validation samples were used. While it was possible to construct actuarial instruments for probation cases in Florida, it was not possible to construct an instrument for committed youth in Florida that worked across all racial/ethnic groups because of data limitations and substantial differences in recidivism by race.

In most instances, the new instruments constructed for each agency produced markedly better results than the instrument currently in use. The two exceptions were the JSC boys' instrument used in Solano County and the JCP assessment used in Oregon. In the case of the JCP, the low base rate observed in Oregon may, in part, account for the fact that improvement was difficult. However, testing in a population with a higher rate of recidivism would provide useful information that may enable further improvement.

Table 44 presents a comparison of results from the existing instrument in each jurisdiction with those attained with a simple actuarial design. Factors available for development of an actuarial instrument were generally limited to those collected in the existing instrument. The instruments developed therefore do not necessarily provide optimal classification results, but they do demonstrate the potential for substantial improvement.

Table 44					
Comparison of Current and Revised Risk Assessment Instruments by Site					
Risk Assessment Instrument	Risk Level	Current Risk Assessment Instrument		Revised Risk Assessment Instrument (Validation Sample When Available)	
		Level %	% Re-Adjudicated*	Level %	% Re-Adjudicated*
Arizona AOC Risk Assessment Instrument	Low	21%	12.7%	18%	12.8%
	Medium	25%	22.4%	67%	24.1%
	High	54%	29.0%	16%	38.1%
	Overall	100% (n=7,589)	23.9%	100% (n=3,723)	24.3%

Table 44					
Comparison of Current and Revised Risk Assessment Instruments by Site					
Risk Assessment Instrument	Risk Level	Current Risk Assessment Instrument		Revised Risk Assessment Instrument (Validation Sample When Available)	
		Level %	% Re-Adjudicated*	Level %	% Re-Adjudicated*
Arizona DJC DRI	Low	55%	31.1%	27%	18.4%
	Medium	20%	45.0%	50%	38.4%
	High	25%	47.3%	22%	60.6%
	Overall	100% (n=1,265)	37.9%	100% (n=1,265)	37.9%
Nebraska Probation YLS/CMI	Low	27%	17.9%	26%	12.7%
	Moderate	67%	23.0%	60%	21.8%
	High	6%	25.0%	15%	37.2%
	Very High	0%	-		
	Overall	100% (n=1,077)	21.7%	100% (n=1,077)	21.7%
Nebraska Commitment YLS/CMI	Low	3%	10.0%	16%	6.1%
	Moderate	32%	17.7%	56%	14.1%
	High	63%	16.8%	28%	29.1%
	Very High	2%	22.2%		
	Overall	100% (n=597)	16.9%	100% (n=597)	16.9%
Florida PACT Probation Boys' Sample	Low	66%	31.1%	22%	19.8%
	Moderate	18%	45.2%	42%	34.2%
	Moderate-High	11%	49.8%		
	High	6%	57.4%	36%	50.7%
	Overall	100% (n=20,621)	37.0%	100% (n=10,370)	36.9%
Florida PACT Probation Girls' Sample	Low	70%	31.1%	24%	18.3%
	Moderate	17%	41.2%	55%	30.5%
	Moderate-High	9%	44.9%		
	High	4%	58.1%	21%	51.3%
	Overall	100% (n=6,748)	32.3%	100% (n=3,397)	32.0%
Georgia CRN Boys' Sample	Low	74%	28.5%	32%	17.0%
	Medium	21%	49.3%	44%	37.1%

Table 44					
Comparison of Current and Revised Risk Assessment Instruments by Site					
Risk Assessment Instrument	Risk Level	Current Risk Assessment Instrument		Revised Risk Assessment Instrument (Validation Sample When Available)	
		Level %	% Re-Adjudicated*	Level %	% Re-Adjudicated*
	High	5%	48.4%	24%	49.1%
	Overall	100% (n=5,407)	33.9%	100% (n=2,506)	33.4%
Georgia CRN Girls' Sample	Low	85%	19.3%	23	11.7%
	Medium	13%	36.1%	54	21.0%
	High	2%	36.8%	23	33.9%
	Overall	100% (n=2,005)	21.8%	100% (n=2,005)	21.8%
Solano County Girls' Sample (Girls Link)	Low	16%	23.8%	23%	13.6%
	Moderate	59%	29.0%	49%	28.3%
	High	25%	57.8%	29%	64.0%
	Overall	100% (n=261)	35.2%	100% (n=261)	35.2%
Virginia YASI Boys' Sample	Low	27%	14.4%	28%	10.7%
	Medium	46%	28.2%	48%	30.3%
	High	27%	44.5%	24%	51.1%
	Overall	100% (n=1,412)	28.8%	100% (n=1,106)	29.9%
Virginia YASI Girls' Sample	Low	53%	6.3%	36%	5.9%
	Medium	37%	24.2%	42%	16.3%
	High	10%	21.2%	22%	38.4%
	Overall	100% (n=507)	14.4%	100% (n=333)*	17.4%

Note: Outcomes reported for Arizona DJC and Arkansas are "returns to a facility." The instruments represented in this table are those where revised instruments were able to substantially improve classification results. Gender-specific instruments are included when results attained outperformed the current risk tool.

*Only records with full YASI were included in revised risk assessment.

While YASI results were further improved by using only those factors with the strongest relationship with recidivism, substantial improvement over results of the current version of the Oregon JCP or the JSC boys' risk assessment from Solano County were not attained. The evaluation of the Oregon JCP was limited to some extent by the low rate of subsequent adjudications reported.

5. Efficiency and Cost

Juvenile justice agencies consider the issues of efficiency and cost when selecting a risk assessment instrument. Over the last two decades, the objectives and, consequently, the number of issues covered in risk assessment have increased substantially. Some assessment procedures can require two or more hours to complete.

Risk/needs assessments included in this study took from approximately 30 to 90 minutes to complete. Time to complete each risk assessment is illustrated in Table 45.¹³

Table 45	
Time to Complete by Risk Assessment Instrument	
Risk Assessment Instrument	Minutes
YLS/CMI (Arkansas)	56
AZ AOC	29
DRI	83
PACT	53
CRN	54
YLS/CMI (Nebraska OJS [commitment])	82
YLS/CMI (Nebraska Probation)	67
JCP	35
JSC/Girls Link*	54
YASI	97

*The time estimates for JSC and Girls Link assessments include data collection to establish appropriate supervision strategies and require less than 20 minutes to complete.

On average, workers in the 10 sites in the study spent about 61 minutes to complete an initial assessment. Of the instruments evaluated, the YASI takes the longest to complete. Estimates from Virginia indicated that the assessment took, on average, one hour and 37 minutes to complete. Estimates for the YLS/CMI (in Nebraska) and Arizona’s DRI were both over 80 minutes. The risk instrument developed for the Arizona AOC required the least amount of time. The JSC and Girls Link

¹³ Estimates are from a survey of staff who participated in the reliability study.

instruments required, on average, 54 minutes to complete, but in Solano County they are embedded in a more comprehensive system that provides supervision strategies in addition to risk and needs assessment.

Estimating costs for various systems is complicated because (1) cost estimates depend in part on the scope of responsibility of the agencies in the study; (2) different funding formulas are used by vendors of commercially available risk assessment instruments; and (3) costs incurred by agencies that developed local instruments are often indistinct from routine personnel expenditures.

One of the largest study sites, Florida, has invested more than \$1.2 million over the past seven years to implement and sustain PACT, not including internal personnel time and training expenses for more than 800 staff who routinely complete the PACT. Initial costs included \$1 million, plus ongoing annual fees of more than \$30,000 to license and maintain online access to the instrument. Since 2001, Georgia has invested \$300,000 in start-up fees, plus ongoing fees ranging from \$50,000 to \$200,000 in subsequent years.

YASI expenditures in Virginia were substantially lower, though the pricing structure used is different. Virginia paid \$50,000 plus \$100 per user to implement the YASI. Virginia employs about 500 staff who use the YASI, which means an additional \$50,000 in user costs. The department incurs an additional \$25,000 per year for ongoing maintenance fees.

Arkansas and Nebraska incurred lower costs to purchase the YLS/CMI (from no fee to about \$2,500) and are charged from \$1.50 to \$2.85 per assessment on an ongoing basis.

Oregon and the two Arizona sites developed risk assessment instruments locally. Estimated start-up costs in Oregon were about \$100,000. DJC and AOC costs could not be separated from agency personnel expenditures, though AOC estimated that automating the risk assessment cost about \$80,000, and the cost to monitor the system runs about \$70,000 per year.

Solano County uses instruments that are available at no cost in the public domain. The county, however, uses these risk assessments as part of a web-based risk and needs model that provides

supervision strategies and data for developing case plans. Solano County spent \$7,000 per year on a subscription to this web-based system.

The cost of training staff to use the risk/needs systems can be substantial, though equally as difficult to isolate. Training costs associated with the initial implementation ranged from about \$30,000 in Georgia to \$76,000 to cover staff time and materials in Arizona. Oregon allocates \$20,000 per year for training; Nebraska pays \$125 per YLS/CMI class to cover materials each month, plus \$500 per day for trainers. Arkansas sets aside \$7,000 per YLS/CMI training session, and Georgia allocates \$10,000 per year for ongoing training (\$75 per hour). The cost of ongoing training in Florida is embedded in personnel costs, like several other agencies in the study (Arizona AOC and DJC, Nebraska, and Solano County). Florida includes the training as one of staff members' routine job responsibilities. Oregon is the only participant in which individual counties are responsible for training costs; given the scope of this study, we were unable to gather cost estimates from each of the counties that uses the JCP. Virginia is charged \$200 for each person trained in YASI. See Table 46.

Table 46					
Cost Estimates					
Site	Costs to Implement Risk Assessment Tool	Maintenance Costs	Internal Costs	Training Costs	Trainer Costs
Arizona AOC Risk Assessment	Risk: Developed in-house Needs: No cost for tool (public domain) Automation: \$80,000	Risk: None Needs: \$18,000/year for maintenance,** no other fees	Risk: None Needs: \$70,000/year for four part-time staff to monitor system	Risk: None Needs: \$76,000 (\$24,000 for initial "Train the Trainers;" \$52,000 for travel and materials)***	Risk and needs: Ongoing training provided by staff; included in job responsibilities
Arizona DJC DRI	No cost, developed by staff	None	None	No specific training curriculum	Ongoing training provided by staff; included in job responsibilities
Arkansas YLS/CMI	No implementation costs	\$2.85/per assessment; use 350–400/year	Not known	\$7,000 for two-day training (held as needed)	Trainer costs included in \$7,000

Table 46					
Cost Estimates					
Site	Costs to Implement Risk Assessment Tool	Maintenance Costs	Internal Costs	Training Costs	Trainer Costs
Florida PACT	\$1,000,000	\$34,500 annual fee for license and maintenance	Built into job responsibilities	25 probation officers trained as trainers; two-day training	Ongoing training provided by staff; included in job responsibilities
Georgia CRN	First year: \$300,000 for automation and programming	Second and third years: \$200,000 for validation and tracking	2001: \$200,000 2002/2003: \$150,000 2004/2005: \$50,000; 2006: \$100,000;* 2007–2012: \$50,000	2001: \$31,200 for four-person training team; 2002–2012: \$10,000/year	\$75/hour
Nebraska (OJS and Probation) YLS/CMI	\$450 initial software purchase; \$2,000 licensing agreement	No annual fee; \$1.50/assessment	None	\$125/class (held every four weeks) for materials and travel	Ongoing training provided by staff; included in job responsibilities(staff are certified trainers); training for assessment tool is provided in new worker training; \$500/day for contract trainers
Oregon JCP	\$100,000	Automation costs unknown	\$150,000 contract to vendor for evaluation work	Training paid for by each county; specific costs unknown	\$20,000 allocated for travel and consultant to coordinate trainers
Solano County Risk Assessments	No cost for risk assessment; public domain (costs for web-based system)	\$7,000/year	Unknown	N/A – no new hires since initial training	Ongoing training provided by staff; included in job responsibilities
Virginia YASI	\$50,000 to customize software; \$100/user for initial software purchase	\$25,000/year to vendor	\$90,000	Two-day training; material costs: \$125 for Part 1, \$35 for Part 2	\$200/person

Note: All costs are approximate and based on interviews with site administrators.

*Increased costs due to tool revisions.

**Related to training and implementation of new needs assessment, 2011.

Comparisons suggest that cost savings might be realized over time by developing a risk assessment instrument locally or validating an imported instrument on the local juvenile population.

Overall costs also include costs specific to local revalidations, which may occur every three to five years. An informal survey of several jurisdictions suggested that periodic revalidations can cost between \$45,000 and \$75,000.

IV. DISCUSSION

The use of risk assessment has become commonplace in the field of juvenile justice. Jurisdictions are using risk levels to guide placement decisions, assigning high-risk youth to specialized caseloads that have intensive services and more frequent contact with probation officers. These methods are effective with high-risk youth, but can increase recidivism for low-risk youth (Lowenkamp & Latessa, 2004). For this reason, it is imperative that instruments accurately differentiate between youth and accurately assign them to high, moderate, and low risk levels.

The analyses outlined in this report demonstrate that some risk instruments work well; others provide some level of discrimination between high-, moderate-, and low-risk youth but could be improved; and the validity of others is not at the level required to support decision making.

The following discussion focuses on two questions: (1) What separates highly successful risk models from those that do not provide the same degree of discrimination; and (2) Could attributes found in successful models guide juvenile justice agencies in selecting risk assessment instruments? The discussion is based on results of this study and more than 40 years of experience in the juvenile justice field.

We focus first on risk models developed for general use across jurisdictions, followed by a comparison of instruments developed for a specific jurisdiction. The comparison is presented to help agencies that undertake original research avoid problems encountered in other development efforts. The final section discusses issues that, over time, have contributed to less-than-optimal risk classification in many agencies throughout the country.

A. Instruments Developed for General Use

1. Overall Results

Instruments developed for general use evaluated in this study included the YLS/CMI, PACT, YASI, the CRN (COMPAS Youth), and the JSC and Girls Link instruments. Of these, the JSC and Girls Link instruments are the only public-domain instruments; the others were developed and distributed by private organizations.

The JSC, used in Solano County, California, proved to be the most successful risk instrument evaluated in this study. This assessment produced the highest absolute level of discrimination attained between high-, moderate-, and low-risk youth as well as high AUC and DIFR scores. It was also the most reliable in identifying risk levels and worked very well across all major ethnic groups in Solano County (Table 47).¹⁴

Table 47						
Summary of Validity and Reliability Results for Risk Assessment Instruments Developed for Use Across Jurisdictions						
Risk Instrument	Re-Adjudication Rate			AUC	DIFR	Reliability Percent Agreement on Risk Level
	Low	Moderate	High			
JSC (Solano County)	18.8%	47.5%	64.4%	0.68	0.68	92%
YASI	11.1%	27.3%	41.7%	0.68	0.68	85%
PACT*	30.0%	44.4%	51.8%	0.58/0.52	0.28	77%
CRN (COMPAS Youth)	25.7%	46.9%	47.1%	0.64	0.40	92%
YLS/CMI**	17.9%	23.0%	25.0%	0.55	0.15	79%

Note: Four levels of risk are used in Nebraska and Florida. In Nebraska, no case scored at the highest risk level. In Florida, only 5.3% of all probationers scored at the highest risk level. To obtain three risk levels for comparison purposes, the moderate/high and high risk categories were combined. The combined group accounted for 15.3% of Florida probationers.

*The PACT utilizes two scales. The first AUC value reflects legal history scores; the second AUC is for the social history score.

**To make results as comparable as possible, cases represented in these analyses are probation cases only. The YLS/CMI results are from the analysis conducted on probation cases in Nebraska. The Arkansas sample was too small to produce stable estimates of validity and, if included, would have further diminished the relationship between YLS/CMI scores and outcomes.

¹⁴ The CRN produced the same level of overall reliability (percent agreement) as the JSC, but this was largely due to the fact that raters were not required to rate the two factors that drive the classification process. These two factors—age at first adjudication and prior adjudications—are auto-scored and were not tested in the study. The reliability of the remaining 50 or so items used in the scoring algorithm varied from 21% to 95%.

2. Development Methods

Methods of development varied greatly, ranging from selecting risk factors based on theory to a general assessment of prior research results that identified selected factors proven valid in development studies in a variety of agencies. YASI and PACT fall between these two approaches: Both are based on research conducted in the State of Washington, but each evolved somewhat differently over time.

The risk instrument used in Solano County was developed for the Graduated Sanctions Center at the National Council of Juvenile and Family Court Judges (Wiebush, 2002). The risk scale is a compilation of results obtained in 14 different jurisdictions representing every region of the country.¹⁵ All of these jurisdictions used similar instruments; each was constructed via original research on cases in each jurisdiction. Items included on the JSC were those that (1) appeared on all or nearly all instruments or (2) were found on the majority of instruments and exhibited particularly strong relationships to recidivism. In total, the JSC contains 10 risk factors.¹⁶ The weights assigned to each item were also based on results obtained from the jurisdictions that were reviewed. The result is a simple risk instrument contained on a single page that provides raters with solid anchors for designating scores for each factor and represents a combination of offense history and social history factors. This approach to the design of an instrument for general use ensures that factors included on the instrument have a high degree of “universality” and have been tested on highly diverse populations from a wide variety of agencies.

The PACT model, in contrast, was originally developed and validated in the State of Washington and subsequently implemented in Florida, Texas, and other jurisdictions around the

¹⁵ Jurisdictions included Arizona; Cuyahoga County, Ohio; District of Columbia; Maryland; Michigan; Missouri; New Mexico; North Carolina; Oklahoma; Rhode Island; Travis County, Texas; and Virginia.

¹⁶ The 10 items are age at first referral, number of referrals, number of referrals for violent offenses, number of out-of-home placements, school discipline/attendance issues, substance abuse, peer relationships, prior abuse/neglect, parental supervision, and parent/sibling criminality.

country. The risk instrument in PACT contains approximately twice as many factors as the JSC, some of which are associated with violence rather than general recidivism. While it has proved possible to assess both the risk of violence and general recidivism with a single instrument, a number of issues with design and scale construction should be considered. First, the base rate for violence is relatively low in most jurisdictions, particularly among probationers (see, for example, Johnson, Wagner, & Matthews, 2002; NCCD, 2004). Second, some factors related to violence have little relationship (or may even be inversely related) to general recidivism (Johnson et al., 2002). Hence, including more than a few factors related to violence will often have a detrimental impact on the instrument's ability to accurately classify youth based on general recidivism rates.

In addition, basing item selection on results from a single jurisdiction may not be the most effective development strategy for a general-use instrument, given the variation in juvenile justice practice across the United States. Evidence for this can be found in widely disparate rates of detention, placement, and adjudication. When a large number of factors are included on a risk instrument, potential exists for supplanting factors universally related to recidivism with factors that reflect practices specific to the jurisdiction where the scale was developed. Such instruments may not transfer well to other jurisdictions where different legislation, different policies, and different practices are in place.

In addition, states adopting risk assessment models developed elsewhere should carefully assess the data sources used to develop these models. We have found that while instruments developed for probation cases may transfer reasonably well to populations of youth placed in state facilities (often with substantial changes in cut points and, in some instances, changes to weights assigned to individual risk factors), it is less likely that models developed for aftercare populations will work well for probation (Wagner, Ehrlich, & Baird, 1997). Youth on aftercare often have more extensive delinquent histories and are, in many instances, far more likely to have been adjudicated for assaultive offenses. In fact, we have found that separate instruments are needed for probationers and

committed youth in some jurisdictions in order to maximize the effectiveness of risk classification (Wagner et al., 1997). PACT, however, is applied to both populations. As a result, the model contains many factors with minimal relationships to recidivism for probationers in Florida (Table 48).

Table 48	
Correlations for Selected PACT Risk Factors and Recidivism for Probationers in Florida	
Risk Factor	Correlation
Prior Weapon Referrals	0.00
Prior Felonies Against Persons	0.02
Escapes	0.00*
Commitment Orders/One Day or More	0.03
Gender	0.04
History of Mental Health Issues	0.04

*Actual value is 0.002.

Many of the above factors (e.g., escapes, prior weapon offenses, prior offenses against persons, commitment orders) will be observed more frequently for populations of committed youth than for probationers. While it can be argued that these factors so seldom apply to probationers that they have little impact on risk scores, issues of face validity and efficiency remain—both of which can undermine the overall effectiveness of the risk instrument.

The possibility also exists (although an issue less frequently encountered) that risk factors identified for probationers will not work as well for committed populations. For example, while several social history factors exhibited relatively strong relationships to recidivism for probation cases in Florida, not a single social history factor was correlated with recidivism at the 0.1 level or above for the committed population. It appears that the combined effect of all these issues limits the capacity of the PACT risk instrument to optimally classify cases in Florida.

Both PACT and YASI were derived from research conducted in the state of Washington, raising the question of why the results from Virginia, a YASI site, were so much better than those observed in

Florida. The answer perhaps lies in the timing of this study. Virginia was the only participating jurisdiction where the implementation of the risk model in use was not completed prior to data collection. At the time of the study, YASI results were available for less than 20% of all cases. Selected counties were using YASI, but most jurisdictions in Virginia were still in the planning and implementation stages of the project. Training on YASI in the study counties was thus a relatively recent event, so the results obtained may reflect a “halo,” or Hawthorne, effect that frequently occurs when change is introduced. Certainly the results observed in Virginia surpass those found in New York (Orbis Partners, 2007). It is possible that Virginia results will, over time, more closely approximate those found in Florida and New York. It will be important for Virginia to continue to monitor results as more counties begin to use the YASI.

3. Other Design Issues

Other design issues may also impact reliability and validity of risk models developed for general use. The YLS/CMI, for example, purportedly based item selection on theory and prior risk assessment research (Andrews & Bonta, 2003). While the YLS “domains” seem appropriate, some of the actual factors used do not. For example, under the “Leisure/Recreation” domain, youth receive a score for “could make better use of time” (Figure 3). There are several problems with this item: (1) it seems doubtful that juvenile justice agencies, prior to development of the YLS/CMI, collected data that would demonstrate that such a factor had any relationship to recidivism; (2) it is a subjective item that is difficult to score reliably; and yet (3) it is given the same weight as several prior delinquency factors. The relationship between prior criminal history and recidivism is well-established; the relationship between “could make better use of leisure time” and recidivism is not. Selecting appropriate domains is only a first step in scale construction; the actual factors used to obtain scores for each domain are critical to scale validity.

Figure 3

YLS/CMI Risk Item

6. Leisure/Recreation:

a. Limited organized activities	<input type="checkbox"/>
b. Could make better use of time	<input type="checkbox"/>
c. No personal interests	<input type="checkbox"/>

Other instruments reviewed in this study also contain factors with questionable rationale for inclusion. The Georgia CRN contains items rating how frequently a youth attends movies or “hangs out” at a shopping mall. While these factors seem to be aimed at rating a youth’s use of leisure time, it is again doubtful that much research support exists for such items. We found no justification for their inclusion in the extensive literature review undertaken for this study, and these factors exhibited minimal relationships to outcomes in Georgia. All of this suggests that much greater care is required in the selection of factors used to rate domains.

In addition, it appears that reliability (and therefore validity) is also harmed by simple inefficiencies in the design of some instruments. For example, minimal definitions are provided on the actual YLS risk form to guide workers in scoring youth on each domain. It is our experience that

reliance on prior training and/or instructions provided in a manual are insufficient given staff turnover rates and the day-to-day pressures encountered in supervising delinquent youth. Including clear instructions and definitions of each potential answer on the form can significantly enhance reliability.

The following domain presents a classic example of problems that arise from a lack of readily available definitions and/or instruction (Figure 4).

Figure 4

YLS/CMI Substance Abuse Item

5. Substance Abuse:

a. Occasional drug use	<input type="checkbox"/>
b. Chronic drug use	<input type="checkbox"/>
c. Chronic alcohol use	<input type="checkbox"/>
d. Substance abuse interferes with life	<input type="checkbox"/>
e. Substance use linked to offense(s)	<input type="checkbox"/>

The first two options on the YLS/CMI substance abuse item appear to be mutually exclusive given the definitions of “occasional” and “chronic”; that is, to check both would be counterintuitive. However, workers are in fact instructed to also check “occasional abuse” when “chronic abuse” is checked. (In effect, chronic abuse receives a score of 2, while occasional abuse receives a score of 1.) In

automated versions of the YLS/CMI, this scoring rule is automatically enforced. But when the system is not automated, errors can and do occur. For Nebraska commitment cases, workers neglected to comply with this rule in 12.3% of the YLS/CMI instruments completed. In Arkansas the error rate was 50%. A minor change in the design of the risk model would rectify this problem. The items could be treated as mutually exclusive choices if item weights were added to the assessment form (i.e., 2 for chronic abuse, 1 for occasional abuse).

Researchers, practitioners, and purveyors of the YLS/CMI cite the need for quality training as well as the need to focus on implementation issues to ensure system fidelity. While both are important, it is also critical to design risk instruments to avoid potential problems like those noted above. The reality is that training resources are limited, and both training and implementation requirements are integrally linked to the design of the system. Simple, well-designed approaches present fewer implementation issues than their more complex counterparts.

4. Would Simpler Models Transfer Better Among Agencies?

Development of simple actuarial instruments for each participating agency demonstrates that equal or better classification results can be obtained by reducing the number of factors considered and by using only variables that, in combination, create the greatest level of discrimination between high-, moderate- and low-risk groups. In three sites (Florida, Georgia, and Arizona AOC), we used construction and validation samples to test the validity of the newly created risk instruments. (Using validation samples allows a better estimate of how an instrument will perform over time.)¹⁷ These instruments, however, were developed using cases from each site. These analyses do not address the question of what type of risk model would best transfer to other jurisdictions.

¹⁷ Optimal results are usually observed for the sample of cases used to construct the risk instrument. Testing the results on a separate cohort of cases provides a better test of scale validity. The decline in results observed between construction and validation samples is commonly known as “shrinkage.” In this study, when large construction and validation samples were available, the amount of shrinkage observed was minimal (for example, see Florida and Arizona AOC results).

Two sites, Florida and Georgia, were selected to test the idea that simple actuarial instruments might transfer better than more complex instruments. Large cohorts of probationers were available in both of these sites and databases in both states contained sufficient information to produce a close approximation of JSC scores. The Florida database allowed for the closest approximation of the JSC assessment (in other words, the Florida database contained the same or similar items as those used to score the JSC).¹⁸

JSC scores were computed for all males on probation and compared to PACT results for the same population. Because PACT identifies four levels of risk, the current study used the cut-off points suggested by Wiebush (2002), which also identify four risk levels. Results are presented in Table 49.

Table 49				
Comparison of PACT and JSC Classification Results for Male Probationers in Florida				
Risk Level	PACT		JSC	
	Percent at Level	Re-Adjudication Rate	Percent at Level	Re-Adjudication Rate
Low	66%	31.9%	13%	20.7%
Moderate	18%	45.2%	56%	33.9%
Moderate/High	11%	49.8%	26%	48.1%
High	6%	57.4%	5%	58.4%

As shown above, the JSC accurately divided the very large PACT low-risk group into low and moderate risk categories. Both the low- and moderate-risk JSC groups had lower rates of recidivism than PACT low- and moderate-risk cases. Further, the JSC risk assessment identified a moderate/high-risk group with 2.5 times the number of cases assigned to this level by PACT, yet these cases recidivated at nearly the same rate as the PACT cases. Both instruments identified about the same

¹⁸ The following PACT items approximated items on the JSC: age at first offense, misdemeanor referrals, felony referrals, misdemeanor against person, felony against person, weapons referrals, history of court-ordered or voluntary placement, school enrollment, school conduct, school attendance, academic achievement, alcohol and drug use, current friends/companions, history of violent/physical abuse, history of neglect, parental control and authority, and history of household member incarceration.

number of high-risk youth, with very similar rates of re-adjudication. The overall difference in recidivism rates moving from low to high risk was 25.5% for the PACT and 37.7% for the JSC risk assessment.

These improvements were produced using a risk assessment instrument with half the number of risk factors contained on the PACT instrument. These results also produced higher AUC and DIFR scores (Table 50). As the findings demonstrate, in Florida, the JSC risk assessment produced slightly higher AUC and DIFR scores for boys on probation than PACT.

Table 50		
Florida PACT* and JSC Comparison		
Risk Assessment	AUC	DIFR
Florida PACT	0.60/0.62**	0.37
JSC	0.63	0.44

*Male probationers.

**The PACT includes two risk scores; the AUC for the criminal history score is 0.60 and the AUC for the social history score is 0.62. Note that there is only one overall PACT risk level, and therefore only one DIFR score.

In Georgia, the simulation of JSC scores was nearly as robust as that produced in Florida. JSC scores were computed for both boys and girls on probation. Because Georgia classifies cases to three levels of risk, new cut points were selected for the JSC. CRN cut points used in this comparison were the revised thresholds recommended in this report, rather than those used during the study period. Results are presented in Table 51.

Table 51				
Comparison of CRN and JSC Classification Results for Youth Probationers* in Georgia				
Risk Level	CRN		JSC	
	Percent at Level	Re-Adjudication Rate	Percent at Level	Re-Adjudication Rate
Low	62%	22.5%	45%	18.4%
Moderate	19%	36.3%	40%	37.2%
High	20%	47.5%	15%	46.2%

The JSC risk assessment instrument provided better separation of low- and moderate-risk group cases even after CRN cut points were modified. More cases were classified as moderate risk without substantially altering the rate of recidivism observed for moderate-risk cases. The CRN, after adjustments to cut points, was more efficient in identifying high-risk youth. Overall, the range in recidivism rates, from low to high risk, was 27.8% for the JSC and 25% for the CRN. AUC and DIFR scores were similar for both assessments (Table 52). The CRN score produced an AUC of 0.642 and the DIFR was 0.47; the AUC and DIFR scores for the JSC were slightly higher at 0.658 and 0.48.

Although the differences between the CRN and JSC were not as pronounced as those found between the PACT and the JSC, the JSC performed as well or better than the much more complex CRN.

Table 52		
Georgia CRN and JSC Comparison		
Risk Assessment	AUC	DIFR
CRN (revised cut scores)	0.64	0.47
JSC	0.66	0.48

In sum, the JSC risk assessment worked well in both Florida and Georgia. These findings, combined with the results obtained from efforts to develop simple actuarial risk instruments for each participating site, provide strong evidence that restricting the goal of risk assessment to optimal identification of high-, moderate-, and low-risk groups—and using only those factors that optimize the separation of these groups—improves classification. Other important issues with scale development are discussed below.

5. Are Complex Scoring Algorithms or Classification Methods Needed or Beneficial?

In the introduction, we discussed how risk models have changed over time as more objectives have been added to the assessment process. In addition, risk instruments are further complicated by unnecessarily complex algorithms for computing scores. Although such complexities may appear to add a level of sophistication to risk assessment, the current study findings suggest they do not improve classification results.

For decades, researchers have compared results obtained from the simplest of development methods (Burgess scoring based on bivariate relationships) to those obtained using the most sophisticated statistical techniques available, and found little difference in the validity of scales produced by advanced statistical methods (Gottfredson & Gottfredson, 1980). Prior research has demonstrated, and the current study confirms, that simple additive scales produce valid results, are easy to use, and are easily understood by staff and key decision makers.

The CRN used in Georgia employs a complicated scoring system where scores from dozens of domains are combined to create a social motivation score, a family vulnerability score, and a normative deviance score. These scores are added together to form a general-delinquency score, which is converted to a Z-value, then a T-value. Cut points are applied to T-values and added to age-level values and adjudication-level values to calculate a risk score. Finally, cut points are applied to the risk score, resulting in an overall risk classification level.

This type of scoring mechanism masks the fact that risk scores are driven in large part by two simple factors: age at first adjudication and prior delinquency. Similar issues have been raised by other researchers who evaluated the adult COMPAS model; one group asked why so many factors were needed, demonstrating that equal or better results could be obtained with a few risk factors (Zhang, Roberts, & Farabee, 2011).

Even for systems developed for specific agencies, this study confirmed that complex scoring systems tended to diminish results over time. Using precise weighting systems, such as regression coefficients, can tie results too tightly to a construction sample, and instruments with these scoring systems may not prove as robust over time.

Finally, the expansion of the objectives of risk assessment over the last two decades has led to an increase in “outputs” produced by various risk assessment models. The value of some of the outputs provided by these systems is questionable. The full YASI model, for example, produces ratings for static risk; dynamic risk; overall risk; static protective factors; dynamic protective factors; overall protective factors; and high, moderate, or low risk ratings for nine separate domains, all contained on the “YASI wheel” (Figure 5). Gottfredson and Moriarty (2006) questioned the concept and value of separating static and dynamic risk factors and we share their concerns. Breaking down risk into so many categories seems to stretch the concepts of risk and needs assessment to a level that is difficult to comprehend. Even though the YASI was relatively new to Virginia at the time the current study was conducted, nearly 40% of all staff surveyed did not think YASI provided assistance with case planning.¹⁹ Complexity also may add to the amount of training required to ensure that staff understand and use the risk assessment model correctly.

¹⁹ This information was collected prior to Virginia staff’s effort to implement assessment-based case planning in probation and parole beginning in 2012.

Figure 5



B. Risk Instruments Developed for a Specific Agency

Of the risk assessment instruments evaluated in this report, three were developed for and used by a single agency. These agencies were the Arizona AOC, the Arizona DJC, and Oregon. Our belief entering this study was that systems developed specifically for use in a single jurisdiction would outperform risk assessment models developed for general use. However, only the Oregon system performed at the level expected. Although construction of a revised instrument indicated that modest improvement was possible in Oregon, it was not at a level sufficient to recommend any changes to the current Oregon JCP model.

As in the discussion of general-use instruments, we focus on differences in the models in an attempt to provide the juvenile justice community with guidance on scale construction and

usefulness of the instruments in practice, identifying attributes that distinguish more successful risk models from those that provide lower levels of discrimination.

Both Arizona systems were developed using actuarial methods. Both models displayed a modest level of discriminatory power when tested in this study (the AOC risk assessment producing somewhat better results than the DJC instrument), but efforts to revise these instruments indicated both could be improved. When results from this study were shared with these agencies, they were reviewed and acted upon immediately. Changes have already been introduced. The ability to respond quickly to new information and make changes is one advantage of systems developed for and maintained by a specific justice agency. A summary of results from all three “homegrown” assessments is presented in Table 53.

Table 53						
Summary of Validity and Reliability Results for Risk Assessment Instruments Used in Arizona and Oregon						
Risk Model	Re-Adjudication Rate			AUC	DIFR	Reliability Percent Agreement on Risk Level
	Low	Moderate	High			
Oregon JCP	17.5%	34.0%	47.7%	0.67	0.56	77%
Arizona AOC	20.7%	32.8%	44.1%	0.63	0.44	82%
Arizona DJC	31.1%	45.0%	47.3%	0.60	0.32	76%

Note: Recidivism rates reported in this table are for new referrals/complaints for Oregon and Arizona AOC and recommitments (the only outcome available) for Arizona DJC. The rate of re-adjudication observed in Oregon was much lower than rates observed in other study sites. Hence, data on new referrals/complaints were used to present a useful comparison of results for probationers in Arizona and Oregon.

As noted earlier, unneeded complexities reduced the effectiveness of both Arizona risk instruments. These are discussed in detail in this report. That discussion centers on the use of regression coefficients that likely tie results too closely to the construction sample. This level of precision can prove detrimental: more robust instruments commonly round weights to generally reflect statistical relationships observed. This mitigates, to a degree, the impact of minor changes in

law, policy, practice, and offender population that occur over time. In effect, it adds to the “generalizability” of the risk instrument.

In addition, the DRI used by the Arizona DJC focuses primarily on changeable (or dynamic) risk factors. This may well stem from recent claims in risk assessment literature that dynamic factors are better predictors of recidivism than static factors (Gendreau, Little, & Goggin, 1996). However, the research conducted here and by NCCD in other jurisdictions finds that delinquent history factors are some of the strongest available predictors of recidivism.²⁰ Including more delinquent history factors on the DRI would, in all probability, lead to better results.

The Oregon JCP is embedded in a larger assessment system, but the risk assessment instrument is relatively brief (it could be represented on one or two pages, definitions included). The model contains 30 items organized into six domains. Risk factors are well-defined; scoring is simple and well-documented so workers are more likely to understand precisely how risk is assessed. Although we found that slightly better results were attainable with fewer factors, the improvement was not sufficient to recommend any changes to the model. A few counties in Oregon have added a “very high” risk category and assign cases to four risk levels. However, we found use of a very high risk level counterproductive: Cases at that level did not have higher rates of recidivism than high-risk cases.

Nearly all factors used in Oregon JCP can be found in other actuarial models. Other items, such as needs, protective factors, etc., are clearly labeled, and issues that should be addressed in case plans are clearly identified. The simplicity; use of well-developed definitions; and clear, unambiguous instructions are all strengths of the system.

Risk assessment instruments constructed and validated in the agencies where they are used should provide the best results. However, this study demonstrates that other factors matter as well.

²⁰ In the last 20 years, NCCD has conducted juvenile justice risk assessment validations in several jurisdictions including New Mexico; Missouri; Arizona; Indiana; Nebraska; Travis County, Texas; Maryland; North Carolina; and Virginia.

Steps taken in Oregon to simplify scoring, to provide clear definitions and instructions, and to separate risk factors from other items that have a role in case planning and supervision but not risk assessment serve as a guide to other jurisdictions undertaking the construction of a comprehensive approach to assessment.

C. Comments From Advisory Board Members and Authors' Responses

1. Best-Practice Implications of the Study Findings: Comments on the Validity, Reliability, and Equity of Commonly Used Juvenile Risk Instruments, by James Howell, PhD, and Aron Shlonsky, PhD

The successful operation of juvenile justice systems is dependent on valid offender risk and treatment assessments and evidence-based service matching. Unfortunately, the state of the art for these vital juvenile justice system operations is at a crossroads, having been complicated by misguided efforts. First, many states are now struggling with inappropriate instruments for assessing risk of recidivism. Second, tools proffered in many states for assessing treatment needs are ill-suited for this purpose. Third, the process of combining risk and treatment needs in the same instrument has complicated matters. Fourth, instruments designed for use on adult clients are sometimes applied to juveniles. As a result of these developments, many state juvenile justice systems are overwhelmed with unmanageable risk-need instruments that are misused, require enormous amounts of staff time and expense to complete, and often produce a large mound of data that program administrators and supervisors do not have the staff capacity to analyze nor put to good use in everyday practice. Risk assessment science and forward-looking offender management systems promise more objective, equitable, and effective juvenile justice systems.

We suspect that some of the well-intentioned instrument purveyors may not be intimately familiar with juvenile justice system operations—in particular, the dual purpose of juvenile justice systems: public protection and rehabilitation. These are statutory mandates in every state. To meet

these mandates, there is enormous utility in grouping offenders into distinctive risk levels to protect the public with accompanying levels of supervision and, if necessary, loss of freedom to commit crimes. Juvenile courts and correctional agencies then match offenders' treatment needs to services that reduce recidivism. Related to this point, some instrument purveyors seem unaware that risk and need assessments may be performed on numerous occasions on the same offenders as they move through the system. Hence, tools are needed that systematically move juvenile offenders across a continuum of services and sanctions, governed by a disposition matrix within which a continuum of services is available. This set of tools has worked very effectively in North Carolina. Admissions to secure correctional facilities were reduced by two thirds within a decade.

For more than 30 years in American juvenile justice history, actuarial instruments have been effectively used to assess risk of recidivism. Wiebush and colleagues' validations of 14 actuarial instruments provided the basis for the model JSC risk instrument adopted by the National Council of Juvenile and Family Court Judges. From the beginning, separate risk and needs instruments were developed for juvenile justice systems, mainly because of the distinctly different functions associated with them. In addition, combining risk and needs assessments into a single instrument can cause confusion because risk should be reassessed only when recidivism occurs, whereas needs must be reassessed regularly to chart treatment progress (at least every 30 days). In other words, risk assessment and needs assessment serve uniquely different purposes.

Moreover, assessment for treatment needs should be a two-step process. In the first step, a general or global assessment—often called a pre-screen (a shortened version of the full assessment instrument)—is made after collecting information that is readily available from agency records and a short, structured interview with the offender. In the second step, specific needs assessment instruments investigate a particular aspect of the youth more deeply. It is important that risk assessment instruments and needs assessment instruments are in sync with the developmental stages of offender careers. First, they must cover each of the developmental domains (family, school, peers,

individual problems). Second, these instruments must be capable of prioritizing treatment needs in each of these developmental domains and as these change with age and criminal involvement. Used in tandem, risk assessment instruments help determine placements and levels of supervision, and needs assessment instruments facilitate matching services to treatment needs at each level of advancement in criminal careers and juvenile justice system involvement. These conditions require regular reassessments of risk and needs; hence, the entire process must be parsimonious and possess high practical utility for smooth and effective operations.

Some of the lengthy instruments currently available have led to confusion with respect to their uses. Some of these tools measure psychological constructs to estimate recidivism likelihood. This is inappropriate because an offense is an actual event, not a construct. Recidivism is not a thought pattern; it is an overt behavior, an event that is observed by parents, other authorities, and victims and recorded in official records. Auto insurance agencies do not use psychological instruments to estimate accident risk; rather, they use accident reports to create age-graded insurance rate charts. An inside joke among neuroscientists is that car rental companies surely have in their employ the best neuroscientists because they refuse to allow a person to rent a car under age 25. But the real reason is clear to any actuary: Each year, about 4,000 teenagers are killed in motor vehicle accidents and as many as 300,000 are injured.

This same procedure is followed in the design of actuarial risk assessment instruments in juvenile justice systems—looking backward at offender characteristics that strongly correlate with (predict) recidivism. Early and persistent delinquency involvement is the best predictor of future delinquency, thus actuarial risk instruments must prominently rely on *static factors* (e.g., age of first arrest or conviction, number of previous arrests, convictions, or incarcerations, runaway episodes etc.) and also *dynamic factors* (current offender circumstances) that can strengthen predictions.

Another source of confusion is the assumption that immutable treatment needs exist—for example, thinking distortions that can be rectified with cognitive behavioral therapy. Unfortunately,

the treatment enterprise is not that simple for juvenile offenders with multiple problem behaviors.

The sources of these problems typically span the major developmental domains: family, school, peers, individual problems, and environmental conditions. Hence, multiple services are required that address a full array of problems that may change with time.

European scholars and practitioners led by Van Domburgh have drawn attention to several important best-practice issues in the risk/needs assessment enterprise in Europe that parallel experiences in the United States.

- Lengthy instruments are time-consuming for staff and may place an unnecessary burden on parents and youth.
- Assessment is seldom based on multi-phase or longitudinal screening techniques.
- Attempts are sometimes inappropriately made to adapt instruments used for older age groups for use with children.
- There often is a lack of cooperation and sharing of results across agencies.
- In some cases, screening and assessment results differ, creating confusion.
- Duplication of assessments creates confusion for the parents and children, particularly in not knowing what can be expected from the various agencies.

In addition, lengthy risk instruments are not well-suited for everyday practice in juvenile justice systems with large volumes of cases—10,000 or more annually in many states. Scales containing as many as 25 variables and 100 items introduce significant distortions, create potential problems with reliability, and impose enormous administrative costs. Certainly, the use of dynamic factors to assess risk can be done and should be further explored. However, the exchange of dynamic factors for more predictive static factors in a risk framework is ill-advised. While some analysts note that this approach has promise, the results seem to indicate that the current slate of tools have not lived up to this promise and either more work needs to be done or an entirely different approach should be pursued. We support the latter position. It is unrealistic to assume that “criminogenic

factors” can be specified with sufficient precision at the individual level to create an aggregate tool that accurately measures a client's progress. The main reason these tools are so lengthy is that, in this enterprise, they attempt to cover such a wide range of behaviors and attitudes that none is covered sufficiently. Our view is that the treatment enterprise should focus less on risk and more on services; that is, quickly obtain a measure of risk, use this information to set priorities where necessary, and focus on behavior change that is measurable and specific to the individual. If there is a specific behavior problem, define that problem and employ tools (or create them) that can measure its frequency and severity; find an effective service or program that specifically addresses that particular problem; then treat and monitor using validated measures specific to that problem where possible. Many youths will have similar sets of problems depending on location and history, and good administrative data will indicate what these are so that access to effective services can be ensured. The use of dynamic assessments, while admirable in theory, simply tries to capture too much for everyone and does not focus adequately on the individual’s presenting problem.

- Keep it simple. Short instruments—either a stand-alone risk assessment instrument or a pre-screen of the better instruments—are most easily implemented and have good inter-rater reliability.
- In no case should jurisdictions adopt a lengthy risk assessment instrument that does not contain a pre-screen group of static and dynamic factors.
- Rely on selected factors that best separate offenders at least into in high-, medium-, and low-risk groups to facilitate program placement and service matching.
- Actuarial instruments work best because they are developed or validated for the population to which they apply.
- Include static and dynamic factors.
- When new offenses occur, re-administer to assess current risk.
- Provide extensive staff training.
- Revalidate instruments periodically (every few years).

This research report reveals the shortcomings of risk assessment instruments that do not incorporate a preponderance of static factors along with dynamic ones. Analysts can easily identify a parsimonious set of factors that increase the validity of unwieldy and unreliable instruments, as demonstrated in this report. Juvenile justice and allied fields are enormously indebted to Chris Baird and his colleagues for this courageous and highly scientific study that reveals important limitations of several risk instruments that are widely promoted today. This research report is based on science at its best: several instruments tested in multiple sites simultaneously, using common study methods and analysis procedures. Hence the findings from this report provide an urgently needed foundation for taking stock of risk assessment instruments in play and moving forward only with those that are actuarial, that is, based on risk of future offending and are capable of grouping offenders according to risk levels. In sum, this is a landmark study that promises to advance the state of the art in supporting juvenile justice system operations with valid, reliable, and practical risk management tools.

2. Youth Risk Assessment Approaches: Lessons Learned and Questions Raised by Baird et al.'s Study (2013), by Jennifer Skeem and (in alphabetical order) Robert Barnoski, Edward Latessa, David Robinson, and Claus Tjaden

a. Overview

i. Context and Purpose

In juvenile justice agencies across the United States, it has become common to apply structured tools to assess a youth's risk of re-offending and/or to inform efforts to reduce that risk. For good or for ill, an industry has grown up around "risk/needs" assessment, and states increasingly are developing their own "risk assessments." Many risk assessment tools are now available. Although most tools stem from the same root, they vary in their degree of complexity, structure, and independent research support. These tools, in turn, are being implemented in agencies that differ in their levels of

organizational commitment to both the value(s) of risk assessment and the necessity of ensuring that staff have adequate training, skills, and motivation to score the tools correctly.

Given this diversity of tools and implementation efforts, the time is ripe for a snapshot of the reliability and utility of risk assessment in juvenile justice agencies. That snapshot has just been provided for several agencies in the form of a study by Baird et al. (2013).

We are delighted that Baird et al. (2013) conducted this study. We believe that their data provide a valuable picture that can be used to advance “real-world” risk assessment. We are concerned, however, that their presentation of these data will promote mistaken conclusions. The field should not abandon an entire, relatively new approach to risk assessment because some tools have some problems in some jurisdictions—that would amount to throwing the baby out with the bathwater.

Before beginning, it is important to note who we are. This comment was written by four of the five advisory board members who participated in the final meetings held in Baltimore, where Baird et al.’s (2013) report was discussed at length, along with an additional member who could not attend those meetings. Like Baird (who helped create the Solano County instruments, the JSC and Girls Link), three of us have a conflict of interest because we are directly attached to a tool/approach evaluated in this study. Some of these tools performed well, as implemented in this study; others did not. The primary author of this rebuttal (Skeem) and the final coauthor (Latessa) are professors with no such conflict of interest.

This comment focuses on “big-picture” issues most relevant to policymakers and practitioners. We leave aside specific methodological problems with Baird et al.’s (2013) report that may have affected the results.²¹

²¹ For example, the CRN was developed with one scoring method for adjudicated and probated youth, but the authors disaggregate the two samples; the YASI has a pre-screen, but the authors develop their new scale using items from the

ii. *Summary of Key Points*

In this commentary, we articulate four conclusions that can be drawn from this study. We then present the fundamental question that this study cannot address. The key points follow.

- **Conclusion 1: There is room for improvement in both risk assessment tools AND the quality with which they are implemented.** Although Baird et al. (2013) tend to attribute their findings solely to tools, their study cannot disaggregate the quality of a tool from the quality with which it was implemented. At the broadest level, their results indicate that a variety of tools, *as implemented in a variety of sites*, have room for improvement in their reliability and predictive utility.
- **Conclusion 2: Inter-scorer reliability is not self-evident.** In almost half of the sites studied, staff were unable to score the tool in a manner that was consistent with that of an expert. When staff score a tool incorrectly, the tool's ability to inform accurate decisions about youth is limited. Inter-rater reliability cannot be ignored during processes of development or implementation.
- **Conclusion 3: Risk classifications must be cross-validated and/or customized.** Above all, this study provides a compelling reminder that agencies must check and "customize" risk classifications (e.g., low, medium, high) based on local sample characteristics. Based on differences in youth populations and recidivism rates, one agency's high-risk case may be another agency's low- to moderate-risk case. When classifications are not fit to an agency, the predictive utility of an otherwise accurate tool will be forsaken in everyday practice.
- **Conclusion 4: Short tools can predict as well as (not better than) longer ones.** Most of Baird et al.'s (2013) report seems allocated to the argument that "shorter is better" and that the "Solano JSC is best." The data do not support these conclusions. The tools with the greatest predictive utility, as implemented in this study, were the Oregon JCP (31 items), Virginia YASI (32 items), and Solano JSC and Girls Link (nine items). Like past studies, this study indicates that short tools sometimes predict as well as longer ones. Similar levels of predictive utility can be achieved by (a) statistically selecting and combining a few highly predictive risk factors and (b) sampling risk domains more broadly and including risk factors that can inform risk reduction efforts.
- **Open question: What value is added by risk reduction-oriented approaches?** Contemporary risk assessment approaches are oriented toward the *prediction of recidivism*, the *reduction of recidivism*, or both. Tools oriented solely toward prediction tend to be simpler than those oriented toward reduction. Baird et al.'s (2013) study raises a question that it cannot address: What evidence is there that reduction-oriented risk assessment tools add value to those that are prediction-oriented? For reduction-oriented tools, it is not enough merely to demonstrate that adding variables

full instrument; and the PACT combines two subscales into a single risk assessment, but the authors present AUCs for two subscales as if they are independent (where a single AUC for the sum of subscales better represents the PACT).

“does no harm” to predictive utility. Precious juvenile justice resources should not be spent on pointless assessment exercises. Instead, these tools must demonstrate that the variables they add actually bring something of value to the risk-reduction enterprise. Several potential avenues exist for doing so. It is time for the field to get serious about addressing this important and challenging question.

b. Conclusions Supported by Data

There is room for improvement in risk assessment tools and/or their implementation. At the broadest level, the results of this study indicate that a variety of risk assessment tools, *as implemented* in a variety of sites, have room for improvement in their reliability and predictive utility.

Baird et al.’s (2013) opinion aside, the AUC is the most appropriate statistic for comparing the predictive utility of tools across sites. In part, this is because unlike the DIFR, its size is not affected by base rates of recidivism, which range from 11% to 51% across sites in this study (see Table 40).

Only one tool at one site—Oregon’s JCP—achieved an AUC of .70, the minimum level of predictive accuracy “considered acceptable for clinical application purposes” (Zhang, Roberts, & Farabee (2011), p. 5). As shown in Baird et al.’s (2013) Table 40, five tools/sites manifested a “medium” effect in predicting readjudication (i.e., $AUC \geq .649$), four manifested a “small” effect (i.e., $AUC \geq .556$), and four essentially had no effect. None of the tools/sites achieved a large effect size ($AUC \geq .712$).²³

This study cannot pull apart the quality of a risk assessment tool from the quality with which it is implemented. Although Baird et al. (2013) tend to attribute their findings solely to instruments, each finding also reflects implementation quality.²⁴ To identify high-quality tools for the field (on one hand)

²³ As shown by Rice and Harris’ analyses (1995), minimum AUCs of .556, .639, and .712 correspond to “small,” “medium,” and “large” effect sizes, respectively.

²⁴ For example, based on results for two YLS/CMI sites included in the present study, Baird et al. (2013, p. 51) conclude that “the YLS/CMI appears to have limited value as a classification tool.” Nevertheless, a large body of peer-reviewed research provides more favorable results for the predictive utility of the YLSI/CMI. The discrepancy between Baird et al.’s (2013) findings and past research are consistent with the well-validated correctional principle that implementation quality matters.

and guidelines for implementing them (on the other), future work should attempt to differentiate between these two issues. This would allow researchers and practitioners to develop guidelines for (a) demonstrating that a tool is well-validated before it is disseminated and (b) adequately implementing well-validated risk assessment tools.

Inter-scorer reliability is *not* self-evident. This study examines a critical, but routinely ignored issue: inter-scorer reliability. When staff score a risk assessment tool in an inconsistent or incorrect manner, that tool cannot inform accurate decisions about youth. Reliability is a necessary (but not sufficient) condition for a tool to accurately predict recidivism. It is, therefore, a key element of evidence-based practice in risk assessment.

Baird et al. (2013) found that staff provided with exactly the same information about a youth were able to attain “good” scoring agreement with other staff in nine of 10 study sites,²⁵ but attained adequate scoring agreement with an expert in only five of the 11 study sites.²⁶ In other words, staffs’ scores are often consistent with one another, but not necessarily “correct.”²⁷

Reliability problems typically reflect poorly defined items and/or inadequately trained staff. Both causes seem to be culprits here. First, across tools (from the Solano JSC to the Virginia YASI), items that were abstract and/or poorly defined tended to be less reliable. This suggests that tool developers must define items carefully and empirically demonstrate that they can be scored reliably. Second, staff at different sites scored the same tool with different levels of reliability.²⁸ This suggests that the quality of training and implementation matters—in keeping with a large body of correctional

²⁵ See Table 38, Column 6. “Good” is defined as an ICC > .75, following guidelines by Parkerson, Broadhead, & Tse (1993). (Because it is not appropriate to compute ICCs for ordinal data, the ICCs reported for “risk levels” in Table 38, Column 5 are questionable.)

²⁶ See Table 38, Column 4, which depicts the average proportion of staff scores that exactly match expert scores across items. “Inadequate” is defined as < 75%.

²⁷ This possibility could be tested by using consensus scores generated by an expert panel of scorers as the criterion for staff, rather than scores provided by a single individual.

²⁸ See Table 38, where the YLS/CMI attains an ICC of .80 in Nebraska, but only .67 in Arkansas.

treatment research. Agencies should train their staff until they attain a specified level of reliability, and then periodically reassess whether staff are scoring the tool correctly.²⁹

Risk classifications must be cross-validated and/or customized. Above all else, the results of this study provide a compelling reminder that agencies must check and “customize” risk classifications, based on local sample characteristics (see Andrews & Bonta, 2003). Risk classifications involve nothing more—and nothing less—than chopping up a continuous score on a risk assessment tool to create a number of ordinal categories (e.g., “low,” “medium,” “high”). Tool developers often use a particular sample of youth to optimize risk classifications, i.e., identify cut scores that create reasonably sized groups of youth with recidivism rates that are as different as possible. Using the language of the DIFR statistic, one goal is to maximize “base rate dispersion” (Silver, Smith, & Banks, 2000).

The problem is that risk classifications that are optimized in one sample can degrade when they are applied to a new sample—particularly when the new sample has a much different risk score distribution, base rate of recidivism, or both. Based on differences in their youth populations and recidivism rates, one agency’s high-risk case may be another’s average bear.

This underscores the necessity of locally assessing and validating the predictive utility of risk assessment scores and classifications. In some cases, risk classifications will not be meaningful unless they are customized. One sign that this is the case is when the predictive utility of scores (as indexed by the AUC) outstrips the discrimination ability of classifications (as indexed by the DIFR). Based on the sites studied by Baird et al. (2013; see Table 40), this “outstripping” happens often enough to be concerning. Specifically, risk assessment scores moderately predicted new adjudications in five sites

²⁹ These two factors probably interact. Even though research indicates that they robustly predict criminal behavior, abstract risk factors like criminal attitudes or poor parental supervision are harder to measure than concrete risk factors like criminal history. Tools probably vary in how well they measure those abstract risk factors. Sites vary in how well they train and monitor staff. When an abstract risk factor manifests poor predictive utility on a tool within a site, is that a fault of the tool, a problem with its implementation in that site, or both? Without additional information, it will be impossible to tell.

(i.e., $AUC \geq .639$).³² Although risk classifications also performed well in three of these five sites (i.e., high DIFR for Oregon JCP, Solano JSC, Virginia YASI), they performed poorly in the remaining two (i.e., low DIFR for Girls Link Solano, CRN Georgia).³³

For example, in Georgia there is a 64% probability that a (randomly selected) adjudicated youth will obtain a higher CRN score than a (randomly selected) non-adjudicated youth ($AUC=.64$). Therefore, CRN scores do a moderately good job of distinguishing between youth with—and without—a new adjudication. However, CRN classifications performed relatively poorly ($DIFR = .40$). Specifically, there wasn't much difference between "moderate" and "high" groups in their adjudication rates. This is a sign that the agency needs to customize cut scores to their sample. If the agency uses risk classifications that do not fit their sample to inform decision making about youth, then they are forsaking the predictive utility of scores on that tool. The "high"-risk youth isn't meaningfully different from the "moderate"-risk youth.

Assuming that *scores* on the tool are predictive in the new agency, the good news is that risk classifications can be modified to fit the new agency's population. Ideally, an agency would modify risk classifications not only to maximize their base rate dispersion, but also to fit the decision(s) that they want classifications to inform. For example, if the goal is to identify low-risk cases to divert from detention, then (a) only two risk classifications are needed ("low" and "not low"), and (b) the cut score can be adjusted (within limits) to be lower or higher, to reflect that agency's weighting of public safety, youth rights, and resource concerns.

In short, this finding is an important call to the field to get serious about cross-validating and (if necessary) customizing risk classifications to their setting. As Baird et al. (2013) note, agencies tend to use classifications more than scores to inform their decision making about youth. These results

³² See footnote 21 above for AUC interpretation guidelines.

³³ No interpretation guidelines (e.g., "small," "medium," "large") are available for the DIFR. Users must be cautious in applying the DIFR because its size is affected by recidivism rates.

suggest that researchers and policy makers should articulate guidelines for cross-validating and customizing risk classifications. Ensuring that risk classifications are valid is essential when implementing any risk assessment tool.

Short tools can predict recidivism as well as (not better than) longer ones. Some of the tools included in this study are relatively short and simple (i.e., the Solano JSC with nine items and Arizona AOC with nine items); most others are relatively long and/or complex (like the Virginia YASI, 32 items). Loosely, these tools represent an evolution in risk assessment over time, from prediction-oriented approaches (which were designed solely to achieve efficient prediction) to reduction-oriented approaches (which also emphasize variable risk factors that theoretically can be changed to reduce risk).³⁴

Most of Baird et al.'s (2013) report seems allocated to the argument that "shorter is better" and that the "Solano JSC is best."³⁵

In their introduction, the authors caution, "If changes to risk assessment instruments have resulted in diminished capacity to accurately discriminate among high-, moderate-, and low-risk youth, then decision making in juvenile justice has been adversely affected." In addition to planned analyses that test the reliability and predictive utility of each instrument at each site, the authors perform extensive post hoc analyses in an attempt to (a) create shorter and (ideally) more predictive versions of relatively long tools and (b) create a JSC proxy that (ideally) predicts better than rival tools. The authors conclude that "the JSC, used in Solano County, proved to be the most successful risk instrument evaluated in this study;" that their Solano JSC proxy "transferred better" than rival tools;

³⁴ For a review of this evolution and the confusion it has created, see Monahan and Skeem (2013).

³⁵ This argument is apparent in the authors' review of past research, which is highly selective. For example, the authors select only the least favorable finding (from 20 largely positive comparisons) when referencing results from a New York YASI sample (Orbis Partners, 2007).

that “complex scoring systems ... diminish results;” and that most shorter instruments they created “produced *markedly better* results than the instrument currently in use.”

The study’s results do not support these conclusions. First, although the results of planned analyses indicate that predictive utility varies across sites (see Table 40), there is no evidence that this variability is a simple function of a tool’s length or complexity.³⁶ For example, scores on both the Virginia YASI and Solano JSC—this study’s prototypes of “long/complex” and “short/simple”—manifested good inter-rater reliability (ICCs = .89-.92; see Table 38) and equivalent predictive utility (AUC = .68 for both; see Table 40). Indeed, the tools with the most predictive scores and classifications were a locally created tool (the Oregon JCP, 31 items), a simple public domain tool (the Solano JSC, nine items), and a “later generation” commercial tool (the Virginia YASI, 32 items).

Second, at best, the results of the authors’ post hoc analyses demonstrate that short tools can predict re-adjudication as well as longer ones. The authors created new tools for 10 sites to maximize prediction within each dataset by (a) using statistical criteria to select and combine variables and then (b) customizing risk classifications (see above).³⁷ As a rule, tools constructed in this way capitalize on chance associations between variables in a particular sample and will “shrink” in predictive power when applied to new samples. So, tools must be cross-validated with an independent sample.³⁸

³⁶ Baird et al. (2012) could directly test the relationship between tool length (and/or complexity) and predictive utility by performing a small meta-analysis with their data. We did not do so because they do not operationalize either variable in their report (i.e., item number, item/scoring complexity) ... and there are too few exemplars of short/simple tools (i.e., two) to support an adequate test.

³⁷ Unfortunately, the authors conflated the development of new tools with the customization of classifications. Their analyses would have been much more informative if they had customized risk classifications based on original scores to assess the degree of improvement this yielded before developing new scores and risk classifications that were tightly fitted to a particular dataset. (This is another reason the AUC is a more comparable indicator of performance across tools than the DIFR, particularly in this study.)

³⁸ The table below compares the predictive utility of the original tools and of Baird et al.’s new tools that were not cross-validated. Estimates for the new tools are likely inflated because the same sample was used to optimize and “test” the new tool. Still, the pattern of results suggests that tools with moderate predictive utility were difficult to improve, regardless of their length. The unvalidated new tools generally did not predict recidivism better than the original Oregon JCP, Solano

Baird et al. cross-validated three of the 10 tools they created. The authors did not test whether their new tools predicted re-adjudication significantly better than the original tools (by testing differences in AUCs or any other statistic). In fact, for some instruments, they did not even provide estimates of predictive utility that could be directly compared (e.g., inconsistently separating estimates by gender). Nevertheless, as shown in Table 54 below, there generally is little difference in the predictive utility of the original (“longer”) tools and cross-validated new (“shorter”) tools. The average AUC difference is .02. The average DIFR difference was also a modest 0.13—and this difference may be based more on customization of risk classifications than on any substantive change to the tool (see footnote 34). The only direct comparison that can be made is for the Arizona AOC, where performance is essentially equivalent. Incidentally, the new scale had *more* items than the original Arizona AOC scale.

JSC, Girls Link Solano, or Virginia YASI (average AUC difference = .02). There was more room for improvement among scales with weaker utility (Arizona DJC and YLS/CMI Nebraska, average AUC difference = .09). The degree of improvement appears unrelated to the degree of shortening.

Predictive Utility of Original Tools and Non-Cross-Validated New Tools				
Assessment	Number of Items, Original vs. New	Original Tool AUC	New Tool, Construction AUC	AUC Difference
Arizona DJC DRI	18 vs. 15	.59	.69	.10
YLS/CMI Nebraska Probation	42 vs. 16	.55	.61	.06
YLS/CMI Nebraska Commit.	42 vs. 11	.54	.66	.12
Oregon JCP	31 vs. 12	.70	.70	.00
JSC Solano County	10 vs. 9	.68	.70	.02
Girls Link Solano County	10 vs. 9	.68	.73	.05
YASI Virginia	32 vs. 15 (boys) and 11 (girls)	.68	.71 (boys) and .74 (girls)	non-nested

Table 54			
Similar Predictive Utility for Original Tools and Baird et al.'s (2013) New Tools			
Assessment	Number of Items, Original vs. New Tool(s)	Original Tool AUC (boys and girls combined)	New Tool, Cross-Validation sample AUC
Arizona AOC Risk Assessment Instrument	9 vs. 12	.62	.63
PACT Florida Probation	22 vs. 12 (boys) and 11 (girls)	.59 "Criminal"; .63 "Social"	.66 boys only; .66 girls only
CRN Georgia	59 vs. 9	.64	.67 boys only

A similar case is apparent when the performance of original instruments is compared with the Solano JSC proxies. As shown in the table below, the "longer" tools perform about as well as the "shorter" tools. It is highly unlikely that AUC differences of .02 or .03 are statistically significant.

Table 55			
Similar Predictive Utility for Original Tools and Solano JSC Proxy			
Assessment	Number of Items, Original vs. New Tool	Original Tool AUC	Solano JSC Proxy AUC
PACT Florida Probation	22 vs. 12	.60 "Criminal"; .62 "Social"	.63
CRN Georgia	59 vs. 9	.64	.66

Fundamentally, this study provides evidence that tools that differ in their length, format, and foci can achieve similar levels of predictive utility. This finding is consistent with research on the relative predictive utility of alternative risk assessment tools that, as a group, are much better validated than those studied here.³⁹ Despite heated debate about which type of tool predicts best ("actuarial" vs. "clinical," simple vs. complex; etc.), research is making it increasingly clear that there is no winner in this horse race. For example, in a meta-analysis of 28 separate studies, Yang, Wong, and Coid (2010) found that the predictive efficiencies of nine validated risk assessment

³⁹ See Campbell, French, & Gendreau (2009); Kroner, Mills, & Reddon (2005); and Yang, Wong, & Coid (2010).

instruments were essentially “interchangeable,” with estimates of accuracy falling within a narrow band (AUC = .65 to .71). The tools examined included a short actuarial device that emphasizes simple risk markers (the Violence Risk Appraisal Guide), a more clinically oriented tool that emphasizes variable risk factors (the Historical Clinical Risk Management-20)—and virtually everything in between (like the LSI-R).

Two factors may help explain the similar predictive performance of well-validated instruments. First, these tools seem to tap “common factors” or shared dimensions of risk, despite their varied items and formats.⁴⁰ Second, these tools seem to reach a “glass ceiling” of predictive utility beyond which they cannot improve. If a limiting process makes recidivism impossible to predict beyond a certain level of accuracy, each tool can reach that limit quickly with a few maximally predictive items before reaching a sharp point of diminishing returns. Baird et al.’s (2013) post hoc results are consistent with this possibility and echo the results of other studies. For example, based on a sample of over 1,000 released prisoners, Coid et al. (2011) found that most individual items included in risk assessment tools did not significantly predict violence. When these items were removed, the resulting reduced scales predict violence as well as (but usually not better than) the original full scale. For example, a five-item version of a prediction-oriented scale (the VRAG) performed as well as the full 12-item version (AUCs = .70, .71, respectively). It is important to recognize that if there is a glass ceiling, it can be reached via alternative routes. If measured validly, some variable risk factors (e.g., attitudes supportive of crime) predict recidivism as strongly as common risk markers (e.g., early or “pre-adult” antisocial behavior; Gendreau et al., 1996).

⁴⁰ In an innovative demonstration, Kroner, Mills, and Reddon (2005) printed the items of four well-validated instruments (e.g., LSI-R, VRAG) on strips of paper, placed the strips in a coffee can, shook the can, and then randomly selected items to create four new tools. The authors found that the “coffee can instruments” predicted violent and nonviolent offenses as well as the original instruments did. Factor analyses suggested that the instruments tap four overlapping dimensions: criminal history, an irresponsible lifestyle, psychopathy and criminal attitudes, and substance-abuse-related problems. Each of these dimensions were predictive of recidivism.

In short, similar levels of predictive utility can be achieved by (a) statistically selecting and combining a few highly predictive risk factors and (b) sampling risk domains more broadly and including risk factors that can inform risk-reduction efforts. For these reasons, Skeem and Monahan (2011) concluded:

“Given a pool of instruments that are **well-validated** for the groups to which an individual belongs, our view is that the choice among them should be driven by the ultimate purpose of the evaluation. If the ultimate purpose is to characterize an individual’s likelihood of future [criminal behavior] relative to other people, then choose the most efficient instrument available. This is appropriate for a single event decision in which there is no real opportunity to modify the risk estimate based on future behavior. If the ultimate purpose is to manage or reduce an individual’s risk, then value may be added by choosing an instrument that includes treatment-relevant risk factors ... This choice is appropriate for ongoing decisions in which the risk estimate can be modified to reflect ebbs and flows in an individual’s risk over time.”

c. *Open Question: Does Reduction-Oriented Risk Assessment Add Value?*

At its core, the study by Baird et al. (2013) raises a fundamental question that it cannot address: What evidence is there that reduction-oriented risk assessment tools add value to those that are prediction-oriented? It is time for the field to get serious about addressing this important and challenging question.

At the risk of oversimplification, Baird et al. (2012) mistakenly assume that the only purpose of risk assessment is classification; and the only real measure of a tool’s performance in meeting that

purpose is predictive utility (i.e., base rate dispersion). Their yardstick of success is defined by parsimony and predictive utility. Period.⁴¹

This yardstick is both sensible and sufficient when the ultimate purpose of risk assessment is merely to characterize a youth's likelihood of recidivism compared to other youth. In this case, what the tool assesses is irrelevant because there is no interest in explaining or reducing risk. For example, if a tool that efficiently assesses accuracy in playing street dice strongly predicts recidivism (see Nunnally, 1978), then the tool is valid for characterizing risk. As summarized by Gottfredson and Moriarty, "if a variable can be measured reliably, and if it is predictive, then of course it should be used—absent legal or ethical challenge."

When the ultimate purpose of risk assessment is to reduce a youth's risk of recidivism, predictive utility is a necessary—but not sufficient—measure of success. Contemporary thinking and "later generation" risk assessment tools have been infused with the concepts of risk management and risk reduction. Theoretically, these tools add value to simple tools by assessing variable risk factors (e.g., antisocial attitudes; poor parental supervision)⁴² that may help explain the process that leads to recidivism. The goal is to inform risk reduction efforts by (a) specifying risk factors to target in treatment and (b) capturing any changes in risk over time to inform ongoing decisions about supervision and treatment.

⁴¹ The evolution of correctional risk assessment tools has created a largely artificial distinction between "risk" and "needs" assessment (see Monahan & Skeem, 2013). "Risk" assessment tends to be reduced to an actuarial formula that heavily weighs risk markers. Sometimes the items that comprise this formula are explicitly separated from other items (e.g., Baird's JAIS/JSC), and sometimes they are embedded among other items (e.g., YASI, PACT, CRN). "Needs" assessment tends to be whatever content remains on the tool once the predictive items have been removed. Baird et al.'s (2013) evaluation criteria imply that the "risk" part of these tools is subject to scientific scrutiny, but "anything goes" for needs assessment. If the field follows this suggestion, few gains will be made in understanding and reducing risk among youth. Instead, we believe that the field can and should evaluate whether these tools—in their entirety—are capable of fulfilling their intended purposes.

⁴² Variable risk factors are variables that have been shown to predict recidivism and to be changeable (see Monahan & Skeem, 2013 for clear definitions of fixed markers, variable markers, variable risk factors, and causal risk factors). Sometimes variable risk factors are called "dynamic risk factors" or "criminogenic needs."

Baird et al.'s (2013) yardstick is not sufficient for measuring the success of these tools. All risk assessment tools must manifest adequate predictive utility ... but this only gets "later generation" tools to first base. For these tools, it is not enough merely to demonstrate that adding variables "does no harm" to predictive utility. Precious juvenile justice resources should not be spent on pointless assessment exercises. Instead, these tools must demonstrate that the variables they add actually bring something of value to the risk reduction enterprise. There are several potential avenues for doing so. For example, one could test a tool's construct validity to determine whether it actually measures the variable risk factors that it says it measures (for an example, see Kennealy, Hernandez, & Skeem, 2013). Or test whether variable risk factors assessed by a tool change over time and whether those changes predict recidivism (for an example, see Howard & Dixon, 2013). Or test in a well-controlled study whether youth are significantly less likely to recidivate when professionals use a reduction-oriented rather than prediction-oriented assessment approach. The most rigorous (and treatment-relevant) test would be a randomized controlled trial in which a targeted intervention was shown to be effective in changing a variable risk factor(s) on a tool, and the resulting changes were shown to reduce the likelihood of post-treatment recidivism (see Monahan & Skeem, 2013).

Practice has far outpaced research at this intersection between risk assessment and risk reduction. An absence of evidence that these tools add value to risk reduction efforts, however, is not the same as counter evidence. We strongly recommend that researchers and policy makers work together to articulate concrete measures for testing the value added by reduction-oriented risk assessment tools. The time could not be better to take on this challenge, given the current level of interest in using science to inform real problem solving in the juvenile justice system.

3. Authors' Responses to Comments

We begin by responding to specific concerns raised by advisory board members, then close with general observations. First, however, it is important to note that in drawing their conclusions,

Skeem et al. relied exclusively on the AUC to compare results from systems tested as well as those developed as examples of how actuarial instruments could improve classification. They base the exclusive use of the AUC on two publications. Although use of the AUC has accelerated in recent years, particularly in justice research, the AUC has its detractors. Some analysts have cautioned that the AUC does not account for distribution problems or base rates (Rice & Harris, 1995). Other distinguished researchers rely completely on measures other than the AUC in their studies of risk instruments (for example, Gottfredson & Snyder, 2005; Altman & Royston, 2000). The view of this group of advisory board members appears to be that tools with similar AUCs should produce approximately equal classification results. It is only a matter of selecting the proper cut-off points. There is little evidence, however, that this is true. In our study, there was only one instance (that of the CRN in Georgia, a very unusual circumstance where there was a narrow range of scores and two factors accounted for virtually all of the discrimination attained, rendering all other risk factors irrelevant) where a change in cut-off points significantly improved classification results. In the sites where we were able to construct and validate actuarial risk instruments, these instruments produced significantly better classification results despite producing only marginal improvements in the AUC.

If similar AUCs equal similar classification capability, it is hard to understand why better results were not obtained with the instruments used in these organizations. The Florida PACT experience is instructive. Several validations have been completed over the years; given the similarity in AUC scores obtained for the PACT and the risk tool created in this study, these validations should have produced a classification scheme with results that mirrored those of the newly created actuarial instrument or the simulated JSC. In fact, classification results from both of the latter instruments represent significant improvements over those produced by PACT.

It is our view that the AUC represents one measure of validity and certainly not the best measure. Its reported advantages are also weaknesses. It does not reflect either the base rates or

distribution of cases across risk levels. Hence a risk tool with little practical utility could attain a high AUC score.

We have long maintained that classification systems must be judged on four criteria: validity, reliability, equity, and utility. This group's response ignores both equity and utility, despite the fact that equity issues were found with several instruments.

Debates about appropriate measures of validity can go on forever without providing much guidance to the field. The most important point is this: All of the tools evaluated in this study assign cases to different risk levels. Either implicitly or explicitly, the risk level plays a role in case decision making, ranging from assigning a supervision level in the community to helping determine if a youth should be incarcerated. Given the importance of the risk level assigned, agencies need systems that optimize differences in outcomes observed for cases at different risk levels. The grant proposal clearly stated that this would be the primary measure of validity. Classification results cannot simply be ignored.

Only three models produced a satisfactory level of discrimination: the Oregon JCP, the JSC (Solano County) and the YASI (Virginia). The Oregon model is an elegant system designed for and, to our knowledge, used only in Oregon. It may transfer well, but no data supports its use in other jurisdictions as of yet. The YASI results are based on limited implementation in Virginia and far exceed results produced elsewhere. We do not feel "Solano is best." We believe, based on the fact that it represents a compilation of actuarial research conducted in 14 jurisdictions (Wiebush, 2002), that it is a simple, easily implemented instrument and that the results of this study found not only a high degree of validity and reliability, but equity as well. It is more likely to work across organizations than other general use instruments tested in this study.

Following are responses to additional specific points raised by Skeem et al.

Authors' Note # 1: The fourth paragraph by Skeem et al. discusses potential conflicts of interest (p. 108). This attempt to raise the issue of a conflict of interest blurs reality. First, Latessa was asked to join the advisory board because he and colleagues at the University of Cincinnati have been long-time supporters of the LSI family of risk assessment instruments. While we do not maintain this represents a conflict of interest—Latessa also actively promotes a model he developed in Ohio—it is important to note that his views may be influenced by past associations. Second, the introduction as written leaves the impression that Latessa attended the meeting in Baltimore. He did not. This group obviously reached out to him, but did not make a similar attempt to solicit input from two other independent researchers, James Howell and Aron Shlonsky.

NCCD is a nonprofit research organization. While NCCD developed the JSC instrument, it is public domain and is not an instrument we actively promote. It is used as a “placeholder” in our Juvenile Assessment and Intervention System™ (JAIS), but it is replaced with any risk model that has been sufficiently validated on the population implementing JAIS™. We also use the database to validate and revise, if appropriate, any instrument including the JSC embedded in JAIS. Our approach has always been to recommend developing risk instruments in the jurisdiction that will use the tool. Over the last three decades, we have developed dozens of such risk instruments. The JSC is a compilation of work conducted in 14 agencies, but we have not marketed or generally promoted its use.

Had this study included an evaluation of JAIS, there would be conflict of interest. JAIS, however, is principally a method for developing supervision strategies; any valid actuarial risk instrument can be embedded in the JAIS model.

Authors' Note # 2: In their comments, Skeem et al. suggest methodological concerns that they explain in footnote 21 (p. 108). We fail to see how any of the issues cited in footnote 21 represent methodological problems. We disaggregated the population in Georgia (and other jurisdictions) so

that direct comparisons could be made between sites—some of which only supervise probationers, and others only supervise aftercare or parole. It is also important to understand how the CRN works for each population within Georgia. Complete data on each subsample including sample size is reported, which allows any reader to combine results. However, combining the results has no impact on overall findings.

Regarding development of the actuarial scale in Virginia, there was no reason—other than possibly to maximize the sample size—to constrain the analysis to factors on the YASI pre-screen. Each analysis was already constrained by factors collected by each system. It is also important to note that we did not recommend any of the instruments developed in these limited analyses. The purpose of these analyses was simply to determine if a focus on factors with strong relationships to recidivism could produce better discrimination.

Finally, the footnote states that the criminal history and social history risk instruments are combined to establish a risk level in Florida, but how they are combined is not transparent. In correspondence, this group recommended that totals from the two scales be summed and the AUC be computed on summed score. In practice, they are not summed, but cross-referenced in a matrix. Thus, if summed, the same score can result in as many as three different risk levels, depending on the individual risk factors that were checked. Summing scores from the two scales also results in a situation where a score of 14 could be rated low risk, while a score of 12 could result in a moderately high risk rating. If the youth scoring 12 was a true negative, the youth scoring 14 was a true positive, and these cases were randomly selected and compared, the results would help increase the AUC score but clearly would not support the validity of the system.

This circumstance would help to validate a scoring system that does not exist. The methods used to validate the Florida PACT model were appropriate. Although beside the point and of little relevance, summing the totals from the two scales makes little difference in the AUC scores attained for the PACT system.

Authors' Note #3: In the summary of key points, first conclusion, Skeem et al. allege that the authors attributed findings solely to tools without adequately considering implementation (p. 109). We agree that quality training and implementation are important to system fidelity and that both can impact reliability and validity results. While we made attempts to gather information on both issues, it was ultimately impossible to gauge their impact on outcomes in any site.

That said, we did attempt to select sites where model developers thought training and implementation were handled well. We, in fact, changed our initial PACT site from a California agency to Florida, based on recommendations from Assessment.com. Furthermore, based on data collected and analyzed in this study, there is little indication that implementation and training efforts were below standard in nine of the 10 participating agencies. Most either involved system developers or followed their recommendations. In one agency, Arkansas, too little data was available to reach conclusions regarding any aspect of the system.

While it is not accurate to say that we attributed differences solely to the risk tools used in each jurisdiction, we do believe that design issues can and do create problems with both training and implementation. It is difficult to argue that the longer, more complex systems do not require more training, complicate implementation, and have greater propensity for error. (Examples of design issues that impact reliability were identified and discussed earlier in this section of the report.)

In essence, just as validity and reliability cannot be completely separated from the quality of training and implementation support provided, training and implementation issues cannot be entirely separated from the complexity and design of the tool itself.

Authors' Note #4: In their second conclusion under summary of key points, the group emphasized the importance of reliability (p. 109). We agree that reliability testing is crucial. The problem is that several of the instruments evaluated in this study were marketed before sufficient reliability testing was conducted.

Authors' Note #5: The third conclusion under summary of key points argues for the customization of risk assessments (p. 109). We are very pleased to see that this group concurs with a long-standing NCCD position on the need to customize. This perspective is particularly important because two members of this group served in an advisory capacity to the Models for Change (MacArthur Foundation) effort to develop an implementation guide that states “local validation is not required” if an instrument has been validated in three or more sites or the “agency has evidence of multiple validations in similar settings.” Clearly, the results of this study challenge that view.

Authors' Note #6: The fourth conclusion under summary of key points suggests that the authors argue that shorter risk assessments are better (p. 109). This discussion misses our point entirely. The primary issue we identify is not the number of items that comprise a risk scale, but how risk items are selected, what they represent, and their relationship to recidivism. In fact, given the differences in design, it is difficult to compare the number of items in different tools. For example, in the YLS/CMI “count,” two possible ratings of substance use are counted as separate items. In other instruments, several ratings of substance use are combined as “values” within a single factor. Clearly, such “counts” do not mean much. What may appear to be a long list of factors in Oregon, for example, in reality comprises a fairly concise tool. Our point is that risk tools should only include factors that are related to recidivism and aid in the classification process.

It is true, almost by definition, that tools that focus solely on classifying youth based on recidivism rates tend to be more concise than tools that introduce additional goals and objectives (e.g., risk reduction). Hence, a “shorter-is-better” narrative emerges. The real difference between the views of this group and what we believe this study supports is that instruments that focus solely on differentiating youth based on proclivities for future offending are better classification tools. A more complete response to adding a “risk reduction” purpose to risk assessment is presented later.

Some risk tools include items for which we can find no research that establishes any relationship to recidivism (or “risk reduction,” for that matter). In other instances, factors that may have a relationship to recidivism for particular populations have remained on tools after it is demonstrated that they have little or no correlation to recidivism in agencies where they are being used. Both circumstances have potential to reduce the efficacy of the risk assessment tool.

Authors’ Note #7: In footnote 32, page 114, Skeem et al. suggest that the authors were selective in reviews of relevant literature. We were not highly selective in our review of past research. The lone example cited to support their point, however, is highly selective. We have already responded to Orbis Partners, Inc.’s concerns, clarifying why we selected this data element and demonstrating that other suggested comparisons from the New York data were not, in reality, any more positive than what was presented. Readers are directed to the footnote on p. 9 for a full explanation.

Authors’ Note #8: On page 115, Skeem et al. point out the need to cross-validate using an independent sample. We concur that instruments generally produce the best results for the sample on which they were developed (the construction sample). When samples had sufficient cases available to support the use of construction and validation samples, this was done. For two of the largest samples, results from validation samples are presented. Thus, where possible, cross-validation was conducted.

Authors’ Note #9: Skeem et al. also raise the issue of separating risk and needs in assessments (see specifically footnote 38 on p. 120). We have never taken the position that “anything goes” for needs assessment. We developed the first needs assessments used in both adult and juvenile justice. They are structured, anchored with definitions and scoring guides, and, as research has shown, quite reliable. Our point is that identifying certain needs as “criminogenic” based on group data and assuming that this relationship means anything at the individual case level is not “scientific scrutiny.” It implies a power that risk assessment cannot legitimately claim. To understand the factors that are

influencing criminal behavior in an individual offender requires a clinical evaluation or a system designed to provide clinical insight. Labeling a need as “non-criminogenic” because it has a limited correlation with recidivism conflates the appropriate roles of group and individual data and can be dangerous. Low self-esteem, to use their example, may infrequently cause a youth to commit a crime (and exhibit a low correlation with recidivism), but in certain instances it may be a major driver of offending behavior (youth who commit violent crimes in schools may be a prime example).

Our point is simply this: Some needs exhibit moderate correlations with recidivism and these should be treated as risk factors. However, the mere existence of such needs does not mean they are criminogenic for an individual offender. Other needs, with little statistical relationship to recidivism could be the most important to address to reduce the risk represented by an individual. No risk instrument, by itself, is equipped to make this judgment. Additional assessment is required. Yet, the language incorporated in marketing tools implies such capability. The YLS/CMI for example, professes to address “responsively” ...matching programs to offender needs and learning styles. There is nothing in the system that would provide such insight.

Authors’ Note #10: In the same section, fifth paragraph, the group suggests that the goals of risk assessment go beyond the accurate estimation of the likelihood of future delinquency (p. 120). Their statement, “When the ultimate purpose of risk assessment is to reduce a youth’s risk of recidivism, predictive utility is a necessary—but not sufficient—measure of success” underscores the source of the problem with many “later generation” risk tools. First, it should be obvious that the purpose of any assessment system cannot be “risk reduction.” Risk reduction can only be achieved through interventions (counseling, treatment, education, etc.), maturation, or both. The purposes of assessments in juvenile justice include (1) identifying youth most likely to recidivate; (2) identifying treatment issues that need to be addressed; and (3) identification of interventions most likely to increase success of the youth (sometimes referred to as “responsivity”). It is our position that these

purposes are best addressed through a combination of assessments, each with a well-defined goal. To combine all of these issues under the rubric of risk assessment conflates the role and utility of group data with individual case factors relevant to case planning and intervention, establishes unrealistic expectations of risk instruments, and can result in measures that significantly misrepresent the power of “dynamic risk factors.”

As the respondents note, systems are needed “to identify factors to target in treatment and to track reductions in risk levels to inform ongoing decisions about supervision and treatment.” However, there is absolutely no need to address all of these issues in a single risk instrument. Reclassification schemes have been around for decades (a fact largely ignored in academic journals) that effectively cover all of these issues, yet keep initial risk assessment focused solely on optimally classifying offenders to different risk levels. Criteria are changed at reassessment to focus on the current behavior of the youth and progress made in treatment programs. Changes in both risk levels and needs can be tracked and programs can be evaluated for effectiveness.

Authors’ Note #11: The last section of the prior comment is a call for reduction-oriented risk assessments (p. 121). There is, at this point, no evidence that instruments focusing on risk reduction produce lower recidivism rates. Nor do we think there will be because systems using actuarial risk assessment that focuses solely on optimum classification of cases do not stop there. NCCD’s approach, for example, begins with risk assessment, moves on to assessment of needs, and completes the process with a clinically oriented evaluation to identify (a) needs that are driving delinquent behavior and (b) programs and supervision strategies most likely to reduce recidivism.

We think the conclusions drawn in this study are accurate. In most sites we were able to create actuarial instruments that significantly improved risk classification. Although results based solely on construction samples need to be viewed with caution, validation samples were used in two sites with little decline in the levels of discrimination attained in the construction samples. In addition, when the

Solano JSC instrument was simulated in the two largest agencies in the study, it produced better overall results despite the fact that the tools in use in both sites have been revalidated, providing the opportunity for customization this group says is required. The group's exclusive focus on AUC scores allows them to simply ignore these analyses.

Howell and Shlonsky linked use of valid risk information to the practice environment—specifically, use of a comprehensive needs assessment to identify individual youth treatment foci and the importance of a continuum of services, incentives, and sanctions. We concur with Howell and Shlonsky's statement that an accurate risk assessment must have static and dynamic risk factors, and each risk factor, static or dynamic, must have a strong relationship to re-offending. As evidenced in this study, assessments built from a risk reduction perspective do not result in more accurate and specific estimates of recidivism.

The reason for an objective risk assessment is to ensure appropriate allocation of resources to guarantee that youth are served and supervised relative to individual needs and risk of re-offending. Risk assessment needs to focus on one thing: the optimal classification of cases to different risk levels. Other objectives should reside with instruments specifically designed to address those objectives or with programs and supervision strategies designed to respond to issues identified by assessment tools.

V. LIMITATIONS

As with any study of this magnitude, several issues were encountered that suggest some caution in interpreting results. First, juvenile justice systems vary in policies and practice, the way juvenile records are collected within and across the system, and as importantly, in the way recidivism is measured. We made every effort to accommodate differences across sites; however, differences in policies and practice resulted in very different rates of recidivism among the jurisdictions that

participated in this study, and that fact alone had an impact on findings. In addition, sites were at different points in implementation; some agencies had used risk assessment for years, while others had recently completed implementing a new risk assessment instrument.

Arkansas had just begun collecting YLS/CMI results electronically at the time of the sample. We were able to match YLS/CMI data to about 42% of youth released from secure commitment. Due to small sample size issues, we were unable to employ a standardized 12-month follow-up period and instead limited the follow-up to nine months following release from secure commitment. Virginia was in the early stages of a phased implementation of the YASI at the time of the sample; therefore, the sample was limited to youth for whom a YASI had been completed, which was about 20% of all youth who started probation during the sample timeframe.

The Florida sample timeframe is earlier than that in other sites because data were provided for youth whose probation ended, rather than began, during the sample timeframe. We were able to identify probation start dates for nearly all youth, so the standardized follow-up timeframe aligns with cohorts from other sites. In Florida and Virginia, there was no way to distinguish a PACT or YASI assessment from a reassessment; therefore, a few of the assessments in the study could be reassessments. To ensure sufficient sample size in Solano County, we included assessments conducted at any time for youth in the sample cohort.

In addition, limited data availability affected the ability to construct revised risk assessments. At the time of the study, Arizona AOC was in the process of implementing a new needs assessment because of reliability issues with their existing one. This eliminated needs items as possible items to consider on the revised risk assessment and limited our capacity to construct a valid risk assessment for girls, even though results indicate that one would be beneficial. We encountered similar issues for the Nebraska, Arkansas, and Florida commitment populations. In Nebraska and Arkansas, needs data for the YLS/CMI were not recorded electronically and were therefore unavailable for consideration on revised risk assessments. Due to limited relationships between YLS/CMI items and recidivism (and the

small cohort of cases and limited follow-up period available in Arkansas), we were unable to construct a valid risk assessment for use in Arkansas or Nebraska OJS. In Florida, the relationships between PACT items and subsequent recidivism were limited, particularly across race/ethnicity; therefore, we were unable to construct a revised risk assessment for youth released from secure commitment in Florida.

Finally, some sites were able to provide limited recidivism information. Only returns to state facilities were provided for Arkansas cases and youth released from Arizona DJC facilities. This limited our capacity to examine recidivism measures in depth in these sites. In the interests of limiting the size and complexity of this report, re-adjudication (or readmission for Arkansas and youth released from Arizona DJC facilities) is the only measure of recidivism reported in the main body of the report. This worked reasonably well for most sites, but because of the low rate of re-adjudication in Oregon, re-arrest is probably a better measure for that jurisdiction. To view results based on multiple measures, see Appendix B.

VI. CONCLUSION

The proper use of valid, reliable risk assessments can clearly improve decision making. However, results of this study indicate that the power of some risk assessment instruments to accurately classify offenders by risk level may have been overestimated. Only three of the risk instruments examined demonstrated considerable capacity to accurately separate cases into low, moderate, and high risk levels with progressively higher recidivism with each risk level increase. Several risk instrument approaches emphasized over the last decade have substantial shortcomings and fail to convey what is most important to correctional administrators: the difference in outcomes between risk levels and the distribution of cases across the risk continuum.

The lack of standards for measuring validity and reliability of risk assessment instruments further complicates decision making for administrators. Greater emphasis should be placed both on

reliability testing and validation studies before and after risk assessment instruments are transferred to other jurisdictions. This is an area where national standards could be established to ensure due diligence.

Risk assessment should be a simple process that can be easily understood and articulated. This study's findings show that simple, actuarial approaches to risk assessment can produce the strongest results. Adding factors with relatively weak statistical relationships to recidivism—including dynamic factors and criminogenic needs—can result in reduced capacity to accurately identify high-, moderate-, and low-risk offenders.

REFERENCES

- Altman, D. G., & Royston, P. (2000). What do we mean by validating a prognostic model? *Statistics in Medicine*, 19(4), 453–473.
- Andrews, D. A., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati, OH: Anderson.
- Andrews, D. A., & Bonta, J. (1995). *LSI-R: The Level of Service Inventory-Revised*. North Tonawanda, NY: Multi-Health Systems.
- Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or need assessment. *Crime and Delinquency*, 52(1), 7.
- Andrews, J. D. (1990). Interpersonal self-confirmation and challenge in psychotherapy. *Psychotherapy: Theory, Research, Practice, Training*, 27(4), 485.
- Austin, J., Coleman, D., Peyton, J., & Johnson, K. D. (2003). *Reliability and validity study of the LSI-R risk assessment instrument*. Institute on Crime, Justice and Corrections at the George Washington University.
- Baglivio, M. T. (2009). The assessment of risk to recidivate among a juvenile offending population. *Journal of Criminal Justice*, 37(6), 596–607.
- Baglivio, M. T., & Jackowski, K. (2012). Examining the validity of a juvenile offending risk assessment instrument across gender and race/ethnicity. *Youth Violence and Juvenile Justice*, 11(1), 26–43.
- Baird, C. (2009). A question of evidence: A critique of risk assessment models used in the justice system. *Special Report*.
- Baird, C. (1991). *Validating risk assessment instruments used in community corrections*. Madison, WI: National Council on Crime and Delinquency.
- Baird, C., Heinz, R., & Bemus, B. (1979). *The Wisconsin Case Classification/Staff Deployment Project: Two-year follow-up report*. Madison, WI: Wisconsin Division of Corrections.
- Barnoski, R. (2004). *Assessing risk for re-offense: Validating the Washington state juvenile court assessment*. Retrieved October 29, 2012, from <http://www.wsipp.wa.gov/rptfiles/04-03-1201.pdf>
- Bechtel, K., Lowenkamp, C. T., & Latessa, E. J. (2007). Assessing the risk of re-offending for juvenile offenders using the youthful level of service/case management inventory. *Journal of Offender Rehabilitation*, 45(3/4), 85–108.
- Brennan, T., Dieterich, W., & Ehret, B. (2009). Evaluating the predictive validity of the COMPAS risk and needs assessment system. *Criminal Justice and Behavior*, 36(1), 21–40.

- Campbell, M. A., French, S., & Gendreau, P. (2007). *Assessing the utility of risk assessment tools and personality measures in the prediction of violent recidivism for adult offenders*. Ottawa, ON: Public Safety Canada.
- Campbell, M. A., French, S., & Gendreau, P. (2009). The prediction of violence in adult offenders: A meta-analytic comparison of instruments and methods of assessment. *Criminal Justice and Behavior*, 36(6), 567–590.
- Chengalath, G. (2008). Research and Development Division. *Revalidation of Dynamic Risk Instrument*. Prepared for the Arizona Department of Juvenile Corrections.
- Coohey, C., Johnson, K., Renner, L. M., & Easton, S. D. (2013). Actuarial risk assessment in child protective services: Construction methodology and performance criteria. *Children and Youth Services Review*, 35(1), 151–161.
- Dolan, M., & Doyle, M. (2000). Violence risk prediction: Clinical and actuarial measures and the role of the Psychopathy Checklist. *The British Journal of Psychiatry*, 177(4), 303–311.
- Ereth, J., & Healy, T. (1997). *Cook County juvenile female offenders risk assessment study*. Madison, WI: National Council on Crime and Delinquency.
- Farabee, D., Zhang, S., Roberts, R. E. L., & Yang, J. (2010). *COMPAS validation study: Final report*. California Department of Corrections and Rehabilitation. Retrieved from http://www.cdcr.ca.gov/adult_research_branch/Research_Documents/COMPAS_Final_Report_08-11-10.pdf
- Finigan, M. W., Mackin, J. R., Seljan, B. J., & Tarte, J. M. (2003). NPC Research. *Juvenile Crime Prevention Program Evaluation Final Report 2003*. Retrieved from <http://www.npcresearch.com/Files/JCP%20Eval%20Final%20Report%20July%202003.pdf>
- Flores, A. W., Travis, L. F., & Latessa, E. J. (2003). *Case classification for juvenile corrections: An assessment of the Youth Level of Service/Case Management Inventory (YLS/CMI)*, (98-JB-VX-0108). Washington, DC: US Department of Justice.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works. *Criminology*, 34(4), 575–608.
- Gottfredson, D. M. (1987). Prediction and classification in criminal justice decision making. *Crime & Justice*, 9, 1.
- Gottfredson, D., & Snyder, H. (2005). *The mathematics of risk classification: Changing data into valid instruments for juvenile courts*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Gottfredson, S. D., & Gottfredson, D. M. (1980). Screening for risk: A comparison of methods. *Criminal Justice and Behavior*, 7(3), 315–330.

- Gottfredson, S. D., & Moriarty, L. J. (2006). Statistical risk assessment: Old problems and new applications. *Crime and Delinquency*, 52(1), 178–200.
- Hartney, C., & Silva, F. (2007). *And justice for some: Differential treatment of youth of color in the justice system*. Oakland, CA: National Council on Crime and Delinquency.
- Hoge, R. D. (2002). Standardized instruments for assessing risk and need in youthful offenders. *Criminal Justice and Behavior*, 29, 380–396.
- Howard, P. D., & Dixon, L. (2013). Identifying change in the likelihood of violent recidivism: Causal dynamic risk factors in the OASys violence predictor. *Law and Human Behavior*, 37(3), 163–174.
- Johnson, K., Wagner, D., & Matthews, T. (2002, January). *Missouri Juvenile Risk Assessment re-validation report*. Madison, WI: National Council on Crime and Delinquency.
- Kadleck, C., Herz, D., Gallagher, K. W., & Nava, J. (2004). *An evaluation of substance abuse screening and risk assessment in Nebraska's Juvenile Justice System*. Retrieved from http://www.ncc.ne.gov/pdf/juvenile_justice_materials/2004_YLSI_Report.pdf
- Kennealy, P., Hernandez, I., & Skeem, J. (2012, March). *Youth risk assessment: Inter-rater reliability of state corrections staff*. Paper presented at the annual meeting of the APLS Conference, San Juan, Puerto Rico.
- Kroner, D. G., Mills, J. F., & Reddon, J. R. (2005). A coffee can, factor analysis, and prediction of antisocial behavior: The structure of criminal risk. *International Journal of Law and Psychiatry*, 28(4), 360–374.
- Landis, R. J., & Koch, G. G. (1977a). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159–174.
- LeCroy, C. W., Krysik, J., & Palumbo, D. (1998). *Empirical validation of the Arizona Risk/Needs Instrument and assessment process* (p. 161). Arizona Supreme Court, Administrative Office of the Courts, Juvenile Justice Services Division.
- Liu, H., Li, G., Cumberland, W. G., & Wu, T. (2005). Testing statistical significance of the area under a receiving operating characteristics curve for repeated measures design with bootstrapping. *Journal of Data Science*, 3(3), 257–278.
- Lowenkamp, C. T., & Latessa, E. J. (2004). Understanding the risk principle: How and why correctional interventions can harm low-risk offenders. *Topics in Community Corrections*, 2004, 3–8.
- Monahan, J., & Skeem, J. (2013). *Risk redux: The resurgence of risk assessment in criminal sanctioning*. Presented at the National Association of Sentencing Commissions Annual Conference, University of Minnesota Law School.
- National Council of Juvenile and Family Court Judges. (2002, November). *Graduated sanctions for juvenile offenders: A program model and planning guide*, Ch. 5.

- National Council on Crime and Delinquency. (2004, July). *New Mexico Children, Youth and Families Department prospective validation of the Juvenile Justice Risk Assessment*. Madison, WI: Author.
- National Council on Crime and Delinquency. (2011). *Juvenile detention in Cook County: Future directions*. Madison, WI: Author.
- National Institute of Corrections. (1981). *Model probation and parole management project*. Washington, DC: National Institute of Corrections.
- O'Keefe, M. L., Klebe, K., & Hromas, S. (1998). *Validation of the level of supervision inventory (LSI) for community based offenders in Colorado: Phase II*. Colorado Springs, CO: Colorado Department of Corrections.
- Onifade, E., Davidson, W., Campbell, C., Turke, G., Malinowski, J., & Turner, K. (2008). Predicting recidivism in probationers with the Youth Level of Service/Case Management Inventory. *Criminal Justice and Behavior*, 35(4), 474–484.
- Orbis Partners. (2007). *Long-term validation of the Youth Assessment and Screening Instrument (YASI) in New York State Juvenile Probation*. Ottawa, Ontario:
<http://criminaljustice.state.ny.us/opca/pdfs/nyltyasifullreport20feb08.pdf>
- Parkerson, G. R., Eugene Broadhead, W., & Tse, C.-K., J. (1993). The Duke Severity of Illness Checklist (DUSOI) for measurement of severity and comorbidity. *Journal of Clinical Epidemiology*, 46(4), 379–393.
- Pope, C. E., Lovell, R., & Hsia, H. M. (2002). *Disproportionate minority confinement: A review of the research literature from 1989 through 2001*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention. Last accessed October 24, 2006, from
http://ojjdp.ncjrs.org/dmc/pdf/dmc89_01.pdf
- Rice, M. E., & Harris, G. T. (1995) Violent recidivism: Assessing predictive validity. *Journal of Consulting and Clinical Psychology*, 53, 737–748.
- Rice, M. E., & Harris, G. T. (2005). Comparing effect sizes in follow-up studies: ROC area, Cohen's d, and r. *Law and Human Behavior*, 29(5), 615–620.
- Rodella, S. (1996). *Exploring reliability in epidemiology and clinical research*. McGill University, Montreal, Canada.
- Royston, P., Moons, K. G., Altman, D. G., & Vergouwe, Y. (2009). Prognosis and prognostic research: Developing a prognostic model. *BMJ*, 338.
- Schmidt, F., Hoge, R. D., & Gomes, L. (2005). Reliability and validity analyses of the Youth Level of Service/Case Management Inventory. *Criminal Justice and Behavior*, 32(3), 329–344.
- Schwalbe, C. S. (2007). Risk assessment for juvenile justice. *Law and Human Behavior*, 31(5), 449–462.

- Schwalbe, C. S. (2008). Strengthening the integration of actuarial risk assessment with clinical judgment in an evidence based practice framework. *Children and Youth Services Review, 30*, 1458–1464.
- Schwalbe, C. S. (2009). *Risk assessment stability: A revalidation study of the Arizona Risk/Needs Assessment Instrument*. Research on Social Work Practice 19.2 (2009): 205. ProQuest Research Library. Web. 9 Oct. 2012.
- Shepherd, S. M., Luebbers, S., & Dolan, M. (2013). Gender and ethnicity in juvenile risk assessment. *Criminal Justice and Behavior, 40*(4), 388–408.
- Short, J., & Sharp, C. (2005). *Disproportionate minority contact in the juvenile justice system*. Child Welfare League of America: Washington, DC. Retrieved from <http://www.cwla.org/programs/juvenilejustice/disproportionate.pdf>
- Silver, E., & Banks, S. (1998). *Calibrating the potency of violence risk classification models: The dispersion index for risk (DIFR)*. Paper presented at the American Society of Criminology conference, Washington, DC.
- Skeem, J., & Eno Loudon, J. (2007). *Assessment of evidence on the quality of the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS)*. Unpublished report prepared for the California Department of Corrections and Rehabilitation. Available at www.cdcr.ca.gov/.../COMPAS_Skeem_EnoLouden_Dec_2007.pdf
- Skeem, J., & Monahan, J. (2011). *Current directions in violence risk assessment*. Virginia Public Law and Legal Theory Research Paper No. 2011-13. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1793193#
- Tanner-Smith, E. E., Wilson, S. J., & Lipsey, M. L. (2013a). Risk factors and crime. In F.T. Cullen & P. Wilcox (Eds.). *The Oxford handbook of criminological theory* (pp. 89-111). New York, NY: Oxford University Press.
- Tape, T. G. (n.d.). *Interpreting diagnostic tests: The area under an ROC curve*. Retrieved on June 4, 2012 from <http://gim.unmc.edu/dxtests/ROC3.htm>
- Tarte, J. M., Mackin, J. R., Cox, A., & Furrer, C. J. (2007). NPC Research. *Juvenile Crime Prevention Program 2005–2007, Evaluation Report*. Retrieved from http://www.npcresearch.com/Files/JCP_2005-07_Final_1107.pdf
- Tjaden, C. D. (2006). *Preliminary CRN risk scale validation study*. Prepared for the Georgia Department of Juvenile Justice.
- Uebersax, J. S. (1987). Diversity of decision-making models and the measurement of inter-rater agreement. *Psychological Bulletin, 101*(1), 140.
- Van Der Put, C. E., Dekovic, M., Geert, J. J., Stams, M., Van Der Laan, P. H., Hoeve, M., & Van Amelsfort, L. V. (2011). Changes in risk factors during adolescence: Implications for risk assessment. *Criminal Justice and Behavior, 38*, 248–262.

- Van Domburgh, L., Vermeiren, R., & Doreleijers, T. (2008). Screening and assessments. In R. Loeber, H. M. Koot, N. W. Slot, P. H. Van der Laan, & M. Hoeve (Eds.), *Tomorrow's Criminals: The Development of Child Delinquency and Effective Interventions* (pp. 165–178). Hampshire, England: Ashgate.
- Van Voorhis, P., Salisbury, E., Wright, E., & Bauman, A. (2008). *Achieving accurate pictures of risk and identifying gender responsive needs: Two new assessments for women offenders*. University of Cincinnati Center for Criminal Justice Research, National Institute of Corrections, Washington DC.
- Vose, B., Cullen, F. T., & Smith, P. (2008). The empirical status of the Level of Service Inventory. *Federal Probation*, 72, 22.
- Wagner, D., Ehrlich, J., & Baird, C. (1997). *Wisconsin juvenile offender classification study: Juvenile parole risk assessment validation report*. Madison, WI: National Council on Crime and Delinquency.
- Wiebush, R. G., Baird, C., Krisberg, B., & Onek, D. (1995). Risk assessment and classification for serious, violent, and chronic juvenile offenders. In J. C. Howell, B. Krisberg, J. D. Hawkins, & J. J. Wilson (Eds.), *Sourcebook on Serious, Violent and Chronic Juvenile Offenders* (pp. 171–212). Thousand Oaks, CA: Sage Publications.
- Wiebush, R. Ed. (2002). *Graduated sanctions for juvenile offenders: A program model and planning guide*. Reno, NV: Juvenile Sanctions Center, National Council of Juvenile and Family Court Judges.
- Winokur-Early, K., Hand, G. A., & Blankenship, J. L. (2012). *Validity and reliability of the Florida Positive Achievement Change Tool (PACT) risk and needs assessment instrument: A three-phase evaluation (Validation study, factor analysis, inter-rater reliability)*. Tallahassee, FL: Justice Research Center.
- Yang, M., Wong, S. C., & Coid, J. (2010). The efficacy of violence prediction: A meta-analytic comparison of nine risk assessment tools. *Psychological Bulletin*, 136(5), 740.
- Zhang, S. X., Roberts, R. E. L., & Farabee, D. (2011). An analysis of prisoner reentry and parole risk using COMPAS and traditional criminal history measures. *Crime & Delinquency*. doi: 10.1177/0011128711426544
- Zweig, M. H., & Campbell, G. (1993). Receiver-operating characteristic (ROC) plots: A fundamental evaluation tool in clinical medicine. *Clinical Chemistry*, 39(4), 561–577.

Appendix A

Risk Assessment Systems

Arizona AOC Juvenile Risk Assessment Model

RISK ASSESSMENT/NEEDS SCREENING UPDATE

Juvenile Name Clark Kent

Complaint numbers, this assessment..... _____

Date of assessment..... 121107 mmddyy

Assessment performed by..... AMYS Amy Stuart

Reason for non-completion..... _____

**Does the relationship w/their family involve frequent/intense
conflict or is alienated/assaultive (known or suspected)....** _____ (Y,N)

*** Ever been assaultive.....** _____ (Y,N)

*** Used or suspected of using drugs w/in the past year.....** _____ (Y,N)

*** Ever truant or extensive absenteeism from school.....** _____ (Y,N)

Currently enrolled in public, private, home school regularly.. _____ (Y,N)

Has behavioral problems/mental health issues..... _____ (Y,N)

*** Friends involved or suspected to be involved in delinquency...** _____ (Y,N)

*** Runaway, runaway attempts, known or suspected.....** _____ (Y,N)

Probation officers opinion of reoffending w/in one year..... _____ (H,M,L)

Comments.. _____

Arizona DJC DRI

DRI screen shot

Report Date: 01/08/2011
 Time: 08:11 PM
 [View Offense History](#)

Question	Response
Age at First Referral	11 years 3 months
Referral Count Upon Age at First Commit/Re-Commit	5
Youth believes that behavior is against the welfare of the community	Believes
Level of Manipulative Behavior	Lies to Protect/Avoid
Level of Empathetic Response to Behavior(s)	Usually shows
Respect for Person(s) in Authority	Appreciates Role
Level of Accountability towards following laws of society	Desire
Level of Ongoing conflict at home and with Family Members	Well Managed
Level of Change Youth Believes is needed to improve Education	Cooperative
Youth Contemplates Engaging or Engages in Organized Community Activities	Two or More
Youth Contemplates Engaging or Engages in Un-Organized Community Activities	Three or More
Level of Change Youth Believes is Needed to Improve Use of Free Time	Committed
Parent/Caregiver use of Alcohol	No
Parent/Caregiver use of Drugs	No
Parent/Caregiver Incarceration History	Yes
Level of Resistance to Anti-Social Peers	Usually
Gender of Youth	Male
Commitment Offense:	Att Sexual Conduct w/Minor Under 15 F3 / Person Offense
Total Score	41.46

RISK TO REOFFEND

Very High
High
Medium
Low

Low 0 - 49.99
Medium 50 - 59.99
High 60 - 100

Sex Offender

High

Institutional Risk

Victimization

Abscond Risk

Low - 4.39

Georgia Complete CRN Form – Enhanced

Comprehensive Risk/Needs Assessment

Developed for the Georgia
Department of Juvenile Justice
By: Tim Brennan Ph. D. Claus D. Tjaden Ph. D.

INTRODUCTION

This tool is designed to provide a Comprehensive Risk and Needs (CRN) assessment for committed, probated, and superior court youth. It supports improved decision-making and case planning for all youth being served by the Georgia Department of Juvenile Justice. The full scale CRN is used to assess all probated, committed and superior court youth.

The youth interview is a central component of the CRN assessment process. Information derived from the youth interview is critical to an accurate assessment of the youth's criminogenic risks and needs. As emphasized in the instructions below, *the answers entered on the tool should be based on multiple sources of information*, including not only what the youth indicates at the time of the interview, but also what you have learned from family, school, social service providers and other sources. Please read the instructions below and complete preliminary steps required prior to conducting the youth interview.

HOW TO CONDUCT THIS ASSESSMENT AS A SEMI-STRUCTURED INTERVIEW

STEP 1: GATHER INFORMATION

Make home visit, interview family, and review records (DJJ, psychological, school, all current/prior legal and other providers/services) before interviewing youth.

STEP 2: UPDATE JTS

Update criminal history and family contact information. (For accuracy of CRN results and social summary, all current and prior legal information must be in JTS).

STEP 3: INITIATE THE YOUTH INTERVIEW

The goal of the interview is to gather the youth's perspective on the scale items. Identify a comfortable, private location. Begin with general conversation. Let the youth know that the interview will assist in developing a plan to help him/her be successful.

STEP 4: ADDRESS EACH SCALE

Start with broad probe questions and allow for dialogue. If necessary, follow up with more specific questions for unanswered items or to clarify information offered by the youth.

STEP 5: CLARIFY INCONSISTENT ANSWERS

Responses should reflect the truth - not just what the youth says. Use information gathered prior to the interview to clarify inconsistencies and ensure the accuracy of the responses.

STEP 6: COMPLETE THE INTERVIEWER RATING

Answer the scale items and *interviewer rating* using all of the information gathered, including the interviews with the family, youth and others. Your interviewer rating for each scale should be consistent with the scoring of individual items within that scale. If the interviewer rating is inconsistent with scoring on other items, check all answers and revise as necessary.

Juvenile Name: _____

Not to be distributed Outside the Georgia DJJ. Portions of this instrument are subject to copyright protection.

Georgia DJJ holds Unrestricted rights to use of this instrument.

1-Toucan Research, 2121 N Frontage Rd W #23 Vail, CO (970) 926-1577

CRN

THE CRN CONSISTS OF THE FOLLOWING 27 SCALES.

USUAL BEHAVIOR AND PEERS

- S2a Criminal Opportunity
- S2b Pro-social Activities
- S1 Criminal Associates

PERSONALITY

- S3 Impulsivity/Risk Taking
- S4 Empathy
- S5 Lack of Remorse/Guilt
- S6 Manipulative/Dominance of Others
- S7 Aggression/Temper
- S8 Tolerance of Violence

SUBSTANCE ABUSE AND SEXUAL BEHAVIOR

- S11a Substance Abuse: Common Substances
- S11b Substance Abuse: Hard Drugs
- S12 Substance Abuse & Delinquency
- S13 Promiscuity

SCHOOL AND EDUCATION

- S14 Academic
- S15 Goals/Aspirations
- S16 Attention Problems
- S17 Behavior at School

FAMILY AND SOCIALIZATION

- S18 Discontinuity of Family Life
- S21 Family Criminality/Drugs
- S23 Discipline Consistent/Rational
- S24 Positive Parental Supervision
- S25 Parental/Caregiver Neglect
- S26a Physical Abuse
- S26b Sexual Abuse
- S27 Parental Conflict/Violence
- S28 Lack of Neighborhood Safety
- S30 Youth Rebellion

ABBREVIATIONS FOR RESPONSE CATEGORIES

- Def No = Definitely No
- Susp No = Suspect No
- Unk No Opn = UK/NO Opinion
- Susp Yes = Suspect Yes
- Def Yes = Definitely Yes

S2a. CRIMINAL OPPORTUNITY: (Current typical behavior: Focus on three-month time period just prior to current arrest/incarceration.)					
PROBE: How do you usually spend your time? If you and your friends are bored, what are some things you might do? Is there any place you like to hang out? What about when you're at home? What do you like to do?					
	Never	<1x per week	1-3 x per week	4-7x per week	Unk
1. Unstructured/Unsupervised - Outside the Home					
a. Goes out with friends					
b. Goes to mall/other local youth hangout					
c. Goes to parties/dates					
d. Goes to movies					
e. Rides around with friends					
2. Unstructured/Unsupervised - At Home					
a. Parties at home (without adults)					
b. Is alone after school					
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth has opportunity for criminal activities.					
S2b. PRO-SOCIAL ACTIVITIES: (Current typical behavior: Focus on three-month time period just prior to current arrest/incarceration.)					
PROBE: (Probes from above may generate information needed for this scale, as well.) Are you involved in any kinds of group activities - something like sports (church, school, etc.)?					
	Never	<1x per week	1-3 x per week	4-7x per week	Unk
a. Studies/reads at home, library					
b. Participates in sports/athletics					
c. Participates in church activities					
d. Has hobbies, creative activities (arts, clubs, drama, music, etc.)					
e. Participates in school activities (adult present)					
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth engages in pro-social activities.					
S1. CRIMINAL ASSOCIATES: (Current friends of youth: Focus on three-month time period just prior to current arrest/incarceration)					
PROBE: Tell me about your friends. Who do you spend your time with? What are they like? Have your friends ever gotten into trouble? For what? Do your parents/caregivers like your friends? Why/why not? Do you see your friends mostly at school, or other places?					
	None	Some	About Half	Most	Unk
a. Have dropped out					
b. Drink					
c. Sell drugs					
d. Use drugs					
e. Are gang affiliated					
f. Have been arrested					
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth associates with criminal friends and peers.					

S5. REMORSE/GUILT: (Regarding current offense/victim)

PROBE: Tell me why are you here? What happened to get you in trouble? How do you feel about what happened? Do you generally think someone should get in trouble for doing what you did? Why/why not?

	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Blames victim					
b. Blames others or situation					
c. Seems proud					
d. Seems indifferent to situation					
e. Shows sorrow/regret					
Interviewer Rating:					
Youth demonstrates a lack of remorse or guilt.					

S3. IMPULSIVITY RISK TAKING: (General pattern of impulsiveness/risk taking)

PROBE: Tell me about how you make decisions/handle risks. Let's say a friend of yours wants you to do something with him/her, but it might be risky or dangerous to do it. Can you imagine a situation like that? What do you think you'd do? Are you usually ready to jump in and enjoy taking risks? How much would you stop and think about the situation before acting? How would you feel about what you did? Do other people see you as someone who takes a lot of risks? Have you ever gotten into trouble because of that? Like what?

	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Sees self as impulsive/reckless					
b. Makes quick decisions					
c. Others think youth is wild/reckless					
d. Gets in trouble for reckless behavior					
e. Enjoys taking risks					
Interviewer Rating:					
Youth is impulsive and takes risks.					

S4. EMPATHY/DISREGARD FOR OTHERS: (General emotional style towards others)

PROBE: Can you think about any times when you've felt sad or sorry or guilty for something you have done to other people? What kinds of things might make you feel that way? What about people's feeling towards you -- if they get mad at you, how do you feel? If they cry because of something you have done, how do you feel? How about things you do -- if you lie or break a promise to someone, how do you feel? How would you feel in the following situations?

	Def No	Susp no	Unk No Opn	Susp Yes	Def Yes
a. When youth sees others cry, he/she feels sad					
b. If youth lies, he/she feels guilty					
c. If youth breaks a promise to someone, he/she feels guilty					
d. Youth cries at movies					
Interviewer Rating:					
Youth shows empathy.					

S6. MANIPULATIVE/DOMINANCE: (General style: Exploitation, conning of others)					
PROBE: Do you usually get your way with others? If you want someone to do what you want, how do you try to influence them? How often are you successful? If you get into trouble, how do you try to get out of it? Are you a leader or a follower?					
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Youth good at getting own way					
b. Good at talking his/her way out of problems					
c. Threatens/controls others					
d. Easily lies to teachers to avoid trouble					
e. Easily lies and gets away with it					
Interviewer Rating:					
Youth is manipulative and/or dominates others.					

S7. AGGRESSION/TEMPER: (General emotional style: Quick to anger)					
PROBE: We all have times when other people make us mad. Does that happen to you a lot? Can you tell me about things people do that make you mad? What do you do at those times? How likely are you to react physically—for example, to fight? How likely are you to say things? What kinds of things might you say? Are you more likely to stay calm or to blow up when someone argues with you? Can you tell me about that?					
	Def No	Susp No	Unk No Opn	Def Yes	Susp Yes
a. Has a quick temper					
b. Finds it hard to talk things over if angry					
c. Has lots of fights					
d. Generally stays calm in arguments					
e. Mostly backs down in arguments					
Interviewer Rating:					
Demonstrates excessive aggression-temper-anger.					

S8. TOLERANT ATTITUDES TOWARDS VIOLENCE: (General attitude towards use of violence)					
PROBE: Is it OK or WRONG to use force? What kinds of things would make it OK to hit someone or to hurt them physically? In what situations would you use force against someone? Would it matter how big they were, or how old they were?					
	Def No	Susp No	Unk No Opn	Def Yes	Susp Yes
a. Yell to win an argument					
b. Hit a kid who insulted you					
c. Hit a kid who insults your family/friends					
d. Punch a kid if you're mad					
e. Hit a kid to teach them a lesson					
Interviewer Rating:					
Youth tolerates violence when in conflict with others.					

S11a. SUBSTANCE USE: COMMON SUBSTANCES: (Current behavior: Focus on three-month time period prior to current arrest/incarceration.)						
<p>PROBE: Some people use drugs and alcohol—maybe once in a while, maybe a lot. I'd like you to tell me about your experiences using drugs and alcohol. Things like, what kinds of drugs and alcohol have you tried? How often do you use them? (If specific prompts are needed, then...) How much do you smoke? How much do you drink? What kinds of drugs have you used? How often do you huff?</p>						
[] IF NO COMMON SUBSTANCES USED IN THE PAST 3 MONTHS, CHECK BOX AND SKIP S11a						
	No use last 3 months	<1 x per month	1-3 x per month	1-2 x per week	>3 x per week	
a. Tobacco (cigarettes, chew, snuff, plug, dipping/chewing tobacco)						
b. Age at 1st tobacco use						
c. Alcohol (beer, wine, liquor)						
d. Age at 1st alcohol use						
e. Marijuana						
f. Age at 1st marijuana use						
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes	
Youth has problems with substance abuse related to common drugs.						

S11b. SUBSTANCE USE: HARD DRUGS: (Current behavior: Focus on three-month time period prior to current arrest/incarceration)						
<p>PROBE: Probes from S11a, above, will generate information needed for this scale, as well. In addition, follow-up probes could include: Have you tried other drugs, like (name of drug)? How often do you use (name of drug)? Huff?</p>						
[] IF NO HARD DRUGS USED IN THE PAST 3 MONTHS, CHECK BOX AND SKIP S11b						
	No use last 3 months	<1 x per month	1-3 x per month	1-2 x per week	>3 x per week	Unk
g. LSD (and other psychedelic drugs)						
h. Amphetamines (stay awake pills, speed, uppers, bennies, dexies, ecstasy, meth)						
i. Other drugs without a doctor's order (steroids, barbiturates, tranquilizers, Quaaludes, etc.)						
j. Cocaine (or crack)						
k. Opiates (Heroin, smack, horse, skag, opium or morphine)						
l. Inhalants (Sniffs glue, uses whiteout, aerosol spray cans, other gases or sprays to get high, "huffing")						
m. Ever injected	No		Yes		Unk	
Interviewer Rating:		Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth has problems with substance abuse related to hard drugs.						

S12. SUBSTANCE ABUSE AND DELINQUENCY: (General pattern of getting into trouble due to drugs or alcohol)

PROBE: Sometimes people get into trouble either because of drugs or alcohol. Has this happened to you? Can you tell me about what happens when you drink/get high? Well, for example, have you ever had trouble with the police while you were drunk or high? Have you gotten into any fights or had other trouble with people when you were drunk or high?

	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Got in trouble with police when drunk/high					
b. Got in trouble because of poor judgment (due to alcohol/drug use)					
c. Had arguments/fights when drinking/high					
d. Had violent feelings when using drugs/alcohol					
Interviewer Rating:					
Delinquency is associated with substance abuse.					

S13. PROMISCUITY

PROBE: Do you feel popular with the opposite sex? Do you "hang out" with guys/girls? Sometimes people of your age are sexually active. Can you tell me how sexually active YOU are? Do you have sex a lot? With different people, or the same person? Have you ever had any trouble because of sex – like infections or pregnancies? Can you tell me about that? How often do you use condoms or other birth control when you have sex? How do you try to protect yourself from having bad things happen related to sex?

	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. "Hangs out" with opposite sex/dates					
b. Had more than 3 partners in past year					
c. Appears unconcerned about STD's					
d. Appears unconcerned about birth control					
e. Sexual intercourse: Total # of times					
Age at 1 st intercourse					
f. Has kids, or has fathered kids	No		Yes		Unk
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth is sexually promiscuous.					

S14. ACADEMIC PROBLEMS: (General performance at school in last few years)

PROBE: Do you do well in school? How are your grades? Do you like school? Do you have any trouble passing your classes, or getting promoted from grade to grade? Have you gotten any special help or support from your school to help you learn?

	A	B	C	D	F
a. Usual grades (If variable, look at last 6-12 months)					
b. Total # of classes failed					
c. Last completed grade level					
d. Ever repeated a grade		No		Yes	
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth has had academic problems.					

S15. GOALS/ASPIRATIONS: (Current attitudes)					
PROBE: What kinds of goals do you have for yourself at school? Do you just want to get through high school, or is there more that you want to accomplish? Will you leave high school before graduating, or stay until you graduate? What goals do you have for your education after high school? Why is school important (or unimportant) to you?					
		No		Yes	
a. Plans to finish high school/GED					
b. Wants good grades					
c. Hopes to go to college/postsecondary training					
d. Thinks education is important for his/her future					
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth has educational goals and aspirations.					

S16. ATTENTION PROBLEMS AT SCHOOL: (General behavior at school in last few years)					
PROBE: Over the last few years, how have you felt being in the classroom: Have you been interested? Bored? Attentive? How have your teachers treated you? In what ways has the classroom setting and the way classes are run been hard for you?					
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Has had trouble paying attention					
b. Teachers have harassed youth frequently for not paying attention					
c. Youth's energy too high to sit quietly					
d. Has been easily bored					
Interviewer Rating:					
Youth has had attention problems at school.					

S17. BEHAVIOR AT SCHOOL: (General behavior at school in last few years)					
PROBE: Did you get into much trouble in school over the last few years? What kinds of things happened? Were you punished for any of those things? What kinds of punishments did you receive?					
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Had conflicts with teachers					
b. Skipped classes/had truancy issues					
c. Argued/fought with students					
d. Was youth ever expelled?	No		Yes		Unk
If yes, age at first expulsion					
e. Total # of times suspended since 1 st grade					
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
Youth has had behavior problems at school.					

S18. FAMILY DISRUPTION/DISORGANIZATION: (Family who mostly raised youth -- up through 16 years)						
PROBE: Tell me about your family history...what was your family history when you were growing up? For example, are your parents together? Do you live with your parents? (If no...) How did that come about? Did you or your brothers or sisters ever have to live away from home? Can you tell me about that?						
a. Separated from either birth parent (any reason except by death) before 16	No		Yes		Unk	
Youth's age at first separation from either parent						
b. Raised by single parent	No		Yes		Unk	
c. Had multiple caretakers	No		Yes		Unk	
d. Had history of out-of-home placement	No		Yes		Unk	
e. Had siblings placed out-of-home	No		Yes		Unk	
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes	
Youth had serious disruption/instability in family life.						
S21. FAMILY CRIMINALITY/DRUGS: (Family who mostly raised youth -- up through 12 years)						
PROBE: What were your parents (caretakers) and brother and sisters like? Did they ever get into trouble with the law? How about with drugs or alcohol? Can you tell me about that? How about psychological problems—did they have anything like that? What was that like for you?						
	Mother	Father	Siblings			
	No-Yes Unk	No-Yes Unk	No-Yes Unk			
a. Ever arrested?	[] [] []	[] [] []	[] [] []			
b. Ever in jail or prison?	[] [] []	[] [] []	[] [] []			
c. Ever have alcohol problems?	[] [] []	[] [] []	[] [] []			
d. Ever have drug problems?	[] [] []	[] [] []	[] [] []			
e. Ever have mental health/psychological problems?	[] [] []	[] [] []	[] [] []			
Interviewer Rating:	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes	
Youth's family has had criminality, drug or alcohol problems.						
S23. DISCIPLINE CONSISTENT/RATIONAL: (Family who mostly raised youth -- up through 12 years)						
PROBE: Tell me about your family/caretakers and their rules while you were growing up. Did you always know what your parents/caretakers expected of you and what their rules were? Can you tell me about that? How did you feel about their rules? How did they try to discipline you? How did they respond when you did good things or when you followed their rules?						
Parents or caretakers generally...	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes	
a. Had clear rules						
b. Used fair punishment						
c. Explained their reason for punishing youth						
d. Rewarded/praised youth when he/she did something good						
Interviewer Rating:						
In general, parental discipline was consistent and rational.						

S24. POSITIVE PARENTAL SUPERVISION: (Focus on parental supervision over last two years)					
PROBE: How much have your parents been involved in your life? How much do they check on what you're doing and who you're with? Do they generally keep tabs on you? What kinds of expectations do they have about what you should do around the house, e.g., chores or contributing to the household?					
In general, parents or caretakers....	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Know who youth's friends are					
b. Ask where youth has gone and what youth has been doing					
c. Check on what time youth comes home					
d. Have rules about chores					
Interviewer Rating:					
Caretakers exercise positive supervision.					

S25. PARENTAL/CARETAKER NEGLECT: (Family who mostly raised youth -- up through 12 years)					
PROBE: As you've grown up, how much have your parents/caretakers taken care of you? Do they spend time with you, pay attention to you? Is there any way in which your parents/caretakers did NOT take care of you in basic ways—like, feeding you, talking to you, providing for your needs? (If yes...) Like what?					
	Def No	Susp no	Unk No Opn	Susp Yes	Def Yes
a. Youth felt parents or caretakers neglected him/her					
b. Parents or caretakers mostly ignored youth					
c. Failed to provide adequate food/clothing					
d. Showed no interest in youth's school work					
Interviewer Rating:					
Youth experienced neglect while growing up.					

S26a. PHYSICAL ABUSE: (General style of parents or caretakers who mostly raised youth)					
PROBE: Youth are sometimes abused. Did anything like that happen to you when you were growing up? This can be hard to talk about. Did anyone at home ever hit you? When did that happen? Who did it? Can you tell me what was happening with them when they did that—were they drunk or angry?					
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Youth was hit or hurt by parents or caretaker					
b. Youth was frightened of being hit/hurt by parent or caretaker					
c. Parents or caretakers were violent when drunk/high					
d. Youth removed from home due to physical abuse					
Interviewer Rating:					
Youth experienced physical abuse.					

S26b. SEXUAL ABUSE: (Any sexual abuse of youth at any point in time)					
PROBE: How about other kinds of abuse—did anyone ever touch you inappropriately? Did anyone make you do sexual things? What happened to you? What happened to them? Were they ever punished for it?					
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Youth sexually abused					
b. Sexually abused by family member					
c. Sexually abused by another adult					
d. Removed from home or treated for sexual abuse					
Interviewer Rating:					
Youth experienced sexual abuse.					

S27. PARENTAL CONFLICT/VIOLENCE: (Family who mostly raised youth -- up through 12 years)					
PROBE: Did your parents/caretakers get along with each other when you were growing up? Were they fair and kind to each other? Did they sometimes fight physically? Were there ever times when you didn't want to be around your parents/caretakers because of how they behaved towards each other? Can you describe some of those times?					
One or both parents or caretakers.....	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. Fought/yelled/screamed at each other					
b. Hurt/attacked each other					
c. Threatened to harm each other					
d. Were always ready to "blow up" at each other					
Interviewer Rating:					
Youth witnessed parental conflict and/or violence while growing up.					

S28. LACK OF NEIGHBORHOOD SAFETY: (Conditions of neighborhood where youth grew up)					
PROBE: What was your neighborhood like where you grew up? Did you feel safe? What kinds of things did you see that felt dangerous or unsafe? Did anything bad ever happen directly to you or someone close to you? What happened? Did you take any precautions to make yourself feel safer?					
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes
a. People were selling drugs					
b. Youth often heard gunfire/saw people use guns					
c. People carried weapons					
d. Youth sometimes felt he/she needed weapon for protection					
e. Friends/family were assaulted					
Interviewer Rating:					
Youth grew up in an unsafe neighborhood.					

S30. YOUTH REBELLION: (General pattern of behavior in last two years)						
PROBE: In the last couple of years did you give your parents/caretakers a hard time? How did you respond to their rules and efforts to discipline you? How much did you argue with them? Tell me about that. Did you ever try to make them afraid of you? Tell me about that. What other ways did you give them a hard time?						
	Def No	Susp No	Unk No Opn	Susp Yes	Def Yes	
a. Fought with parents or caretakers over discipline/curfew rules						
b. Defied parents or caretakers to their faces						
c. Criticized parents or caretakers						
d. Intimidated/threatened family members						
e. # of times runaway						
Age at 1st runaway						
Interviewer Rating:						
Youth has been rebellious over last 2 years.						

Oregon JCP Assessment

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

PART 1. YOUTH, ASSESSOR, AND EVALUATION INFORMATION

☐ Completed

JJIS#:	Youth's Name:
Assessment Date (date assessment was initiated):	
Office/County of Jurisdiction (county conducting assessment):	
Assessor (person conducting assessment):	

For Reassessments Only. Skip if this is an initial assessment.

Linked assessment (name of most recent prior JCP assessment)	
<input type="checkbox"/> JCP Risk Assessment – 2006.1	<input type="checkbox"/> V1.0 Oregon JCP Screen Assessment
<input type="checkbox"/> V2.0 Oregon JCP Screen/Assessment	<input type="checkbox"/> V1.0 JCP Reassessment
Date of linked assessment (generally the most recent prior JCP assessment that was completed at least 30 days or more before this assessment)	
_____ (month - day - year)	

1.0 DEMOGRAPHIC AND JCP PROGRAM EVALUATION QUESTIONS

Before conducting the assessment, complete questions 1.1 through 1.4 to help determine if the youth or family (if they are present) needs an interpreter. If either is not proficient in English, please stop the assessment and continue only when someone proficient in the youth's or family's language is available. For help on determining English proficiency, see help for item 1.1.

1.1 Is English youth's primary language?

☐ Yes ☐ No

1.2 [IF NOT] Ask youth to describe his or her understanding of English:

☐ Poor ☐ Fair ☐ Very Good

1.3 If youth's primary language is not English, what is it?

☐ Chinese (Mandarin) ☐ Spanish
☐ Hmong ☐ Vietnamese
☐ Russian ☐ Other non-English (Spec

fy) _____

1.4 Race/ethnicity/cultural heritage. Ask the youth to self-identify his/her race, ethnicity or cultural heritage from the list below. Check all that apply.

☐ Black or African-American ☐ Vietnamese
☐ White (Caucasian) ☐ Native American / Alaskan Native
☐ Asian ☐ Native Hawaiian / Pacific Islander
☐ Chinese ☐ Hispanic / Latino
☐ Indian ☐ Mexican
☐ Japanese ☐ Other (Specify) _____
☐ Korean ☐ Race / Ethnicity Unreported

1.5 Type of Assessment

☐ 1 Initial Assessment
☐ 2 Reassessment
☐ 3 Reassessment for Youth in JCP Prevention Program

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

Copyright 2006, Oregon Juvenile Department Director's Association (OJDDA). Permission is hereby granted to reproduce and distribute copies of this instrument for nonprofit purposes, provided OJDDA copyright is included on each copy. Valid only if unaltered. For more information, contact www.ojdda.org.

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

1.6. [Answer this question only if you are completing an **INITIAL ASSESSMENT**; skip if this is a reassessment]

Do you expect this youth to be referred to JCP Prevention Services within the next 3 months?

- ☐ Yes ☐ No ☐ Don't know

JCP Program Evaluation Questions

***Complete this section only if you are completing a JCP Program Evaluation Reassessment
(you marked either 3 or 4 on Question 1.5)***

1.7 First JCP Service Start or "Open" Date :

Month/Day/Year

1.8 Last JCP Service End or "Closed" Date (if applicable)

Month/Day/Year

1.9 Program/Service Status (check only one)

- ☐ 1 Still active at time of review
☐ 2 Inactive at time of review
☐ 3 No longer in service at time of review

or Youth did not participate in JCP service or program (select reason from list below)

- ☐ 4 Unable to contact youth or family
☐ 5 Youth or parent/guardian refused/declined
☐ 6 No show: Youth or family did not show up for service/program
☐ 7 Appropriate service not available
☐ 8 Other (specify)_____

1.10 [Answer only if youth was **INACTIVE** at time of reassessment]

What date was case placed on inactive status? : _____
Month/Day/Year

1.11 [Answer if youth is **INACTIVE** or **NO LONGER IN SERVICE** at time of reassessment]

Did youth complete program requirements?

- ☐ Yes, generally completed program requirements
☐ No, did not complete program requirements
☐ Don't know

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

[Answer Questions 1.12 through 1.18 below only if youth **participated** in a JCP Prevention Program. Skip to Section 2.0 if "no participation" in a JCP Prevention Program (you marked 4 - 8 in Question 1.9 above)]

1.12 JCP services provided to address youth's identified risk factors (check all that apply)

- ☐ 1 **Direct interventions** specifically designed to address risk factors (i.e., services to increase school success, decrease acting out or delinquent behaviors, reduce substance abuse, improve family functioning, and/or increase positive peer associations)
- ☐ 2 **Case management or case coordination services** (include multi-agency service teams)
- ☐ 3 **Support services** (include basic needs, childcare, health, housing, recreation, transportation, etc.)

1.13 Other JCP Services Provided (describe) _____

1.14 Completed or satisfactorily participating in program/activities as directed?

- ☐ 1 Yes
- ☐ 2 Partially
- ☐ 3 No
- ☐ 4 Does not apply

1.15 Completed or satisfactorily participating in planned skill development?

- ☐ 1 Yes
- ☐ 2 Partially
- ☐ 3 No
- ☐ 4 Does not apply

1.16 Completed or satisfactorily participating in treatment programs?

- ☐ 1 Yes
- ☐ 2 Partially
- ☐ 3 No
- ☐ 4 Does not apply

1.17 Risk areas focused on by JCP service plan during the report period (check all that apply)

- ☐ 1 School Issues
- ☐ 2 Peer Relationships
- ☐ 3 Antisocial Behavior
- ☐ 4 Family Functioning
- ☐ 5 Substance Use
- ☐ 6 Attitudes, Values, & Beliefs
- ☐ 7 Not specified
- ☐ 9 Don't know, unknown

1.18 Other area focused on by JCP Service Plan (specify) _____

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

PART II. INDICATORS

Fill in **all** responses, including items for case planning. If unsure about an answer, select “More Information Needed.” Do not leave the item blank. You may make any necessary revisions/adjustments to responses within 30 days of the assessment date if you have not “locked” the assessment.

2.0	SCHOOL ISSUES Case Planning Domain: Education <i>*Some of the school indicators may not be applicable if youth has graduated from high school or has completed, or is currently working on, a GED. If youth is being assessed during the summer, code the last regular semester and use the last month of school for the “past month” questions.</i>	More Info. Needed Yes No	Score ¹
<input type="checkbox"/>			
PF2.1	Significant school attachment/commitment (has significant attachments, beliefs, commitment and/or involvement with and within his/her school; youth motivated to do well in school).	<input type="checkbox"/> <input type="checkbox"/> <input type="radio"/>	
R2.2	Academic failure (recently failed, or currently failing two or more classes; not meeting minimal academic standards; not performing at grade level appropriate to youth’s age).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R2.3	Chronic truancy (skips school at least once a week, or has more than four unexcused absences in past month).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R2.4	School drop-out (has stopped attending school or is not enrolled. Do not count if graduated, completed/working on GED, or attending alternative education/trade program).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R2.5	Suspension(s) or expulsion(s) during past 6 months.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
C2.6	Suspension(s) or expulsion(s) from school during past month.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
PF2.7	Family actively involved in helping youth succeed in school (helps with homework, provides transportation to school, talks with teachers, etc.).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
R2.8	Diagnosed learning disability or concrete evidence of cognitive difficulties (include if youth has an academic Individualized Education Plan or has been held back a grade level due to learning difficulties).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
Comments			

¹ Only unshaded items are scored. The risk factor numbers begin with the letter “R”, the protective factor items begin with the letters “PF”, the change over time items begin with the letter “C”, items that begin with the letter “T” are test items and are not scored. Each item where a circle is checked receives a score of “1.” Shaded items are not included in the scoring of the assessment, but are included here for case planning (CP) and evaluation purposes. Mental Health (MH) items are included to indicate additional assessments the youth may need.

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

3.0 <input type="checkbox"/>	PEER RELATIONSHIPS AND OTHER RELATIONSHIPS Case Planning Domain: Life/Social Skills	More Info. Needed Yes No	Score
PF3.1	Friends disapprove of unlawful behavior (<i>associates on a regular basis with <u>more than one friend</u> who disapproves of unlawful acts such as stealing, physically hurting others, vandalism, etc.</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="radio"/>	
R3.2	Friends engage in unlawful or serious acting-out behavior (<i>has <u>one or more friends</u> or routine contact with peer(s) who actively engage in unlawful behaviors including delinquency, substance abuse, or violent activities</i>). ²	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R3.3	Has friends who have been suspended or expelled or dropped out of school (<i>associates with one or more friends who have been suspended in the last six months, expelled, or dropped out of school</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
PF3.4	Has friends who are academic achievers (<i>has friendships and meaningful acquaintances with <u>more than one other youth</u> achieving academic excellence</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="radio"/>	
T3.5	Substance abusing friends (<i>youth hangs out with one or more other youth who use alcohol and/or drugs on a regular basis [e.g., at least several times per month]</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
PF3.6	There is an adult in youth's life (other than a parent) she/he can talk to (<i>youth reports having good conversations or connections with an adult, other than a parent, within the last month</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="radio"/>	
PF3.7	Lives in a low crime and/or stable, supportive neighborhood (<i>youth perceives neighborhood as friendly, stable, supportive, law abiding. Neighborhood should be defined as the area around which the youth is living</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
Comments			

4.0 <input type="checkbox"/>	BEHAVIOR ISSUES Case Planning Domain: Offense Specific	More Info. Needed Yes No	Score
R4.1	Chronic aggressive, disruptive behavior at school starting before age 13 (<i>stealing, fighting, bullying, threatening, shunning, starting rumors/malicious gossiping</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
C4.2	Aggressive, disruptive behavior at school during past month (<i>stealing, fighting, bullying, threatening, shunning, starting rumors/malicious gossiping</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.3	Three or more referrals for criminal offenses (<i>misdemeanor or felony charges, such as burglary, theft, assault, vandalism. Exclude curfew, truancy, runaway, minor in possession (MIP) of alcohol or tobacco, incorrigibility, technical probation violations, violations of local ordinances and infractions</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.4	Referred for a criminal offense at age 13 or younger (<i>misdemeanor or felony charge. Exclude curfew, truancy, running away, minor in possession (MIP) of alcohol or tobacco, incorrigibility, technical probation violations, and/or violations of local ordinances and infractions</i>). ³	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP

² ☐ = Violence indicator

³ ☐ = Violence indicator

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

PF4.5	Involved in constructive extra-curricular activities (<i>sports, clubs, student or religious groups, practice of music, theater, or other arts</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="radio"/>	
R4.6	Chronic runaway history (<i>has recent or past chronic runaway history involving an extended period [1 week or more] or repeated [3 or more] short episodes [1 to 3 days]</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
C4.7	Recent runaway (<i>in past month, youth has run away for at least one day/night</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.8	Behavior hurts others or puts them in danger (check if true at any time in past) (<i>youth has been charged with a violent crime, been violent or extremely threatening/aggressive to others, or uses physical force to solve problems. Limit to harm or serious threats such as robbery, carried a handgun or other illegal weapon, has been in a fight with a weapon, physically attacked someone with the idea of seriously hurting him/her, sexually assaulted someone, or driven a vehicle after drinking or using illegal drugs</i>). Counts as a violence indicator for all ages in Question 13.1. ⁴	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
R4.9	In past month, youth's behavior has hurt others or put them in danger (<i>in the past month, youth has been charged with a violent crime or been violent or extremely threatening/aggressive to others, or uses physical force to solve problems. Limit to harm or serious threats such as robbery, carried a handgun or other illegal weapon, has been in a fight with a weapon, physically attacked someone with the idea of seriously hurting him/her, sexually assaulted someone, or driven a vehicle after drinking or using illegal drugs</i>). Counts as a violence indicator for all ages in Question 13.1. ⁵	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.10	Behavior hurts youth or puts her/him in danger (check if has been true at any time in the past) (<i>limit to physical harm or threat of harm; e.g., attempted suicide, riding in a vehicle with a teenage driver who had been drinking or using drugs, taking other excessive risks</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
C4.11	In the past month, youth's behavior has hurt or put her/him in danger (see R4.10) Answer should be "no" if response to 4.10 is "no."	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
R4.12	A pattern of impulsivity combined with aggressive behavior toward others.	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.13	Harms or injures animals.	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.14	Preoccupation with or use of weapons.	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R4.15	Youth has history of setting fires.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
Comments			

5.0 <input type="checkbox"/>	FAMILY FUNCTIONING Case Planning Domain: Family	More Info. Needed Yes No	Score
PF5.1	Communicates effectively with family members (<i>shared communication is both verbal and nonverbal and includes establishing and maintaining healthy relationship boundaries</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="radio"/>	
R5.2	Poor family supervision and control (<i>family does not know where the youth goes, what he or she does, or with whom, and has little or no influence in such matters</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R5.3	Serious family conflicts (<i>people in youth's family often yell at and insult each other, in ways that make the youth uncomfortable or unhappy</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R5.4	History of reported child abuse/neglect or domestic violence.	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
5.5	Inactive Field (skip)		

⁴ ■ = Violence indicator

⁵ □ = Violence indicator

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

R5.6	Criminal family member (<i>family member or someone in youth's household has history of criminal behavior that is having an impact on youth's current behavior</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R5.7	Substance abusing family or household member(s) (<i>Family member(s) or someone in youth's household has/have history of substance abuse and drug related behavior that is having an impact on youth's current behavior</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
R5.8	Family trauma/disruption during past 12 months (<i>youth's family has experienced separation/divorce; moving more than once, inadequate family finance to meet basic needs, such as job loss, disability, chronic unemployment, homelessness, prolonged or life threatening illness; death; abandonment</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
R5.9	Family trauma/disruption since last review. (Reassessment Only)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
PF5.10	Has close, positive, supportive relationship with at least one family member (<i>at least one family member has a supportive relationship with the youth, encourages the youth, and provides recognition for achievements</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
Comments			

6.0 <input type="checkbox"/>	SUBSTANCE USE Case Planning Domain: Substance Use	More Info. Needed Yes No	Score
R6.1	Substance use beyond experimental use (<i>uses alcohol and/or other drugs regularly</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R6.2	Current substance use is causing problems in youth's life (<i>youth is having problems with school, the law, family, friends or community related to alcohol/drug use</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R6.3	Substance use began at age 13 or younger (<i>began use of alcohol or other drugs, or regular use of tobacco, at age 13 or younger</i>). □	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
R6.4	Youth has been high or drunk at school at any time in the past.	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
Comments			

7.0 <input type="checkbox"/>	ATTITUDES, VALUES, & BELIEFS Case Planning Domain: Life Skills <i>*Note R7.1 is a risk indicator and is included in the Domain Total in 12.1. However, only Domains 2 through 6 count toward the minimum of two JCP risk domains required for JCP Program eligibility.</i>	More Info. Needed Yes No	Score
R7.1	Anti-social thinking, attitudes, values, beliefs (<i>attitudes or values which are accepting of delinquent behavior, drug use, and/or violence</i>).	<input type="radio"/> <input type="checkbox"/> <input type="checkbox"/>	
T7.2	Youth lacks empathy, remorse, sympathy, or feelings for his/her victim(s).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
T7.3	Youth accepts responsibility for behavior.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
T7.4	Youth inaccurately interprets actions and/or intentions of others as hostile	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
T7.5	Youth talks about the future in a positive way with plans or aspirations of a better life	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
T7.6	Youth preoccupied with delinquent or antisocial behavior.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CP
Comments:			

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

8.0	MENTAL HEALTH INDICATORS <i>Youth with multiple mental health indicators are at increased risk of offending. Consider additional mental health assessment and/or services and supervision for these youth.</i>	More Info. Needed No	Score
8.1	Actively suicidal or prior suicide attempts.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MH
8.2	Depressed or withdrawn.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MH
8.3	Difficulty sleeping or eating problems.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MH
8.4	Hallucinating, delusional, or out of touch with reality (while not on drugs or alcohol).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MH
8.5	Social isolation: youth is on the fringe of her/his peer group with few or no close friends. <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MH

Sections 9.0 through 11.0 – No Longer Used

12.0	TOTALS JJIS will calculate automatically; use directions below if manual calculation is desired.	
12.1	Total Risk Domains (Count number of domains checked <input checked="" type="checkbox"/> or risk domains with one or more circles checked (maximum of 6) <i>Note: Domain 7 does not count in determining JCP program eligibility.</i>	_____
12.2	Total Risk Indicators (maximum of 30)	_____
12.3	Total Protective Factors (maximum of 6)	_____
12.4	Total Mental Health Indicators - count items checked "yes" in Section 8 (maximum of 5)	_____

Complete Questions 12.5 – 12.11 only if answer to Question 1.5 is "Initial Assessment"

12.5	Initial Assessment Risk Level Based on Office Preference	
	Default Range <input type="checkbox"/> Low Risk 0-5 <input type="checkbox"/> Medium Risk 6-13 <input type="checkbox"/> High Risk 14 or more	Alternate Range <input type="checkbox"/> Low Risk 0-5 <input type="checkbox"/> Medium Risk 6-13 <input type="checkbox"/> Medium-High 14-17 <input type="checkbox"/> High Risk 18 or more
12.6	a. Is youth low risk? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No", check "Not Applicable" If "Yes", does youth have one or more of seven identified high risk indicators that increase a low risk youth's likelihood of reoffending (answer was "yes" for any of the following questions: 2.4, 3.6, 4.6, 4.7, 4.13, 4.14, 6.4)? If youth is low risk, and answer is YES, consider an override to medium risk for this youth.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

12.7	Do you want to override the Risk Level?	<input type="checkbox"/> No <input type="checkbox"/> Yes, Override Up <input type="checkbox"/> Yes, OverrideDown
12.8	Override Risk Level	<input type="checkbox"/> Low Risk <input type="checkbox"/> Medium Risk <input type="checkbox"/> Medium – High Risk (<i>use only if county is using alternate range</i>) <input type="checkbox"/> High Risk
12.9	Inactive	
12.10	Override Reason	<input type="checkbox"/> Sex offender <input type="checkbox"/> Domestic Violence <input type="checkbox"/> Extremely serious substance abuse <input type="checkbox"/> Fire setting <input type="checkbox"/> Low risk offender with one of the 7 “high-risk” indicators <input type="checkbox"/> Other (specify) _____
12.11	Final Initial Assessment Risk Level	<input type="checkbox"/> Low Risk <input type="checkbox"/> Medium Risk <input type="checkbox"/> Medium-High Risk (<i>use only if county is using alternate range</i>) <input type="checkbox"/> High Risk
12.12	<p style="text-align: center;">Completing and Locking the JCP</p> <p>Remember to check the “<input type="checkbox"/> Completed” checkbox at top right of first page when finished. If the completed box is checked in JJIS, and all mandatory questions have been answered, JJIS checks the box and enters the current date as the Locked Date.</p>	

13.0	VIOLENCE INDICATORS	
	Case Planning Domain: Offense Specific	
13.1	Violence Indicators Automatically answered in JJIS Manually, answer is “Yes” if 3.2, 4.4, 4.8, 4.9, or 8.5 is “yes”; or if youth is age 6 – 11, and 6.3 is “yes”. Otherwise, answer is “No”	<input type="checkbox"/> Yes <input type="checkbox"/> No

14.0	REASSESSMENT	
	Complete Sections 14.0 through 21.5 only if this is a JCP Risk Reassessment	
14.1	Date of previous JCP Assessment, immediately prior to this assessment	_____
		(<i>month/day/year</i>)
14.2	Expected date of next JCP assessment	_____
		(<i>month/day/year</i>)
14.3	Reason for JCP Reassessment: Scheduled Review	<input type="checkbox"/> 90 day review <input type="checkbox"/> 120 day review <input type="checkbox"/> 180 day review <input type="checkbox"/> Other scheduled review: <input type="checkbox"/> Non-scheduled review
14.4	Other reason for JCP Reassessment (non-scheduled)	<input type="checkbox"/> Completed treatment or accountability objectives <input type="checkbox"/> Technical probation violation <input type="checkbox"/> New law violation <input type="checkbox"/> Counselor initiated review

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

		<input type="checkbox"/> Other
14.5	Inactive	

15.0	COMMUNITY PROTECTION Case Plan Domain: Community Protection		
15.1	Inactive		
15.2	Most Serious Weapons Charge since Linked Assessment	Weapons charge, if any, pre-filled by JJIS Data Link; otherwise blank _____	
15.3	Most Serious Law Violation since Linked Assessment	Pre-filled by JJIS data link if any new law violation; otherwise blank _____	
15.4	Weapons Charge Recorded in JJIS since Linked Assessment	JJIS will enter a "Yes" if there is a weapons charge listed in 15.2 above <input type="checkbox"/> Yes <input type="checkbox"/> No	
15.5	Weapons Charge documented outside of JJIS since Linked Assessment Has the youth had a weapons charge that has been documented outside of JJIS (that is, it is not on the list in the answer section of 15.2)?, This could be a crime committed in another state, or one associated with an offense that JJIS could not easily identify as a weapons offense, or an offense committed on a reservation. (Not scored here; used to compute score in 15.7)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
15.6	Describe the Weapons Charge documented outside of JJIS since Linked Assessment If the answer to 15.5 above was "YES", you must describe the weapons charge that has not been entered.	Weapons charge :	
Score			
15.7	Community Protection Score Score is automatically calculated by JJIS. If doing manually, enter points () of checked response in right column. Only one score should be entered.	<input type="checkbox"/> No new law violation (-1) <input type="checkbox"/> Status, local ordinance, or violation (0) <input type="checkbox"/> Misdemeanor (+1) <input type="checkbox"/> Non-person felony (+1) <input type="checkbox"/> Weapons related - felony or misdemeanor (+2) <input type="checkbox"/> Felony person (+2)	
15.8	Frequency of New Criminal Referrals since Linked Assessment Automatically calculated by JJIS. If doing manually, enter points () of checked response in right column.	<input type="checkbox"/> Only 1 new criminal referral since linked assessment (0) <input type="checkbox"/> Two or more new criminal referrals since linked assessment (+1)	

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

16.0	RESPONSE TO SUPERVISION Case Plan Domain: Accountability		
			Score
16.1	Compliance with <u>technical</u> terms of probation/supervision? Enter points () of checked response in score column on far right.	<input type="checkbox"/> Very compliant (-2) <input type="checkbox"/> Compliant (-1) <input type="checkbox"/> Partially compliant (0) <input type="checkbox"/> Generally non-compliant (+1) <input type="checkbox"/> Seriously non-compliant (+2)	
17.0	RESPONSE TO ACCOUNTABILITY Case Plan Domain: Accountability		
			Score
17.1	Completed or satisfactorily participating in accountability sanctions, as directed Enter points () of checked response in score column on far right.	<input type="checkbox"/> Does not apply (0) <input type="checkbox"/> No (+1) <input type="checkbox"/> Partially (0) <input type="checkbox"/> Yes (-1)	
18.0	RESPONSE TO SKILL DEVELOPMENT AND TREATMENT Case Plan Domain: Accountability		
			Score
18.1	Completed or satisfactorily participating in planned skill development Enter points () of checked response in score column on far right.	<input type="checkbox"/> Does not apply (0) <input type="checkbox"/> No (+1) <input type="checkbox"/> Partially (0) <input type="checkbox"/> Yes (-1)	
18.2	Completed or satisfactorily participating in treatment programs Enter points () of checked response in score column on far right.	<input type="checkbox"/> Does not apply (0) <input type="checkbox"/> No (+1) <input type="checkbox"/> Partially (0) <input type="checkbox"/> Yes (-1)	

JCP RISK ASSESSMENT 2006. 1 - JJIS Version

19.1	Inactive				
20.0	SCORING				
20.1	JCP Reassessment final score Automatically calculated by JJIS To calculate manually, add the scores in Sections 15 through 18. Add the total to the score in question 12.2, "Total Risk Indicators." This is the total score. Note: The final score may be less than the score in 12.2 if the youth has been compliant with terms of probation.	Final Score: _____			

21.0	FINAL ASSESSMENT RISK LEVEL Domain: Community Protection				
21.1	Inactive				
21.2	Reassessment Risk Level Based on Office Preference		Medium-High		0-5 6-13 14-17 18 or more

21.3	Do you want to override the Reassessment Risk Level?	<input type="checkbox"/> No <input type="checkbox"/> Yes, Override Up <input type="checkbox"/> Yes, OverrideDown
21.4	Reassessment Override Risk Level	<input type="checkbox"/> Low Risk <input type="checkbox"/> Medium Risk <input type="checkbox"/> Medium – High Risk (<i>use only if county is using alternate range</i>) <input type="checkbox"/> High Risk
21.5	Reassessment Override Reason	<input type="checkbox"/> Not applicable <input type="checkbox"/> Sex offender <input type="checkbox"/> Domestic Violence <input type="checkbox"/> Extremely serious substance abuse <input type="checkbox"/> Fire setting <input type="checkbox"/> Other (specify) _____
21.6	Final Assessment Risk Level	<input type="checkbox"/> Low Risk <input type="checkbox"/> Medium Risk <input type="checkbox"/> Medium-High Risk (<i>use only if county is using alternate range</i>) <input type="checkbox"/> High Risk
22.0	COMPLETING AND LOCKING THE JCP REASSESSMENT Check the Completed box at the top right of the screen to indicate the Assessment is complete – JJIS verifies that all mandatory questions have been answered and inserts the current date as the Locked Date.	
COMMENTS:		

Solano County, California
GSC and Girls Link Assessment

INITIAL RISK ITEMS – GIRLS'

Q12.	Number of schools in the past two years	
a.	One	0
b.	Two or more, not enrolled/dropped out.....	1
Q21.	Peer relationships	
a.	Essentially not in legal trouble	-1
b.	Mixed	0
c.	Mostly in legal trouble	0
d.	Gang member/associate	1
Q23.	Youth's substance use	
a.	No problems or experimentation only	0
b.	Use sometimes interferes with functioning	1
c.	Frequent/chronic use or abuse	1
Q59.	Age of earliest arrest or referral to juvenile court intake	
a.	12 or younger	1
b.	13 or older	0
Q60.	Number of arrests for criminal (non-status) offenses (include current)	
a.	None or one	-1
b.	Two or three	0
d.	Four or more.....	1
Q61.	Number of arrests for drug offenses (include current)	
a.	None.....	0
b.	One or more	1
Q62.	Number of court referrals for violent/assaultive offenses	
a.	None.....	0
b.	One or more	1
Q65.	Total number of prior out-of-home placements	
a.	None.....	0
b.	One or more	1

Risk Level:

-2 to 0	Low
1 to 3	Moderate
4 to 8	High

Interviewer Impressions

Scoring of the Interviewer Impressions section is completed after the end of the assessment with the youth and is a two-step process. First determine if the factor is a problem for the youth; second, determine if this problem leads to illegal behavior. Factors identified as “highly significant” or “significant” must be directly related to the youth’s illegal behavior. In this section, the interviewer must identify one factor that is (a.) highly significant and one factor that is (e.) not significant.

Questions and Scoring Options:	Scoring Guide:
<p>73. Social inadequacy:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the youth's social skills and ability to understand the motives and concerns of people.</i></p> <p><i>Score highly significant and significant for those youth who are easily led by others and highly immature socially.</i></p>
<p>74. School inadequacy:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the youth's ability to learn and perform on a basic level academically.</i></p>

<p>75. Basic living needs:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to suitability of home living environment. If girl has left home, family is homeless, or lacks very basic needs, score a or b.</i></p>
<p>76. Parental supervision:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the lack of parental supervision. If parents expect, encourage, and/or allow illegal behavior, score a or b. Is the parent consistent? Does the youth obey the rules? Are there clear consequences when the youth does not follow rules? Do these rules reinforce socially acceptable, legal behavior? If yes, score d or e.</i></p>
<p>77. Criminal orientation:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to whether criminal behavior is an acceptable and common part of the youth's life. Does the youth identify with criminal friends? Would she like to be a successful criminal? Is she frequently motivated by monetary gain?</i></p>
<p>78. Emotional factors:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the degree that emotional problems in the youth's life affect her behavior. This includes problems with anger management, impulse control, depression, manic behavior, schizophrenia, and other mental health issues.</i></p>
<p>79. Family history problems:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to chronic parental or family problems that affect the youth's actions or decision making. May also include instances of the youth acting out against family members.</i></p>
<p>80. Abuse/neglect and trauma:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to history of physical and sexual abuse and/or trauma that has affected the youth's actions or decision making.</i></p>
<p>81. Physical safety:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the level of safety with herself, her peers, and other adults. Also includes threats/fear for her physical safety that contribute to her behavior. Includes experiencing physical, emotional, or sexual abuse and/or domestic violence.</i></p>
<p>82. Relationships:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to relationships with her peer group and other adults. If peer group is negative, delinquent, and/or abusive and her relationships are detrimental, which contributes to her risky behavior, score a or b.</i></p>

83.	Isolated-situational or <i>temporary</i> circumstances:	<i>Refers to some unusual or temporary circumstance in the youth's life that has been identified and/or resolved and is unlikely to recur. (If the youth is unlikely to have more legal trouble, score item as a.)</i>
<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 		
84.	Interpersonal manipulation:	<i>Refers to youth who use other people to gain their own ends. The youth frequently tries to manipulate others or take advantage of them. If youth appeared to be lying consistently during the assessment, this should be scored a or b.</i>
<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 		
85.	Alcohol abuse:	<i>Refers to the degree of problems in the youth's life due to her alcohol abuse.</i>
<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 		
86.	Other drug abuse:	<i>Refers to the degree of problems in the youth's life due to her other drug abuse.</i>
<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 		
87.	Vocational skills:	<i>Refers to the lack of capacity/ability to obtain and maintain relatively permanent and reasonably paying employment. Is this deficit highly significant in contributing to the youth's legal difficulties?</i>
<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 		

INITIAL RISK ITEMS – BOYS'

Q15. School discipline	
a. Enrolled, attending regularly, no suspensions; or graduated/received GED	-1
b. Suspended one to two times; considered somewhat disruptive.....	1
c. Major truancy or dropped out; suspended three or more times; considered seriously disruptive.....	2
Q20. Peer relationships	
a. Essentially not in legal trouble	-1
b. Mixed	0
c. Mostly in legal trouble	2
d. Gang member/associate	3
Q22. Youth's substance use	
a. No problems or experimentation only	0
b. Use sometimes interferes with functioning	1
c. Frequent/chronic usage or abuse	2
Q39. Victim of child abuse or neglect (based on report to child welfare agency, substantiated or not)	
a. Yes	1
b. No.....	0
Q48. Parent/sibling criminality	
a. Parents/guardians or siblings incarcerated or on probation during past three years.....	1
b. No parents/guardians or siblings incarcerated or on probation during past three years	0
Q53. Age of earliest arrest or referral to juvenile court intake	
a. 13 or younger	2
b. 14 -16	0
c. 17 or older	-1
Q54. Number of arrests for criminal (non-status) offenses	
a. None or one.....	-1
b. Two or three	0
c. Four or more.....	2
Q55. Number of court referrals for violent/assaultive offenses	
a. None.....	0
b. One or more	1
Q58. Total number of prior out-of-home placements	
a. None.....	0
b. One.....	1
c. Two or more.....	2
Q67. Parental supervision	
a. Little or no parental supervision/discipline	2
b. Parental supervision often ineffective/inconsistent	1
c. Parental supervision and discipline usually effective.....	0

Risk Level:

-4 to 2 Low

3 to 8 Moderate

9 to 18 High

Interviewer Impressions

This section is completed/scored after the end of the assessment with the youth and is a two-step process. First, determine if the factor is a problem for the youth; second, determine if this problem leads to illegal behavior. Factors identified as “highly significant” or “significant” must be directly related to the youth’s illegal behavior. In this section, the interviewer must identify one factor that is (a.) highly significant and one factor that is (e.) not significant.

Questions and Scoring Options:	Scoring Guide:
<p>65. Social inadequacy:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the youth’s social skills and ability to understand the motives and concerns of people.</i></p> <p><i>Score highly significant and significant for those youth who are easily led by others and are highly immature socially.</i></p>
<p>66. School inadequacy:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the youth’s ability to learn and perform on a basic level academically.</i></p>

<p>67. Parental supervision:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the lack of parental supervision. If parents expect, encourage, and/or allow illegal behavior, score a or b. Is the parent consistent? Does the youth obey the rules? Are there clear consequences when the youth does not follow rules? Do these rules reinforce socially acceptable, legal behavior? If yes, score d or e.</i></p>
<p>68. Criminal orientation:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to whether criminal behavior is an acceptable and common part of the youth's life. Does the youth identify with criminal friends? Would he like to be a successful criminal? Is he frequently motivated by monetary gain?</i></p>
<p>69. Emotional factors:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the degree that emotional problems in the youth's life affect his behavior. This includes problems with anger management, impulse control, depression, manic behavior, schizophrenia, and other mental health issues.</i></p>
<p>70. Family history problems:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to chronic parental or family problems that affect the youth's actions or decision making. May also include instances of the youth acting out against family members.</i></p>
<p>71. Isolated-situational or <i>temporary</i> circumstances:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to some unusual or temporary circumstance in the youth's life that has been identified and/or resolved and is unlikely to recur. (If the youth is unlikely to have more legal trouble, score item as a.)</i></p>
<p>72. Interpersonal manipulation:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to youth who use other people to gain their own ends. The youth frequently tries to manipulate others or take advantage of them. If youth appeared to be lying consistently during the assessment, this should be scored a or b.</i></p>
<p>73. Alcohol abuse:</p> <ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	<p><i>Refers to the degree of problems in the youth's life due to his alcohol abuse.</i></p>

74.	Other drug abuse:	<i>Refers to the degree of problems in the youth's life due to his other drug abuse.</i>
	<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	
75.	Vocational skills:	<i>Refers to the lack of capacity/ability to obtain and maintain relatively permanent and reasonably paying employment. Is this deficit highly significant in contributing to the youth's legal difficulties?</i>
	<ul style="list-style-type: none"> a. highly significant b. significant c. somewhat significant d. minor significance e. not significant 	

PACT

DOMAIN 1: Record of Referrals Resulting in Diversion, Adjudication Withheld, Adjudication, or Deferred Prosecution	
Domain 1 Definitions: Referrals, rather than offenses, are used to assess the persistence of re-offending by the youth. Referrals should be included in Domain 1 if either (1) they have a qualifying disposition or (2) they have no qualifying disposition but are less than 500 days old from the date of the referral. Qualifying dispositions include only referrals that resulted in diversion, adjudication withheld, adjudication, deferred prosecution or referral to adult court (regardless of whether successfully completed).	
1. Age at first offense: The age at the time of the offense for which the youth was referred to juvenile court for the first time on a non-traffic misdemeanor or felony.	<input type="radio"/> Over 16 <input type="radio"/> 16 <input type="radio"/> 15 <input type="radio"/> 13 to 14 <input type="radio"/> 12 and Under
Felony and misdemeanor referrals: Items 2 and 3 are mutually exclusive and should add to the total number of referrals as defined in "Domain 1 Definitions," see above.	
2. Misdemeanor referrals: Total number of referrals, as defined in "Domain 1 Definitions," see above, for which the most serious offense was a non-traffic misdemeanor.	<input type="radio"/> None or one <input type="radio"/> Two <input type="radio"/> Three or four <input type="radio"/> Five or more
3. Felony referrals: Total number of referrals, as defined in "Domain 1 Definitions," see above, for which the most serious offense was for a felony offense.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two <input type="radio"/> Three or more
Against-person or weapon referrals: Items 4, 5, and 6 are mutually exclusive and should add to the total number of referrals, as defined in "Domain 1 Definitions," see above, that involve an against-person or weapon offense, including sex offenses.	
4. Weapon referrals: Total number of referrals for which the most serious offense was a firearm/weapon charge or a weapon enhancement finding.	<input type="radio"/> None <input type="radio"/> One or more
5. Against-person misdemeanor referrals: Total number of referrals for which the most serious offense was an against-person misdemeanor – a misdemeanor involving threats, force, or physical harm to another person or sexual misconduct (assault, coercion, harassment, intimidation, etc.).	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two or more
6. Against-person felony referrals: Total number of referrals involving force or physical harm to another person including sexual misconduct as defined by FDLE as violent felonies.	<input type="radio"/> None <input type="radio"/> One or two <input type="radio"/> Three or more
Sex offense referrals: Items 7 and 8 are mutually exclusive and should add to the total number of referrals, as defined in "Domain 1 Definitions," (see above), that involve a sex offense or sexual misconduct.	
7. Sexual misconduct misdemeanor referrals: Total number of referrals for which the most serious offense was a sexual misconduct misdemeanor, including obscene phone calls, indecent exposure, obscenity, pornography, or public indecency, or misdemeanors with sexual motivation.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two or more
8. Felony sex offense referrals: Total number of referrals for a felony sex offense or involving sexual motivation including carnal knowledge, child molestation, communication with minor for immoral purpose, incest, indecent exposure, indecent liberties, promoting pornography, rape, sexual misconduct, or voyeurism.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two or more
9. Confinements in secure detention where youth was held for at least 48 hours: Number of times the youth was held for at least 48 hours physically confined in a detention facility.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two <input type="radio"/> Three or more
10. Commitment orders where youth served at least one day confined under residential commitment: Total number of commitment orders and modification orders for which the youth served at least one day confined under residential commitment. A day served includes credit for time served.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two or more
11. Escapes: Total number of attempted or actual escapes that resulted in adjudication.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two or more
12. Pick Up Orders for failure-to-appear in court or absconding supervision: Total number of failures-to-appear in court or absconding supervision that resulted in a pick up order being issued. Exclude failure-to-appear warrants for non-criminal matters.	<input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two or more

DOMAIN 2 : Social History		
Current is defined as behaviors occurring within the last six months		
1. Youth's Gender	<input type="radio"/> Male <input type="radio"/> Female	
2a. Youth's current school enrollment status, regardless of attendance: If the youth is in home school as a result of being expelled or dropping out, check the expelled or dropped out box, otherwise check enrolled.	<input type="radio"/> Graduated, GED <input type="radio"/> Enrolled full-time <input type="radio"/> Enrolled part-time	<input type="radio"/> Suspended <input type="radio"/> Dropped out <input type="radio"/> Expelled
2b. Youth's conduct in the most recent term: Fighting or threatening students; threatening teachers/staff; overly disruptive behavior; drug/alcohol use; crimes, e.g., theft, vandalism; lying, cheating, dishonesty.	<input type="radio"/> Recognition for good behavior <input type="radio"/> No problems with school conduct <input type="radio"/> Problems reported by teachers <input type="radio"/> Problem calls to parents <input type="radio"/> Calls to police	
2c. Youth's attendance in the most recent term: Full-day absence means missing majority of classes. Partial-day absence means attending the majority of classes and missing the minority. Habitual truancy as defined in FS includes 15 unexcused absences in a 90-day period.	<input type="radio"/> Good attendance with few absences <input type="radio"/> No unexcused absences <input type="radio"/> Some partial-day unexcused absences <input type="radio"/> Some full-day unexcused absences <input type="radio"/> Habitual truant	
2d. Youth's academic performance in the most recent school term:	<input type="radio"/> Honor student (mostly As) <input type="radio"/> Above 3.0 (mostly As and Bs) <input type="radio"/> 2.0 to 3.0 (mostly Bs and Cs, no Fs) <input type="radio"/> 1.0 to 2.0 (mostly Cs and Ds, some Fs) <input type="radio"/> Below 1.0 (some Ds and mostly Fs)	
3a. History of anti-social friends/companions: Anti-social peers are youths hostile to or disruptive of the legal social order; youths who violate the law and the rights of others and other delinquent youth. (Check all that apply.)	<input type="checkbox"/> Never had consistent friends or companions <input type="checkbox"/> Had pro-social friends <input type="checkbox"/> Had anti-social friends <input type="checkbox"/> Been a gang member/associate	
3b. Current friends/companions youth actually spends time with: (Check all that apply.)	<input type="checkbox"/> No consistent friends or companions <input type="checkbox"/> Pro-social friends <input type="checkbox"/> Anti-social friends <input type="checkbox"/> Gang member/associate	
4. History of court-ordered or DCF voluntary out-of-home and shelter care placements exceeding 30 days: Exclude DJJ residential commitments.	<input type="radio"/> No out-of-home placements exceeding 30 days <input type="radio"/> 1 out-of-home placement <input type="radio"/> 2 out-of-home placements <input type="radio"/> 3 or more out-of-home placements	
5. History of running away or getting kicked out of home: Include times the youth did not voluntarily return within 24 hours, and include incidents not reported by or to law enforcement	<input type="radio"/> No history of running away/being kicked out <input type="radio"/> 1 instance of running away/kicked out <input type="radio"/> 2 to 3 instances of running away/kicked out <input type="radio"/> 4 to 5 instances of running away/kicked out <input type="radio"/> Over 5 instances of running away/kicked out	
6a. History of jail/imprisonment of persons who were ever involved in the household for at least 3 months: (Check all that apply.)	<input type="checkbox"/> No jail/imprisonment history in family <input type="checkbox"/> Mother/female caretaker <input type="checkbox"/> Father/male caretaker <input type="checkbox"/> Older sibling <input type="checkbox"/> Younger sibling <input type="checkbox"/> Other member	
6b. History of jail/imprisonment of persons who are currently involved with the household: (Check all that apply.)	<input type="checkbox"/> No jail/imprisonment history in family <input type="checkbox"/> Mother/female caretaker <input type="checkbox"/> Father/male caretaker <input type="checkbox"/> Older sibling <input type="checkbox"/> Younger sibling <input type="checkbox"/> Other member	
6c. Problem history of parents who are currently involved with the household: (Check all that apply.)	<input type="checkbox"/> No problem history of parents in household <input type="checkbox"/> Parental alcohol problem history <input type="checkbox"/> Parental drug problem history <input type="checkbox"/> Parental physical health problem history <input type="checkbox"/> Parental mental health problem history <input type="checkbox"/> Parental employment problem history	

7. Current parental authority and control:	<input type="radio"/> Youth usually obeys and follows rules <input type="radio"/> Sometimes obeys or obeys some rules <input type="radio"/> Consistently disobeys, and/or is hostile
8a. Youth's history of alcohol use: <i>(Check all that apply.)</i>	<input type="checkbox"/> No past use of alcohol <input type="checkbox"/> Past use of alcohol <input type="checkbox"/> Alcohol caused family conflict <input type="checkbox"/> Alcohol disrupted education <input type="checkbox"/> Alcohol caused health problems <input type="checkbox"/> Alcohol interfered with keeping pro-social friends <input type="checkbox"/> Alcohol contributed to criminal behavior <input type="checkbox"/> Youth needed increasing amounts of alcohol to achieve same level of intoxication or high <input type="checkbox"/> Youth experienced withdrawal problems
8b. Youth's history of drug use: <i>(Check all that apply.)</i>	<input type="checkbox"/> No past drug use <input type="checkbox"/> Past use of drugs <input type="checkbox"/> Drugs caused family conflict <input type="checkbox"/> Drugs disrupted education <input type="checkbox"/> Drugs caused health problems <input type="checkbox"/> Drugs interfered with keeping pro-social friends <input type="checkbox"/> Drugs contributed to criminal behavior <input type="checkbox"/> Youth needed increasing amounts of drugs to achieve same level of intoxication or high <input type="checkbox"/> Youth experienced withdrawal problems
8c. Youth's current alcohol use: <i>(Check all that apply.)</i>	<input type="checkbox"/> Not currently using alcohol <input type="checkbox"/> Currently using alcohol <input type="checkbox"/> Alcohol disrupts education <input type="checkbox"/> Alcohol causes family conflict <input type="checkbox"/> Alcohol interferes with keeping pro-social friends <input type="checkbox"/> Alcohol causes health problems <input type="checkbox"/> Alcohol contributes to criminal behavior <input type="checkbox"/> Youth needs increasing amounts of alcohol to achieve same level of intoxication or high <input type="checkbox"/> Youth experiences withdrawal problems
8d. Youth's current drug use: <i>(Check all that apply.)</i>	<input type="checkbox"/> Not currently using drugs <input type="checkbox"/> Currently using drugs <input type="checkbox"/> Drugs disrupts education <input type="checkbox"/> Drugs causes family conflict <input type="checkbox"/> Drugs interferes with keeping pro-social friends <input type="checkbox"/> Drugs causes health problems <input type="checkbox"/> Drugs contributes to criminal behavior <input type="checkbox"/> Youth needs increasing amounts of drugs to achieve same level of intoxication or high <input type="checkbox"/> Youth experiences withdrawal problems
<i>For abuse and neglect, include any history that is suspected, whether or not reported or substantiated; exclude reports of abuse or neglect proven to be false.</i>	
9a. History of violence/physical abuse: Include suspected incidents of abuse if disclosed by youth, whether or not reported or substantiated, but exclude reports investigated but proven to be false. <i>(Check all that apply.)</i>	<input type="checkbox"/> Not a victim of violence/physical abuse <input type="checkbox"/> Victim of violence/physical abuse at home <input type="checkbox"/> Victim of violence/physical abuse in a foster/group home <input type="checkbox"/> Victimized by family member <input type="checkbox"/> Victimized by someone outside the family <input type="checkbox"/> Attacked with a weapon

<p>9b History of witnessing violence: (<i>Check all that apply</i>) Include perpetrators and victims of violence as having witnessed violence.</p>	<p><input type="checkbox"/> Has not witnessed violence <input type="checkbox"/> Has witnessed violence at home <input type="checkbox"/> Has witnessed violence in a foster/group home <input type="checkbox"/> Has witnessed violence in the community <input type="checkbox"/> Family member killed as result of violence</p>
<p>9c History of sexual abuse/rape: Include suspected incidents of abuse if disclosed by youth, whether or not reported or substantiated, but exclude reports investigated but proven to be false. (<i>Check all that apply.</i>)</p>	<p><input type="checkbox"/> Not a victim of sexual abuse/rape <input type="checkbox"/> Sexually abused/raped by family member <input type="checkbox"/> Sexually abused/raped by someone outside the family</p>
<p>10. History of being a victim of neglect: Include suspected incidents of neglect, whether or not reported or substantiated, but exclude reports investigated but proven to be false.</p>	<p><input type="radio"/> Not victim of neglect <input type="radio"/> Victim of neglect</p>
<p>11. History of mental health problems: Such as schizophrenia, bi-polar, mood, thought, personality, and adjustment disorders. Exclude substance abuse and special education since those issues are considered elsewhere. Confirm by a professional in the social service/healthcare field.</p>	<p><input type="radio"/> No history of mental health problem(s) <input type="radio"/> Past history of mental health problem(s) diagnosis (more than six months ago) <input type="radio"/> Diagnosed with mental health problem(s) <input type="radio"/> Only mental health medication prescribed. If yes, list _____ <input type="radio"/> Only mental health treatment prescribed <input type="radio"/> Mental health medication and treatment prescribed</p>

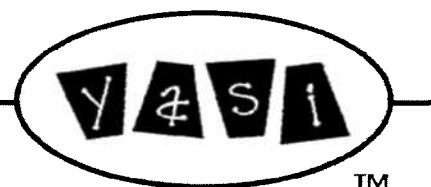
DOMAIN 3: Mental Health	
1. History of suicidal ideation: Include any previous thoughts, threats, plans and attempts even if youth indicates they were manipulative or there was no intent. (Check all that apply)	<input type="checkbox"/> Has never had serious thoughts about suicide <input type="checkbox"/> Has had serious thoughts about suicide <input type="checkbox"/> Has made a plan to commit suicide. If yes, describe _____ <input type="checkbox"/> Has attempted to commit suicide. If yes, describe attempt(s) and date(s) _____ <input type="checkbox"/> Feels life is not worth living – no hope for future. <input type="checkbox"/> Knows someone well who has committed suicide. If yes, who, when and how _____ <input type="checkbox"/> Engages in self-mutilating behavior _____
2. History of Anger or Irritability:	<input type="radio"/> No history of anger/irritability <input type="radio"/> History of occasional feelings of anger/irritability <input type="radio"/> History of consistent feelings of anger/irritability <input type="radio"/> History of aggressive reactions to feelings of anger/irritability.
3. History of Depression or Anxiety	<input type="radio"/> No history of depression/anxiety <input type="radio"/> History of occasional feelings of depression/anxiety <input type="radio"/> History of consistent feelings of depression/anxiety <input type="radio"/> History of impairment in every day tasks due to depression/anxiety
4. History of Somatic Complaints: Bodily or physical discomforts associated with distress, such as stomachaches or headaches	<input type="radio"/> No history of somatic complaints <input type="radio"/> History of one or two somatic complaints <input type="radio"/> History of three or four somatic complaints <input type="radio"/> History of 5 or more somatic complaints
5. History of Thought Disturbance	<input type="radio"/> No unusual thoughts or beliefs <input type="radio"/> Presence of hallucinations (auditory or visual) <input type="radio"/> Presence of beliefs that the youth is controlled by others or others control the youth.
6. History of Traumatic Experience: Lifetime exposure to events such as rape, abuse or observed violence, including dreams or flashbacks	<input type="radio"/> No presence of traumatic event <input type="radio"/> Presence of traumatic event <input type="radio"/> Flashbacks to traumatic event

DOMAIN 4: Attitude/Behavior Indicators	
1. Attitude toward responsible law abiding behavior:	<input type="radio"/> Abides by conventions/values <input type="radio"/> Believes conventions/values sometimes apply to him or her <input type="radio"/> Does not believe conventions/values apply to him or her <input type="radio"/> Resents or is hostile toward responsible behavior
2. Accepts responsibility for anti-social behavior:	<input type="radio"/> Accepts responsibility for anti-social behavior <input type="radio"/> Minimizes, denies, justifies, excuses, or blames others <input type="radio"/> Accepts anti-social behavior as okay <input type="radio"/> Proud of anti-social behavior
3. Belief in yelling and verbal aggression to resolve a disagreement or conflict:	<input type="radio"/> Believes verbal aggression is rarely appropriate <input type="radio"/> Believes verbal aggression is sometimes appropriate <input type="radio"/> Believes verbal aggression is often appropriate
4. Belief in fighting and physical aggression to resolve a disagreement or conflict:	<input type="radio"/> Believes physical aggression is never appropriate <input type="radio"/> Believes physical aggression is rarely appropriate <input type="radio"/> Believes physical aggression is sometimes appropriate <input type="radio"/> Believes physical aggression is often appropriate

YASI Full Assessment

Full Assessment

Youth Assessment & Screening Instrument



Name: Last First JTS # Date Administered MM/DD/YYYY

DOB MM/DD/YYYY ☐ Male ☐ Female CSU Officer

Type: ☐ Probation ☐ Direct Care ☐ Referred to Court ☐ Diversion With ☐ Diversion Without
☐ Parole ☐ /Commitment (outcome pending) informal Supervision Informal Supervision

Section 1 Legal History

▶ Enter "0" in the boxes if there were no occurrences of the identified incidents. These items must include information about the current referral/offense or current circumstances.

- ☐ No
☐ Yes
- Previous intake contacts for delinquent/criminal offenses:** Check No if this is the first intake contact. Check Yes if there were any previous intake contacts that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless of whether successfully completed).
 - Age at first intake contact for delinquent/criminal offense:** Include any intake contacts for delinquent/criminal offenses that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless of whether successfully completed).
 - Number of intake contacts:** Total number of intake contacts for any delinquent/criminal offense that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless of whether successfully completed).
 - Intake contacts for felony offenses:** Intake contacts for felony offenses that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless of whether successfully completed).
 - Weapon offenses:** Total number of intake contacts for firearm/weapon offenses that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless of whether successfully completed).
 - Intake contacts for offenses against another person:** Total number of intake contacts for offenses against another person that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless of whether successfully completed). Includes threats, force, or physical harm to another person such as homicide, murder, manslaughter, assault, any sexual offenses, robbery, kidnapping, domestic violence, coercion, harassment, intimidation, obscene, or harassing phone call, etc.
 - Intake contacts for felony offenses against another person:** Intake contacts for felony offenses against another person that resulted in adjudication/conviction, diversion, deferred adjudication, or deferred disposition (regardless whether successfully completed).
 - Placements:** Total number of non-secure out-of-home placements including group homes and residential treatment (excluding DSS/foster care and therapeutic foster placements).
 - Juvenile Detention:** Total number of times youth has been confined in a juvenile detention center *for any reason*.
 - DJJ Custody:** Total number of times youth has been committed to a DJJ facility.
 - Escapes:** Total number of attempted or actual escapes from secure detention or a DJJ facility.
 - Failure-to-appear in court:** Total number of failures-to-appear in court that resulted in a warrant being issued.
 - Number of Petitions for Violations of Probation, Parole or Failure on Diversion:** Total number of petitions for violations of probation or parole or failure to complete diversion. If any, check all types that apply.
☐ Technical Violation ☐ New Offense ☐ Absconder

Section 2 Family

Check if family items do not apply to this client : ☐

1. **Runaways or times kicked out of home:** Include times the youth did not voluntarily return within 24 hours. Include incidents not reported by or to law enforcement. *Enter 0 if none, up to a maximum of 5.*

	Times kicked out/locked out
	Number of runaways

2. **Has there ever been a court finding and/or founded DSS complaint of child neglect** (relating to a custodial parent): ☐ No ☐ Yes

3. **Compliance with parental rules:**

- ☐ Not Applicable
☐ Youth usually obeys and follows rules
☐ Youth sometimes obeys or obeys some rules
☐ Youth often disobeys rules
☐ Youth consistently disobeys, and/or is hostile
☐ No pro-social rules in place

4. **Circumstances of family members who are living in the household:**
• Check all that apply.

	Mother	Father	Step-Parent	Sibling	Other
Non-applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol/Drug Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental Health Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delinquent/Criminal Record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delinquent /Violent Criminal Record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. **Historic problems of family members who lived in the environment in which the youth was primarily raised:**
• Check all that apply.

	Mother	Father	Step-Parent	Sibling	Other
Non-applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol/Drug Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental Health Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delinquent /Criminal Record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delinquent /Violent Criminal Record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. **Youth's current living arrangements:** *• Check all that apply.*

- | | | |
|----------------------------------------------------------|------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Mother (biological or adoptive) | <input type="checkbox"/> Siblings | <input type="checkbox"/> Foster/group home |
| <input type="checkbox"/> Father (biological or adoptive) | <input type="checkbox"/> Other relatives | <input type="checkbox"/> Independent |
| <input type="checkbox"/> Stepparent | <input type="checkbox"/> Other adult | <input type="checkbox"/> No permanent address/shelter |
| | | <input type="checkbox"/> Other _____ |

7. **Parental/custodial supervision:** Parents know whom youth is with, when youth will return, where youth is going, and what youth is doing.

- ☐ Not Applicable
☐ Good supervision
☐ Some good supervision
☐ Some inadequate supervision
☐ Consistently inadequate supervision

8. **Appropriate consequences for bad behavior: Appropriate means clear communication, timely response, and response proportionate to conduct.**
 - ☐ Not Applicable
 - ☐ Consistently appropriate consequences
 - ☐ Sometimes appropriate consequences
 - ☐ Usually not appropriate consequences
 - ☐ Never appropriate or no consequences
9. **Appropriate rewards for good behavior. Rewards include affection, praise, or other tangible means.**
 - ☐ Not Applicable
 - ☐ Consistently appropriate rewards
 - ☐ Sometimes appropriate rewards
 - ☐ Usually not appropriate rewards
 - ☐ Never appropriate or no rewards
10. **Parental attitude toward youth's maladaptive behavior:**
 - ☐ Not Applicable
 - ☐ Clearly disapproves of youth's maladaptive behavior
 - ☐ Minimizes, denies, justifies, excuses maladaptive behavior, blames others/circumstances
 - ☐ Accepts youth's maladaptive behavior as okay
 - ☐ Proud of youth's maladaptive behavior
11. **Support network for family; extended family and friends who can provide additional support:**
 - ☐ Not Applicable
 - ☐ Strong family support network
 - ☐ Some family support network
 - ☐ No family support network
12. **Family member(s) youth feels close to or has good relationship with:**
 - ☐ Mother/female caretaker
 - ☐ Father/male caretaker
 - ☐ Female sibling
 - ☐ Male sibling
 - ☐ Extended family
 - ☐ No one

• *Check all that apply.*
13. **Family provides opportunities for youth to participate in family activities and decisions affecting the youth:**
 - ☐ Not Applicable
 - ☐ Ongoing opportunities for involvement provided
 - ☐ Some opportunities for involvement provided
 - ☐ No opportunities for involvement provided
14. **Family provides opportunity for youth to learn, grow and succeed:**
 - ☐ Not Applicable
 - ☐ Ongoing opportunities for growth provided
 - ☐ Some opportunities for growth provided
 - ☐ No opportunities for growth provided
15. **Parental love, caring, and support of youth:**
 - ☐ Not Applicable
 - ☐ Consistent love, caring, and support
 - ☐ Inconsistent love, caring, and support
 - ☐ Indifferent, uncaring, uninterested, unwilling to help
 - ☐ Hostile toward youth, berated and belittled
16. **Level of conflict between parents, between youth and parents, and among siblings:**
 - ☐ Not Applicable
 - ☐ No Conflict
 - ☐ Some conflict that is well managed
 - ☐ Some conflict that is distressing
 - ☐ Verbal intimidation, yelling, heated arguments
 - ☐ Threats of physical violence
 - ☐ Physical violence between parents
 - ☐ Physical violence between parents and children
 - ☐ Physical violence between siblings

• *Check all that apply.*

Section 3 School

Check if School items do not apply to this client : ☐



Complete this section based on information from the interview, school records, contacts with the school.

1. Youth's current school enrollment status, regardless of attendance: If the youth is in home school as a result of being expelled or dropping out, check the expelled or dropped out box, otherwise check enrolled if in home school.

<input type="radio"/> Not Applicable	<input type="radio"/> Dropped out
<input type="radio"/> Graduated, GED	<input type="radio"/> Suspended
<input type="radio"/> Enrolled full-time	<input type="radio"/> Expelled
<input type="radio"/> Enrolled part-time	
2. Youth's attendance in the last 3 months of school: Full-day absence means missing majority of classes. Partial-day absence means attending the majority of classes and missing the minority.

<input type="radio"/> Not Applicable	
<input type="radio"/> Attends regularly (at least 90% of time)	
<input type="radio"/> Some partial-day unexcused absences	
<input type="radio"/> Some full-day unexcused absences	
<input type="radio"/> Five or more full-day unexcused absences per quarter	
3. Youth's conduct in the last 3 months of school.

<input type="radio"/> Not Applicable	<input type="radio"/> Intervention by school administration (calls to parents, principal or superintendent involvement, hearing)
<input type="radio"/> Positive behavioral adjustment	
<input type="radio"/> No problems reported	<input type="radio"/> Police reports filed by school
<input type="radio"/> Infractions reported	
4. Youth's academic performance in the last 3 months of school:

<input type="radio"/> Not Applicable	<input type="radio"/> C- or lower
<input type="radio"/> B+ or above	<input type="radio"/> Failing some classes
<input type="radio"/> C or better	<input type="radio"/> Failing most classes
5. Youth's current school conduct:

<input type="radio"/> Not Applicable	<input type="radio"/> Improving
<input type="radio"/> Consistent, stable	<input type="radio"/> Worsening
6. Youth's current academic performance:

<input type="radio"/> Not Applicable	<input type="radio"/> Improving
<input type="radio"/> Consistent, stable	<input type="radio"/> Worsening
7. IF youth is a special education student or has been found to have a learning, behavioral, or other disability; or has a formal IEP: • Check all that apply

<input type="checkbox"/> No Special Education Status	<input type="checkbox"/> Mental Retardation
<input type="checkbox"/> Learning	<input type="checkbox"/> (ADHD / ADD)
<input type="checkbox"/> Behavioral	<input type="checkbox"/> Other: _____
8. Youth believes receiving an education is beneficial to him or her:

<input type="radio"/> Not Applicable	<input type="radio"/> Somewhat believes
<input type="radio"/> Believes	<input type="radio"/> Does not believe
9. Youth believes school provides a supportive and encouraging environment for him or her:

<input type="radio"/> Not Applicable	<input type="radio"/> Somewhat believes
<input type="radio"/> Believes	<input type="radio"/> Does not believe
10. Total number of out of school suspensions in the last 2 years:
 Enter the number up to 10, if none enter 0.
 Total number of in-school suspensions in the last 2 years:
 Enter the number up to 10, if none enter 0.
 Total number of expulsions since the first grade: Enter the number up to 10; if none enter 0

	Number of out-of-school suspensions
	Number of in-school suspensions
	Number of expulsions
	Age at first expulsion
11. Age at first expulsion: Enter 0 if never expelled.

12. Youth's involvement in school activities during most recent school year: School leadership; social service clubs; music, dance; drama, art; athletics; other extracurricular activities.

- ☐ Not Applicable
☐ Involved in two or more activities
☐ Involved in one activity
☐ Interested but not involved in any activities
☐ No interest in school activities

13. Teachers/staff/coaches youth likes or feels comfortable talking with: Enter the number of adults; if none enter 0.

Names:

Number of teachers/staff/coaches

Section 4 Community and Peers

1. Associates the youth spends his/her time with:

• Check all that apply.

- ☐ Friends who have a positive pro-social influence
☐ No friends or companions, no consistent friends
☐ Friends who have a negative delinquent influence
☐ Associates or has been seen with gang members
☐ Family gang members
☐ Youth is a gang member
☐ None of the above

2. Attachment to positively influencing peer(s):

• Check all that apply.

- ☐ Youth maintains contact with peers who are responsible and goal-focused
☐ Youth admires or emulates older adolescents in school and/or work
☐ Youth has a best friend who is supportive and a positive influence
☐ None of the above

3. Admiration/emulation of high risk delinquent peers:

• Check all that apply.

- ☐ Youth does not admire, emulate delinquent peers
☐ Youth minimally admires, emulates delinquent peers
☐ Youth admires, emulates delinquent peers
☐ Youth is a delinquent leader who is admired or emulated by others

4. Number of months youth has been associating with negatively influencing/delinquent friends/gang: Enter 0 if no delinquent friends/gangs.

Months has associated with delinquent friends

Months has associated with gang

5. Amount of free time youth spends with negatively influencing/delinquent peers:

- ☐ No delinquent peers
☐ Spends one or two hours of free time per week with delinquent peers
☐ Spends three to seven hours of free time per week with delinquent peers
☐ Spends eight to 14 hours of free time per week with delinquent peers
☐ Spends all or nearly all of free time with delinquent peers

6. Strength of negatively influencing/delinquent peer influence:

• Check all that apply.

- ☐ No delinquent peers
☐ Does not go along with delinquent peers
☐ Sometimes goes along with delinquent peers
☐ Usually goes along with delinquent peers
☐ Leads delinquent peers

7. Number of existing positive adult relationships in the community: Adults who provide support and model pro-social behavior, such as a religious leader, club member, community person, mentor, previous employer or any other non-family adult(s). Enter number of adults up to 5, if none enter 0. Exclude school-based relationships.

Number of existing adult relationship(s) in the community

8. Pro-social community ties: Youth is involved in community organizations that provide explicit opportunities for learning pro-social behavior and attitudes (e.g., church, community service clubs, volunteer activities).

- ☐ Highly Involved
☐ Involved
☐ Not Involved

Section 5 Alcohol and Drugs



"Disrupts function" involves problems in any one of these four life areas: education, family conflict, peer relationships, or health (Disrupted functioning usually indicates that treatment is warranted – refer for further assessment by a qualified professional).
Alcohol/Drugs contributes to behavior means that use typically precipitates the commission of crime or other reasons youth's delinquent/criminal activity is related to alcohol and/or drug use).

1. Alcohol and Drug Use	Ever Used	Times used last 3 months	Disrupts function	Contributes to behavior	Age at 1 st use	Attempts to cut back
<input type="checkbox"/> Yes Alcohol/Drug Use						
<input type="checkbox"/> No Alcohol/Drug Use						
Alcohol	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Marijuana	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Cocaine/crack	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Ecstasy or other club drugs	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Heroin	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Hallucinogens (LSD, Acid)	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Inhalants /huffing	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Amphetamines (Speed)	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Prescription drug misuse	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
2. Youth is receptive to participation in alcohol/drug treatment:		<input type="radio"/> N/A No problem	<input type="radio"/> Receptive	<input type="radio"/> Not Receptive		
3. Previous alcohol/drug treatment:		<input type="radio"/> N/A No problem	<input type="radio"/> Yes	<input type="radio"/> No		

Section 6 Mental Health



Any indications of the following 7 items indicate the need for further assessment by a qualified health professional. Indicators in item 1 should be confirmed by a health care professional.

1. Mental Health Problems:

☐ No Mental Health Problems

☐ Mental Health Problems

Bi-Polar

Other Mood/Affective/Depression Disorders

Schizophrenia

Other Psychoses

Thought/Personality and Adjustment Disorders

Other: _____

(Exclude substance abuse and special education since those are considered elsewhere. Exclude oppositional defiant and conduct disorders).

Diagnosed

Current
Treatment

Past
Treatment

Current
Medication

Past
Medication

☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐

2. **Homicidal Ideation:** Attempts or has thoughts to seriously harm others.

☐ No indications

☐ Indications

3. **Suicidal Ideation:** Attempts or has thoughts to harm self.

☐ No indications

☐ Suicidal thoughts

☐ Suicide attempt

4. **Sexual aggression:** Indications of aggressive sex, sex for power, sex with younger children, voyeurism, exposure, etc.

☐ No indications

☐ Indications



For abuse, include any history that is suspected, whether or not substantiated but exclude reports of abuse proven false.

5. **History of physical or sexual abuse:** Parents include biological parents, stepparents, adopted parents, and legal guardians.

• Check all that apply.

Abused By:

Parent

Sibling

Other
Family

Outside
Family

None

☐
☐
☐
☐

Physical Abuse

☐
☐
☐
☐

Sexual Abuse

☐
☐
☐
☐

6. **Victimization:** Indications that the youth has been victimized by a peer or older person.

• Check all that apply.

☐ No indications

☐ Sexual vulnerability/exploitation

☐ Victim of bullying

☐ Victim of physical assault

☐ Victim of property theft/vandalization

Section 7 Aggression

1. **Violence:** Indications of any of the following:

• *Check all that apply.*

- ☐ No reports of violence
- ☐ Displaying a weapon
- ☐ Use of a weapon (i.e., illegally)
- ☐ Bullying/threatening people
- ☐ Violent destruction of property
- ☐ Assaultive behavior
- ☐ Assault causing serious injury
- ☐ Deliberate fire starting
- ☐ Animal cruelty

2. **Hostile interpretation of actions and intentions of others in a common non-confrontational setting:**

- ☐ Can easily tolerate criticism or hostility directed by others
- ☐ Shows constraint in dealing with conflict from others
- ☐ Recognizes that most people do not have mal intentions
- ☐ Frequently attributes hostile intentions to non-confrontational behavior
- ☐ Attributes almost all neutral actions of people as hostile and antagonistic

3. **Tolerance for frustration:**

- ☐ Never gets upset over small things or has tantrums
- ☐ Rarely gets upset over small things or has tantrums
- ☐ Sometimes gets upset over small things
- ☐ Frequently gets upset over small things or has tantrums
- ☐ Highly volatile with reputation for fits of anger and rage

4. **Belief in use of physical aggression to resolve a disagreement or conflict:**
(e.g., fighting and physical intimidation)

- ☐ Believes violence is rarely appropriate or necessary
- ☐ Believes violence is sometimes appropriate or necessary
- ☐ Believes violence is often appropriate or necessary

5. **Belief in use of verbal aggression to resolve a disagreement or conflict:**
(e.g., yelling and verbal intimidation)

- ☐ Believes verbal aggression is rarely appropriate or necessary
- ☐ Believes verbal aggression is sometimes appropriate or necessary
- ☐ Believes verbal aggression is often appropriate or necessary

Section 8 Attitudes

1. **Accepts responsibility for delinquent/criminal behavior:**

- ☐ Voluntarily accepts full responsibility for behavior
- ☐ Recognizes that he or she must accept responsibility
- ☐ Indicates some awareness of the need to accept responsibility
- ☐ Minimizes, denies, justifies, excuses or blames others
- ☐ Openly accepts or is proud of behavior as OK

2. **Understands the impact of his or her behavior on others:**

- ☐ Fully understands the nature of harm caused to others
- ☐ Indicates awareness that harm has been caused
- ☐ Does not understand or fully appreciate effects on others
- ☐ Minimizes or denies harm caused
- ☐ Total lack of empathy for harm caused to others (e.g., callous)

3. **Willingness to make amends:**

- ☐ Eagerly indicates plans for making amends
- ☐ Indicates a desire to make amends
- ☐ Willing to cooperate with making amends
- ☐ Non-committal toward making amends
- ☐ Unwilling to make amends

4. **Optimism:**

- ☐ Is very confident that the future will be bright
- ☐ Looks forward to the future with anticipation
- ☐ Believes some things matter and he or she has a future
- ☐ Believes little matters because he or she has no future
- ☐ Believes nothing matters; fatalistic

5. **Attitude when engaged in delinquent/criminal act(s):**
 - ☐ Nervous, afraid, or worried
 - ☐ Uncertain, or indecisive
 - ☐ Unconcerned or indifferent
 - ☐ Hyper, excited, or stimulated
 - ☐ Confident, or brags
6. **Law-abiding attitudes:**
 - ☐ Clearly positive commitment toward law-abiding behavior
 - ☐ Expresses a desire to live in a law-abiding manner
 - ☐ Expresses neutral attitude toward law-abiding behavior
 - ☐ Feels law-abiding behavior does not apply to him or her
 - ☐ Openly admits unwillingness to demonstrate law-abiding behavior
7. **Respect for authority figures:**
 - ☐ Indicates respect for the role of authorities
 - ☐ Appreciates the role of authorities
 - ☐ Expresses neutral attitude toward authorities
 - ☐ Expresses resentment toward authorities
 - ☐ Views all authorities with contempt
8. **Readiness for change:** Is the youth willing to address issues that contribute to problem behavior?
 - ☐ Actively committed to working on change
 - ☐ Shows co-operation in taking steps toward positive behavioral change
 - ☐ Believes there may be a need to change
 - ☐ Exhibits only passive or no support for change
 - ☐ Hostile or unwilling to make positive behavioral change

Section 9 Skills

1. **Consequential thinking skills:**
 - ☐ Acts to obtain good and avoid bad consequences
 - ☐ Can identify specific consequences of his/her actions
 - ☐ Understands there are good and bad consequences of actions
 - ☐ Sometimes confused about consequences of action
 - ☐ Does not understand there are consequences of actions
2. **Social perspective-taking skills:**
 - ☐ Can accept other points of view without necessarily agreeing
 - ☐ Tries to understand other points of view
 - ☐ Can reason there are two sides to a situation
 - ☐ Difficulty understanding there are other points of view
 - ☐ Unwilling to recognize there can be other points of view
3. **Problem-solving skills:**
 - ☐ Can apply appropriate solutions to problems
 - ☐ Can generate different solutions to problems
 - ☐ Can identify or describe problem behaviors or situations
 - ☐ Can sometimes identify problem behaviors or situations
 - ☐ Cannot identify when problem behaviors or situations occur
4. **Impulse-control skills to avoid getting in trouble:** Self-control techniques include reframing, replacing delinquent/criminal thoughts with pro-social thoughts, diversion, relaxation, problem solving, negotiation, relapse prevention.
 - ☐ Uses self-control techniques to avoid trouble
 - ☐ Knows some self-control techniques to respond to triggers
 - ☐ Can identify triggers (e.g., persons, events, situations, thoughts, emotions, physical cues)
 - ☐ Usually fails to identify triggers
 - ☐ Cannot identify triggers that cause problem behaviors
5. **Loss of control over delinquent/criminal behavior:**
 - ☐ Recognizes problem behavior is controllable and accepts full responsibility
 - ☐ Strives for some control over own behavior
 - ☐ Recognizes that some problem behavior is controllable
 - ☐ Believes that most problem behavior cannot be controlled
 - ☐ Believes problem behavior is completely out of his or her control

6. Interpersonal skills:

- ☐ Demonstrates social appeal through positive interpersonal skills
- ☐ Can appropriately express needs and feelings in an assertive, non-confrontational way
- ☐ Recognizes the need to nurture positive interpersonal relations with others
- ☐ Has some difficulty in expressing needs and feelings effectively
- ☐ Cannot express needs to others without an element of inter-personal conflict or lack of clarity

7. Goal-setting skills:

- ☐ Carefully sets out realistic goals and plans and takes active steps to achieve them
- ☐ Demonstrates skills in developing realistic goals and plans
- ☐ Recognizes the need to plan, but may set unrealistic plans
- ☐ Lacks skills and motivation for developing realistic goals and plans
- ☐ Exhibits no interest or desire to set goals and make plans for the future

Section 10 Employment and Free Time

1. History of employment:

(Exclude odd jobs or babysitting unless a regular paid job)

• Check all that apply.

- ☐ Currently employed
- ☐ Never employed
- ☐ Prior successful employment

- ☐ Was fired or quit because of poor performance
- ☐ Was fired or quit because he or she could not get along with employer or coworkers



Complete following section only if the youth has ever been employed. Enter 0 for items 2-4 if the items are non-applicable.

2. Total number of times youth has been employed:

Number of times

3. Number of weeks of longest period of employment:

Number of weeks

4. Positive personal relationship(s) with current employer(s) or adult coworker(s):

Number of adults

5. Structured recreational activities: Youth participates in structured and supervised pro-social community activities such as religious group/church, community group, cultural group, club, athletics, or other community activity (Exclude activities already counted in the School section).

- ☐ Involved in two or more activities
- ☐ Involved in one activity
- ☐ Interested but not involved
- ☐ Not interested in any activities

6. Unstructured recreational activities: Youth engages in positively influencing activities – may include reading, artwork, music, computers, hobbies, etc.

- ☐ Involved in two or more activities
- ☐ Involved in one activity
- ☐ Interested but not involved
- ☐ Not interested in any activities

7. Challenging/exciting hobbies/activities: Youth identifies a hobby or activity that is or could be especially challenging, intense, or exciting.

- ☐ Identifies hobby(s) or activity (s) that are currently challenging/exciting
- ☐ Can identify hobby(s) or activity (s) that would be challenging/exciting
- ☐ Cannot identify hobby(s) or activity (s) that would be challenging/exciting

8. Decline in interest in positive leisure pursuits: Decline in interest during the past year due to involvement in negatively influencing activities (e.g., substance abuse, gang involvement, delinquent peer groups, illegal activity):

- ☐ No change, or never experienced positive leisure pursuits
- ☐ Decline in interest in positive leisure pursuits
- ☐ Recent increase in interest in positive leisure pursuits

YLS/CMI

YLS/CMI

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Name of Assessed: _____

Gender: M F Age: _____

Date of Birth: ____/____/____
mm dd yy

Today's Date: ____/____/____
mm dd yy

Part I: Assessment of Risks and Needs

YLS/CMI is a quantitative screening survey of attributes of juvenile offenders and their situations relevant to decisions regarding level of service, supervision, and programming. Within each subscale, use an "X" to mark all items that apply to the juvenile being assessed. If the subscale is considered to be an area of strength for the juvenile, indicate with a checkmark ✓ in the "Strength" box. The items are explained in Appendix A of the User's Manual.

1. Prior and Current Offenses/Dispositions:

- a. Three or more prior convictions ☐
- b. Two or more failures to comply ☐
- c. Prior probation ☐
- d. Prior custody ☐
- e. Three or more current convictions ☐

Comments:

Source(s) of information:

2. Family Circumstances/Parenting:

- a. Inadequate supervision ☐
- b. Difficulty in controlling behavior ☐
- c. Inappropriate discipline ☐
- d. Inconsistent parenting ☐
- e. Poor relations (father - youth) ☐
- f. Poor relations (mother - youth) ☐

Strength ☐

Comments:

Source(s) of information:

3. Education/Employment:

- a. Disruptive classroom behavior ☐
- b. Disruptive behavior on school property ☐
- c. Low achievement ☐
- d. Problems with peers ☐
- e. Problems with teachers ☐
- f. Truancy ☐
- g. Unemployed/not seeking employment ☐

Strength ☐

Comments:

Source(s) of information:

4. Peer Relations:

- a. Some delinquent acquaintances ☐
- b. Some delinquent friends ☐
- c. No/few positive acquaintances ☐
- d. No/few positive friends ☐

Strength ☐

Comments:

Source(s) of information:



YLS/CMJ

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Within each subscale, use an "X" to mark all items that apply to the juvenile being assessed. If the subscale is considered to be an area of strength for the juvenile, indicate with a checkmark ✓ in the "Strength" box.

Part I: Assessment of Risks and Needs (Continued)

5. Substance Abuse:

- a. Occasional drug use ☐
- b. Chronic drug use ☐
- c. Chronic alcohol use ☐
- d. Substance abuse interferes with life ☐
- e. Substance use linked to offense(s) ☐

Strength ☐

6. Leisure/Recreation:

- a. Limited organized activities ☐
- b. Could make better use of time ☐
- c. No personal interests ☐

Strength ☐

7. Personality/Behavior:

- a. Inflated self-esteem ☐
- b. Physically aggressive ☐
- c. Tantrums ☐
- d. Short attention span ☐
- e. Poor frustration tolerance ☐
- f. Inadequate guilt feelings ☐
- g. Verbally aggressive, impudent ☐

Strength ☐

8. Attitudes/Orientation:

- a. Antisocial/procriminal attitudes ☐
- b. Not seeking help ☐
- c. Actively rejecting help ☐
- d. Defies authority ☐
- e. Callous, little concern for others ☐

Strength ☐

Comments:

Source(s) of information:

Comments:

Source(s) of information:

Comments:

Source(s) of information:

Comments:

Source(s) of information:

YLS/CMI

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Part II: Summary of Risks and Needs

Sum the total number of items marked with an "X" within each subscale and mark the risk level for each. Then sum the number of Xs in Column A and in Column B. Use the combined total to complete the Overall Total Risk Level, at the bottom of the page. Checkmarks in the boxes labelled "S" indicate a strength. The table below can be used for a summary.

Scores	Prior and Current Offenses	Family	Education	Peers	Substance Abuse	Leisure/Recreation	Personality/Behavior	Attitudes/Orientation
Low								
Moderate								
High								
Strength								

Column A Column B

1. Prior and Current Offenses/Dispositions

Risk Level:

Low (0) ☐
 Moderate (1-2) ☐
 High (3-5) ☐

S

5. Substance Abuse

Risk Level:

Low (0) ☐
 Moderate (1-2) ☐
 High (3-5) ☐

2. Family Circumstances/Parenting

Risk Level:

Low (0-2) ☐
 Moderate (3-4) ☐
 High (5-6) ☐

S

6. Leisure/Recreation

Risk Level:

Low (0) ☐
 Moderate (1) ☐
 High (2-3) ☐

3. Education/Employment

Risk Level:

Low (0) ☐
 Moderate (1-3) ☐
 High (4-7) ☐

S

7. Personality/Behavior

Risk Level:

Low (0) ☐
 Moderate (1-4) ☐
 High (5-7) ☐

4. Peer Relations

Risk Level:

Low (0-1) ☐
 Moderate (2-3) ☐
 High (4) ☐

S

8. Attitudes/Orientation

Risk Level:

Low (0) ☐
 Moderate (1-3) ☐
 High (4-5) ☐

Overall Total Risk Level:

Sum of Column A and Column B Totals=

Low: (0-8) ☐
 High (23-34) ☐

Moderate: (9-22) ☐
 Very High (35-42) ☐

Column A
Total

Column B
Total

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Part III: Assessment of Other Needs and Special Considerations

1. Family/Parents

- | | | |
|---------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> Chronic History of Offenses | <input type="checkbox"/> Financial/Accommodation Problems | <input type="checkbox"/> Abusive Mother |
| <input type="checkbox"/> Emotional Distress/Psychiatric | <input type="checkbox"/> Uncooperative Parents | <input type="checkbox"/> Significant Family Trauma |
| <input type="checkbox"/> Drug/Alcohol Abuse | <input type="checkbox"/> Cultural/Ethnic Issues | (specify): _____ |
| <input type="checkbox"/> Marital Conflict | <input type="checkbox"/> Abusive Father | <input type="checkbox"/> Other (specify): _____ |

Comments:

2. Youth

- | | | |
|---------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|
| <input type="checkbox"/> Health Problems | <input type="checkbox"/> Peers Outside Age Range | <input type="checkbox"/> Third Party Threat |
| <input type="checkbox"/> Physical Disability | <input type="checkbox"/> Depressed | <input type="checkbox"/> History of Sexual/Physical Assault |
| <input type="checkbox"/> Low Intelligence/Developmental Delay | <input type="checkbox"/> Low Self-esteem | <input type="checkbox"/> History of Assault on Authority Figures |
| <input type="checkbox"/> Learning Disability | <input type="checkbox"/> Inappropriate Sexual Activity | <input type="checkbox"/> History of Weapons Use |
| <input type="checkbox"/> Underachievement | <input type="checkbox"/> Racist/Sexist Attitudes | <input type="checkbox"/> History of Fire Setting |
| <input type="checkbox"/> Poor Problem-Solving Skills | <input type="checkbox"/> Poor Social Skills | <input type="checkbox"/> History of Escapes |
| <input type="checkbox"/> Victim of Physical/Sexual Abuse | <input type="checkbox"/> Engages in Denial | <input type="checkbox"/> Protection Issues |
| <input type="checkbox"/> Victim of Neglect | <input type="checkbox"/> Suicide Attempts | <input type="checkbox"/> Adverse Living Conditions |
| <input type="checkbox"/> Shy/Withdrawn | <input type="checkbox"/> Diagnosis of Psychosis | <input type="checkbox"/> Other (specify): _____ |

Comments: (Note any special responsivity considerations including the need for culturally specific services)

Part IV: Your Assessment of the Juvenile's General Risk/Need Level

Taking into account all available information, provide your estimate of the risk level for this case. If your risk estimation differs from that of the inventory, please provide reasons why.

Risk Level:

- Low ☐
- Moderate ☐
- High ☐
- Very High ☐

Reasons:

YLS/CMi: Case Management

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Name of Assessed: _____	Gender: M F Age: _____
Date of Birth: ____/____/____ <small>mm dd yy</small>	Today's Date: ____/____/____ <small>mm dd yy</small>

Part V: Contact Level

- | | | |
|----------------------|--------------------------|-------|
| Administrative/Paper | <input type="checkbox"/> | <hr/> |
| Minimum Supervision | <input type="checkbox"/> | <hr/> |
| Medium Supervision | <input type="checkbox"/> | <hr/> |
| Maximum Supervision | <input type="checkbox"/> | <hr/> |

Probation Officer's Signature/Date	Supervisor's Signature/Date
------------------------------------	-----------------------------

Part VI: Case Management Plan

Goal One	Means of Achievement
Goal Two	Means of Achievement
Goal Three	Means of Achievement
Goal Four	Means of Achievement

ARKANSAS DIVISION OF YOUTH SERVICES YLS/CMI VALIDATION RESULTS

Sample Description

Arkansas Division of Youth Services provided a data set of 285 youth released from secure commitment between July 2008 and September 2009. NCCD selected youth with a completed YLS/CMI assessment.¹ Selection resulted in a final sample of 119 youth released from secure commitment between July 2008 and September 2009. Sample characteristics and outcome rates are described in Table 1.

Table 1 Arkansas Division of Youth Services YLS/CMI Validation Sample Description				
Sample Characteristic	N	%	Recommitment Within Nine Months*	
			N	%
Total Sample	119	100.0%	13	10.9%
Gender				
Female	23	19.3%	3	13.0%
Male	96	80.7%	10	10.4%
Race/Ethnicity				
African American/Black	50	42.0%	9	18.0%
American Indian	1	0.8%	0	0.0%
Hispanic	10	8.4%	2	20.0%
White	51	42.9%	2	3.9%
Other/Unknown	7	5.9%	0	0.0%
Age at commitment				
13 years	8	6.7%	1	12.5%
14 years	11	9.2%	2	18.2%
15 years	17	14.3%	3	17.6%
16 years	42	35.3%	5	11.9%

¹ A YLS/CMI risk assessment was identified for 119 youth. Of the 166 youth who had no completed YLS/CMI, 24 (14.5%) had a subsequent recommitment within nine months of release.

Table 1 Arkansas Division of Youth Services YLS/CMI Validation Sample Description				
Sample Characteristic	N	%	Recommitment Within Nine Months*	
			N	%
Total Sample	119	100.0%	13	10.9%
17 years	33	27.7%	2	6.1%
18 years and older	8	6.7%	0	0.0%
Degree of offense				
Misdemeanor	63	52.9%	6	9.5%
Felony	56	47.1%	7	12.5%
Type of offense				
Drug law	8	6.7%	0	0.0%
Person	40	33.6%	6	15.0%
Property	57	47.9%	7	12.3%
Public ordinance	12	10.1%	0	0.0%
Other	2	1.7%	0	0.0%

*Recommitment must occur within nine months after release from secure commitment.

Outcome Rates by YLS/CMI Risk Level

Table 2 shows outcome rates by YLS/CMI risk level. When an actuarial risk assessment is valid, we expect to see an increase in risk level correspond to a subsequent increase in follow-up rates for the outcome (i.e., recommitment within nine months). This pattern was not observed in the data.

Table 2 Arkansas Division of Youth Services YLS/CMI Validation Follow-Up Reccommitment Rates by Initial Risk Level				
Scored Risk Level	N	%	Recommitment Within Nine Months*	
			N	%
Low	6	5.0%	0	0.0%
Moderate	90	75.6%	13	14.4%
High	23	19.3%	0	0.0%
Very high	0	0.0%	0	NA
Total Sample	119	100.0%	13	10.9%

*Recommitment must occur within nine months after release from secure commitment.

Outcome Rates by Scored YLS/CMI Risk Level by Race/Ethnicity

Table 3				
Arkansas Division of Youth Services				
YLS/CMI Validation				
Follow-Up Recombitment by Scored Risk Level and Youth Race/Ethnicity				
Scored Risk Level	N	%	Recommitment Within Nine Months*	
			N	%
Total Sample	119	100.0%	13	10.9%
African American/Black				
Low	2	4.0%	0	0.0%
Moderate	42	84.0%	9	21.4%
High	6	12.0%	0	0.0%
Very high	0	0.0%	0	NA
Subgroup Total	50	100.0%	9	18.0%
White				
Low	3	5.9%	0	0.0%
Moderate	34	66.7%	2	5.9%
High	14	27.5%	0	0.0%
Very high	0	0.0%	0	NA
Subgroup Total	51	100.0%	2	3.9%

Note: Includes only subgroups of 50 or more.

Outcome Rates by Scored YLS/CMI Risk Level by Gender

Table 4 Arkansas Division of Youth Services YLS/CMI Validation Follow-Up Recommitment by Scored Risk Level and Youth Gender				
Scored Risk Level	N	%	Recommitment Within Nine Months*	
			N	%
Total Sample	119	100.0%	13	10.9%
Female				
Low	1	4.3%	0	0.0%
Moderate	16	69.6%	3	18.8%
High	6	26.1%	0	0.0%
Very high	0	0.0%	0	NA
Subgroup Total	23	100.0%	3	13.0%
Male				
Low	5	5.2%	0	0.0%
Moderate	74	77.1%	10	13.5%
High	17	17.7%	0	0.0%
Very high	0	0.0%	0	NA
Subgroup Total	96	100.0%	10	10.4%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test

(only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .400 for the total sample. This AUC score was not significantly different from .5. The AUC was less than .5, indicating predictive abilities were less than chance.

Table 5 Arkansas Division of Youth Services YLS/CMI Validation Area Under the Curve (AUC)					
Outcome	Total Sample	Male Sample	Female Sample	White Sample	African American/ Black Sample
Sample Size	119	96	23	51	50
Recommitment	.400	.395	.450	.270	.493

*The AUC was not significantly different from .5 for the recommitment outcome.

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of

each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level (Silver and Banks, 1998).

DIFR scores cannot be calculated when the outcome rate for one or more groups is 0%. Therefore, because the outcome rates for the low- and high-risk groups were 0.0%, DIFR scores could not be calculated for the YLS/CMI.

Table 6						
Arkansas Division of Youth Services YLS/CMI Item Analysis						
YLS/CMI Item	Sample Distribution		Recommitment Within Nine Months			
	N	%	N	%	Corr.	P-Value
Total Sample	119	100.0%	13	10.9%		
Prior and Current Offenses/Dispositions						
Three or more prior convictions					-.114	.108
Yes	25	21.0%	1	4.0%		
No	94	79.0%	12	12.8%		
Two or more failures to comply					.124	.089
Yes	81	68.1%	11	13.6%		
No	38	31.9%	2	5.3%		
Prior probation					-.039	.335
Yes	105	88.2%	11	10.5%		
No	14	11.8%	2	14.3%		
Prior custody					.122	.092
Yes	44	37.0%	7	15.9%		
No	75	63.0%	6	8.0%		
Three or more current convictions					-.055	.277
Yes	26	21.8%	2	7.7%		
No	93	78.2%	11	11.8%		
Family Circumstances/Parenting						
Inadequate supervision					.023	.401
Yes	42	35.3%	5	11.9%		
No	77	64.7%	8	10.4%		
Difficulty in controlling behavior					.002	.489
Yes	82	68.9%	9	11.0%		
No	37	31.1%	4	10.8%		

Table 6						
Arkansas Division of Youth Services YLS/CMI Item Analysis						
YLS/CMI Item	Sample Distribution		Recommitment Within Nine Months			
	N	%	N	%	Corr.	P-Value
Total Sample	119	100.0%	13	10.9%		
Inappropriate discipline					.101	.136
Yes	23	19.3%	4	17.4%		
No	96	80.7%	9	9.4%		
Inconsistent parenting					.215	.010
Yes	39	32.8%	8	20.5%		
No	80	67.2%	5	6.3%		
Poor relations (father – youth)					-.023	.401
Yes	68	57.1%	7	10.3%		
No	51	42.9%	6	11.8%		
Poor relations (mother – youth)					-.017	.426
Yes	30	25.2%	3	10.0%		
No	89	74.8%	10	11.2%		
Education/Employment						
Disruptive classroom behavior					-.078	.200
Yes	68	57.1%	6	8.8%		
No	51	42.9%	7	13.7%		
Disruptive behavior on school property					-.018	.422
Yes	58	48.7%	6	10.3%		
No	61	51.3%	7	11.5%		
Low achievement					-.174	.029
Yes	57	47.9%	3	5.3%		
No	62	52.1%	10	16.1%		
Problems with peers					-.109	.119

Table 6						
Arkansas Division of Youth Services YLS/CMI Item Analysis						
YLS/CMI Item	Sample Distribution		Recommitment Within Nine Months			
	N	%	N	%	Corr.	P-Value
Total Sample	119	100.0%	13	10.9%		
Yes	24	20.2%	1	4.2%		
No	95	79.8%	12	12.6%		
Problems with teachers					-.049	.300
Yes	35	29.4%	3	8.6%		
No	84	70.6%	10	11.9%		
Truancy					-.072	.218
Yes	58	48.7%	5	8.6%		
No	61	51.3%	8	13.1%		
Unemployed/Not seeking employment					.002	.493
Yes	9	7.6%	1	11.1%		
No	110	92.4%	12	10.9%		
Peer Relations						
Some delinquent acquaintances					-.050	.294
Yes	106	89.1%	11	10.4%		
No	13	10.9%	2	15.4%		
Some delinquent friends					-.136	.053
Yes	85	71.4%	7	8.2%		
No	34	28.6%	6	17.6%		
No/few positive acquaintances					.025	.393
Yes	69	58.0%	8	11.6%		
No	50	42.0%	5	10.0%		
No/few positive friends					.036	.350
Yes	58	48.7%	7	12.1%		

Table 6						
Arkansas Division of Youth Services YLS/CMI Item Analysis						
YLS/CMI Item	Sample Distribution		Recommitment Within Nine Months			
	N	%	N	%	Corr.	P-Value
Total Sample	119	100.0%	13	10.9%		
No	61	51.3%	6	9.8%		
Substance Abuse						
Occasional drug use					-.086	.191
Yes	51	42.9%	4	7.8%		
No	68	57.1	9	13.2%		
Chronic drug use					-.030	.373
Yes	60	50.4%	6	10.0%		
No	59	49.6%	7	11.9%		
Chronic alcohol use					-.048	.301
Yes	25	21.0%	2	8.0%		
No	94	79.0%	11	11.7%		
Substance abuse interferes with life					.006	.473
Yes	63	52.9%	7	11.1%		
No	56	47.1%	6	10.7%		
Substance use linked to offense(s)					-.025	.393
Yes	50	42.0%	5	10.0%		
No	69	58.0%	8	11.6%		
Leisure/Recreation						
Limited organized activities					-.010	.455
Yes	93	78.2%	10	10.8%		
No	26	21.8%	3	11.5%		
Could make better use of time					.052	.288
Yes	104	87.4%	12	11.5%		

Table 6						
Arkansas Division of Youth Services YLS/CMI Item Analysis						
YLS/CMI Item	Sample Distribution		Recommitment Within Nine Months			
	N	%	N	%	Corr.	P-Value
Total Sample	119	100.0%	13	10.9%		
No	15	12.6%	1	6.7%		
No personal interests					-.141	.063
Yes	30	25.2%	1	3.3%		
No	89	74.8%	12	13.5%		
Personality/Behavior						
Inflated self-esteem					.059	.263
Yes	20	16.8%	3	15.0%		
No	99	83.2%	10	10.1%		
Physically aggressive					.011	.451
Yes	53	44.5%	6	11.3%		
No	66	55.5%	7	10.6%		
Tantrums					-.185	.022
Yes	26	21.8%	0	0.0%		
No	93	78.2%	13	14.0%		
Short attention span					-.035	.351
Yes	70	58.8%	7	10.0%		
No	49	41.2%	6	12.2%		
Poor frustration tolerance					-.086	.176
Yes	78	65.5%	7	9.0%		
No	41	34.5%	6	14.6%		
Inadequate guilt feelings					-.091	.161
Yes	21	17.6%	1	4.8%		
No	98	82.4%	12	12.2%		

Table 6						
Arkansas Division of Youth Services YLS/CMI Item Analysis						
YLS/CMI Item	Sample Distribution		Recommitment Within Nine Months			
	N	%	N	%	Corr.	P-Value
Total Sample	119	100.0%	13	10.9%		
Verbally aggressive, impudent					.048	.303
Yes	47	39.5%	6	12.8%		
No	72	60.5%	7	9.7%		
Personality/Behavior						
Antisocial/pro-criminal attitudes					.004	.483
Yes	36	30.3%	4	11.1%		
No	83	69.7%	9	10.8%		
Not seeking help					-.119	.099
Yes	37	31.1%	2	5.4%		
No	82	68.9%	11	13.4%		
Actively rejecting help					-.112	.113
Yes	11	9.2%	0	0.0%		
No	108	90.8%	13	12.0%		
Defies authority					-.066	.239
Yes	66	55.5%	6	9.1%		
No	53	44.5%	7	13.2%		
Callous, little concern for others					-.100	.139
Yes	9	7.6%	0	0.0%		
No	110	92.4%	13	11.8%		

Revised Risk Assessment

NCCD conducted bivariate and multivariate analysis to identify which YLS/CMI items had the strongest statistical relationships to the recommitment outcome. Results indicated very few items with a strong enough relationship to recidivism to warrant inclusion on a validated risk assessment. In addition, the base rate for African American/Black youth was nearly six times the recidivism rate for White youth, making it extremely challenging to construct a risk assessment that works equitably across major race/ethnicity groups. Given these limitations, NCCD did not construct a validated risk assessment. Instead, we encourage Arkansas to systematically collect assessment, court, and recidivism data and conduct a risk assessment study in the next 18 months to two years.

ARIZONA AOC RISK ASSESSMENT VALIDATION RESULTS

Sample Description

The Arizona Supreme Court Administrative Office of the Courts (AZ AOC) provided data for 12,440 youth placed on probation between July 1, 2007 and June 30, 2008.² NCCD selected a sample of youth with completed risk assessment items. If a youth was placed on probation more than one time during the period, NCCD selected the first probation start for the sample. Selection resulted in a final sample of 7,589 youth. Outcomes selected include new complaint for criminal charge, excluding violations of parole (VOP); new petition filed for criminal charge, excluding VOP; and new adjudication (i.e., finding of guilt) for a criminal charge, excluding VOP. Outcomes were measured for a 12-month standardized follow-up period starting on the date of the index disposition or risk assessment date, whichever was later. Sample characteristics and outcome rates are illustrated in Table 1.

² The Arizona Risk and Needs Assessment is completed for all youth referred to juvenile court; this sample includes only youth who were subsequently placed on probation.

Table 1 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Total Sample	7,589	100.0%	2,757	36.3%	2,125	28.0%	1,816	23.9%
Gender								
Male	5,922	78.0%	2,287	38.6%	1,750	29.6%	1,486	25.1%
Female	1,667	22.0%	470	28.2%	375	22.5%	330	19.8%
Race/Ethnicity								
Hispanic	3,388	44.6%	1,276	37.7%	993	29.3%	848	25.0%
Caucasian	3,062	40.3%	1,074	35.1%	798	26.1%	687	22.4%
African American	625	8.2%	228	36.5%	199	31.8%	164	26.2%
Native American	433	5.7%	157	36.3%	118	27.3%	101	23.3%
Asian/Pacific Islander	50	0.7%	10	20.0%	5	10.0%	5	10.0%
Other/Unknown	31	0.4%	12	38.7%	12	38.7%	11	35.5%
Age at index complaint								
Under 11 years	33	0.4%	9	27.3	6	18.2%	5	15.2%
11 years	77	1.0%	21	27.3%	17	22.1%	16	20.8%
12 years	245	3.2%	96	39.2%	80	32.7%	70	28.6%
13 years	630	8.3%	236	37.5%	203	32.2%	175	27.8%
14 years	1,169	15.4%	498	42.6%	403	34.5%	357	30.5%
15 years	1,780	23.5%	765	43.0%	627	35.2%	552	31.0%
16 years	2,119	27.9%	814	38.4%	608	28.7%	513	24.2%
17 years ³	1,536	20.2%	318	20.7%	181	11.8%	128	8.3%
Index offense type (most serious)								
Felony	3,897	51.4%	1,317	33.8%	989	25.4%	853	21.9%
Misdemeanor	2,347	30.9%	884	37.7%	679	28.9%	580	24.7%
Administrative	1,027	13.5%	407	39.6%	319	31.1%	267	26.0%
Status	300	4.0%	146	48.7%	137	45.7%	115	38.3%

³ Adult data were not available for analysis; therefore, outcome rates for youth who were 17 at the time of the index complaint may be lower because outcomes could not be examined for a full 12-month period for many of these youth.

Table 1 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Total Sample	7,589	100.0%	2,757	36.3%	2,125	28.0%	1,816	23.9%
Other/Invalid	18	0.2%	3	16.7%	1	5.6%	1	5.6%
Severity of index offense (most serious)								
Felony against person	664	8.7%	214	32.2%	159	23.9%	130	19.6%
Felony against property	1,746	23.0%	604	34.6%	479	27.4%	414	23.7%
Obstruction of justice: felonies and misdemeanors	1,077	14.2%	426	39.6%	328	30.5%	274	25.4%
Misdemeanor against person	573	7.6%	229	40.0%	189	33.0%	168	29.3%
Drugs: felonies and misdemeanors	1,266	16.7%	421	33.3%	296	23.4%	263	20.8%
Public peace: felonies and misdemeanors	1,269	16.7%	475	37.4%	342	27.0%	283	22.3%
Misdemeanor against property	676	8.9%	239	35.4%	194	28.7%	168	24.9%
Status offenses	300	4.0%	146	48.7%	137	45.7%	115	38.3%
Citations/Administrative	18	0.2%	3	16.7%	1	5.6%	1	5.6%
Risk assessment version								
One	1,788	23.6%	376	21.0%	280	15.7%	240	13.4%
Two	1,430	18.8%	465	32.5%	359	25.1%	297	20.8%
Three	4,371	57.6%	1,916	43.8%	1,486	34.0%	1,279	29.3%

Current AZ AOC Risk Instrument

Outcome Rates by Current Risk Level

Table 2 shows outcome rates by current risk assessment level. Note that this risk level reflects the risk level calculated for each youth within 90 days prior to or 30 days following probation start.

Table 2 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Outcome Rates by Current Risk Level								
Current Risk Level	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Total Sample	7,589	100.0%	2,757	36.3%	2,125	28.0%	1,816	23.9%
Low	1,596	21.0%	331	20.7%	246	15.4%	203	12.7%
Medium	1,930	25.4%	633	32.8%	495	25.6%	433	22.4%
High	4,063	53.5%	1,793	44.1%	1,384	34.1%	1,180	29.0%

Note: Does not include all diverted youth.

The AZ AOC risk assessment calculates a risk level utilizing different items based on the number of prior referrals for each youth. For the purposes of this description, the three different ways of scoring are referred to as version 1, version 2, or version 3. If the assessment is completed for a youth's first referral, version 1 items are used to compute the risk level; if the assessment is completed for the youth's second referral, version 2 items are used; and if the assessment is completed for referrals three or more times, version 3 items are used to calculate the risk level. Therefore, NCCD examined outcome rates by risk level for the different versions of the risk assessment.

Table 3 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Outcome Rates by Current Risk Level by Risk Version								
Current Risk Level	N	%	New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	N	%	N
Total Sample	7,589	100.0%	2,757	36.3%	2,125	28.0%	1,816	23.9%
Version 1								
Low	1,281	71.6%	233	18.2%	173	13.5%	144	11.2%
Medium	445	24.9%	122	27.4%	91	20.4%	82	18.4%
High	62	3.5%	21	33.9%	16	25.8%	14	22.6%
Version 1 Subtotal	1,788	100.0%	376	21.0%	280	15.7%	240	13.4%
Version 2								
Low	315	22.0%	98	31.1%	73	23.2%	59	18.7%
Medium	744	52.0%	232	31.2%	173	23.3%	147	19.8%
High	371	25.9%	135	36.4%	113	30.5%	91	24.5%
Version 2 Subtotal	1,430	100.0%	465	32.5%	359	25.1%	297	20.8%
Version 3								
Low	0	0.0%	0	.0%	0	.0%	0	.0%
Medium	741	17.0%	279	37.7%	231	31.2%	204	27.5%
High	3,630	83.0%	1,637	45.1%	1,255	34.6%	1,075	29.6%
Version 3 Subtotal	4,371	100.0%	1,916	43.8%	1,486	34.0%	1,279	29.3%

Table 4 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Outcome Rates by Current Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Total Sample	7,589	100.0%	2,757	36.3%	2,125	28.0%	1,816	23.9%
Hispanic								
Low	684	20.2%	137	20.0%	107	15.6%	89	13.0%
Medium	888	26.2%	298	33.6%	233	26.2%	206	23.2%
High	1,816	53.6%	841	46.3%	653	36.0%	553	30.5%
Subgroup Total	3,388	100.0%	1,276	37.7%	993	29.3%	848	25.0%
Caucasian								
Low	663	21.7%	141	21.3%	96	14.5%	80	12.1%
Medium	768	25.1%	242	31.5%	180	23.4%	156	20.3%
High	1,631	53.3%	691	42.4%	522	32.0%	451	27.7%
Subgroup Total	3,062	100.0%	1,074	35.1%	798	26.1%	687	22.4%
African American								
Low	135	21.6%	28	20.7%	22	16.3%	19	14.1%
Medium	150	24.0%	54	36.0%	50	33.3%	44	29.3%
High	340	54.4%	146	42.9%	127	37.4%	101	29.7%
Subgroup Total	625	100.0%	228	36.5%	199	31.8%	164	26.2%
Native American								
Low	93	21.5%	22	23.7%	18	19.4%	12	12.9%
Medium	106	24.5%	35	33.0%	29	27.4%	24	22.6%
High	234	54.0%	100	42.7%	71	30.3%	65	27.8%
Subgroup Total	433	100.0%	157	36.3%	118	27.3%	101	23.3%

Note: Only groups with 400 or more youth are included in this table.

Table 5 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Outcome Rates by Risk Level by Youth Gender								
Gender	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Total Sample	7,589	100.0%	2,757	36.3%	2,125	28.0%	1,816	23.9%
Male								
Low	1,296	21.9%	283	21.8%	209	16.1%	174	13.4%
Medium	1,502	25.4%	529	35.2%	410	27.3%	355	23.6%
High	3,124	52.8%	1,475	47.2%	1,131	36.2%	957	30.6%
Male Subgroup Total	5,922	100.0%	2,287	38.6%	1,750	29.6%	1,486	25.1%
Female								
Low	300	18.0%	48	16.0%	37	12.3%	29	9.7%
Medium	428	25.7%	104	24.3%	85	19.9%	78	18.2%
High	939	56.3%	318	33.9%	253	26.9%	223	23.7%
Female Subgroup Total	1,667	100.0%	470	28.2%	375	22.5%	330	19.8%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the tradeoff between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .628 for the new complaint outcome, .619 for the new petition filed outcome, and .615 for the new adjudication outcome, for the total sample. These AUC scores were significantly different from .5 (indicated with *), indicating predictive abilities were greater than chance.

Table 6 Arizona Administrative Office of the Courts Risk Assessment Validation Area Under the Curve (AUC)						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	7,589	5,922	1,667	3,062	625	3,388
New criminal complaint, excluding VOP	.628*	.636*	.617*	.614*	.632*	.644*
New petition filed for criminal complaint, excluding VOP	.619*	.627*	.603*	.616*	.625*	.630*
New adjudication (finding of guilt) for criminal charge, excluding VOP	.615*	.621*	.601*	.616*	.603*	.621*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups for the current risk assessment and the revised assessment presented in a later section. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level. The index, however, measures distance from the mean without considering whether it is in the expected or logical direction; therefore, when outcome rates do not conform to the basic expectation that “failure rates” will increase as risk levels increase, the test is inappropriate (Silver and Banks, 1998).

Table 7 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation DIFR Scores for Current Risk Assessment							
Outcome	Total Sample	Male Sample	Female Sample	Hispanic Sample	Caucasian Sample	African American Sample	Native American Sample
New criminal complaint, excluding VOP	.44	.46	.38	.48	.40	.42	.35
New petition filed for criminal complaint, excluding VOP	.41	.43	.36	.43	.41	.45	.23
New adjudication (finding of guilt) for criminal charge, excluding VOP	.40	.41	.40	.42	.41	.39	.38

Table 8 Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Current Risk Assessment Computation				
Factors Affecting Risk Score	If Answered as Noted Below, Add Score Indicated	Base Score		
		First Referral -1.4589	Second Referral -0.4621	Third+ Referral 0.0263
Current offense is status offense	Y	Add 0.5160	Add 0	Add 0
Juvenile's relationship with his/her family involves frequent/intense conflict or is alienated/assaultive (known or suspected)	Y	Add 0.6616	Add 0.5660	Add 0.3509
Ever been assaultive?	Y	Add 0.5175	Add 0	Add 0
Used or suspected of using drugs within the past year?	Y	Add 0.8060	Add 0.4701	Add 0.5619
Ever truant or extensive absenteeism from school?	Y	Add 0.7392	Add 0.4835	Add 0.2328
Currently enrolled in public, private, home school regularly?	N	Add 0	Add 0.4350	Add 0
Has behavioral problems/mental health issues?**	Y	Add 0	Add 0.4337	Add 0
Friends involved or suspected to be involved in delinquency?***	Y	Add 0	Add 0	Add 0.3897
Runaway, runaway attempts, known or suspected?***	Y	Add 0	Add 0	Add 0.3292
Number prior complaints? ⁴ ****	5 or more	Add 0	Add 0	Add 0.4853
Score for Instrument		X	X	X
Risk score = $2.7182^x/1+(2.7182^x)$				
Risk score cut-points for low, medium, and high risk		Low: $\leq .40$ Medium: $> .40$ and $\leq .70$ High: $> .70$	Low: $\leq .40$ Medium: $> .40$ and $\leq .70$ High: $> .70$	Low: $\leq .50$ Medium: $> .50$ and $\leq .70$ High: $> .70$

*Risk version 1 only.

**Risk version 2 only.

***Risk version 3 only.

****All risk versions.

⁴ This item was not available in the data extract; NCCD created a prior complaint response by counting the number of prior complaints, not including invalid complaints. The categorization is based on the programming used for the item in the automated risk assessment.

Table 9 shows the correlations for each item and the outcome rate by item response for each of the current risk assessment items.

Correlations and outcome rates for each item are based on youth scored using the risk version that utilizes each particular item. For example, if the item only appears on version 1, only the sample of youth scored using version 1 were used to examine the bivariate relationship between the item and the outcomes.

Table 9														
Arizona Supreme Court Administrative Office of the Courts Risk Assessment Validation Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Criminal Complaint, Excluding VOP				New Petition Filed for Criminal Complaint, Excluding VOP				New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Does the relationship with their family involve frequent/intense conflict or is alienated/assaultive (known or suspected)?****					.118	.000			.105	.000			.102	.000
No	5,335	70.3%	1,741	32.6%			1,331	24.9%			1,125	21.1%		
Yes	2,254	29.7%	1,016	45.1%			794	35.2%			691	30.7%		
Ever been assaultive?*5					.014	.275			-.001	.485			.001	.477
No	1,301	72.8%	269	20.7%			204	15.7%			175	13.5%		
Yes	487	27.2%	107	22.0%			76	15.6%			65	13.3%		
Used or suspected of using drugs within the past year?****					.104	.000			.083	.000			.073	.000
No	3,207	42.3%	977	30.5%			758	23.6%			651	20.3%		
Yes	4,382	57.7%	1,780	40.6%			1,367	31.2%			1,165	26.6%		
Ever truant or extensive absenteeism from school?****					.148	.000			.138	.000			.125	.000
No	3,998	52.7%	1,182	29.6%			885	22.1%			755	18.9%		
Yes	3,591	47.3%	1,575	43.9%			1,240	34.5%			1,061	29.5%		
Currently enrolled in public, private, home school regularly?***6					-.001	.485			-.034	.096			-.049	.033

⁵ Item was significantly correlated with all outcomes when examined using the entire sample.

⁶ Note that for this item, "no" responses receive a score of 1 and "yes" responses receive a score of 0.

Table 9

**Arizona Supreme Court
Administrative Office of the Courts
Risk Assessment Validation
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Criminal Complaint, Excluding VOP				New Petition Filed for Criminal Complaint, Excluding VOP				New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Yes	1,017	71.1%	331	32.5%			265	26.1%			224	22.0%		
No	413	28.9%	134	32.4%			94	22.8%			73	17.7%		
Has behavioral problems/mental health issues? ^{7**7}					.036	.084			.070	.004			.062	.009
No	1,063	74.3%	335	31.5%			248	23.3%			205	19.3%		
Yes	367	25.7%	130	35.4%			111	30.2%			92	25.1%		
Friends involved or suspected to be involved in delinquency? ^{***8}					.066	.000			.031	.021			.017	.137
No	966	22.1%	364	37.7%			302	31.3%			269	27.8%		
Yes	3,405	77.9%	1,552	45.6%			1,184	34.8%			1,010	29.7%		
Runaway, runaway attempts, known or suspected? ^{***9}					.056	.000			.043	.002			.042	.003
No	2,858	65.4%	1,195	41.8%			929	32.5%			797	27.9%		
Yes	1,513	34.6%	721	47.7%			557	36.8%			482	31.9%		
Index complaint is a status offense? ^{*10}					.036	.064			.020	.203			.019	.209
No	1,709	95.6%	354	20.7%			265	15.5%			227	13.3%		
Yes	79	4.4%	22	27.8%			15	19.0%			13	16.5%		
Number prior complaints? ^{11****}					.113	.000			.081	.000			.072	.000

⁷ Item was significantly correlated with all outcomes when examined using the entire study sample.

⁸ Item was significantly correlated with all outcomes when examined using the entire study sample.

⁹ Note that the correlations were stronger for this item when examined using the entire study sample.

¹⁰ Item was significantly correlated with all outcomes when examined using the entire study sample.

¹¹ This item was not available in the data extract; NCCD created a prior complaint response by counting the number of prior complaints, not including invalid complaints. The categorization is based on the programming used for the item in the automated risk assessment.

Table 9

**Arizona Supreme Court
Administrative Office of the Courts
Risk Assessment Validation
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Criminal Complaint, Excluding VOP				New Petition Filed for Criminal Complaint, Excluding VOP				New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Up to four	6,320	83.3%	2,142	33.9%			1,667	26.4%			1,425	22.5%		
Five or more	1,269	16.7%	615	48.5%			458	36.1%			391	30.8%		

*Risk version 1 only; N = 1,788.

**Risk version 2 only; N = 1,430.

***Risk version 3 only; N = 4,371.

****All risk versions; N = 7,589.

Revised Risk Assessment

NCCD wanted to determine if a revised assessment could be developed that would simplify scoring and improve the distribution of youth between risk levels. To construct a simple actuarial risk assessment, the study sample was divided randomly into two groups: a construction sample (n = 3,866) and a validation sample (n = 3,723). The use of two samples allows a scale to be developed on one population (the construction sample) and tested on another (the validation sample). Classification results will be most robust for the sample from which the assessment was constructed. Validating the scale on a separate population better indicates how a risk assessment will perform if actually implemented. The samples were stratified by major race/ethnicity categories to ensure adequate representation across the two groups.

The ability of a risk assessment to classify youth by recidivism is expected to decrease somewhat when the risk assessment is applied to samples other than the construction sample. The amount of classification power lost from construction to validation sample is termed “shrinkage.” Shrinkage is normal and expected.

NCCD used bivariate and multivariate analyses to identify which prior history, index investigation, and current risk assessment items have the strongest statistical relationships to the outcomes. These analyses resulted in an alternate risk assessment containing 12 items, which would be completed for all youth regardless of the number of prior referrals. The alternate assessment also has simplified scoring, with item weights and risk level cut-points that are based on the scores’ relationships to the outcomes.

The alternate risk assessment is similar to the current risk assessment and retains eight of the original items exactly as they appear on the current assessment. The alternate assessment also includes a prior referral/complaint variable, but categorizes the number for simple computation. The “currently enrolled in school” item was removed from the assessment because a relationship to the outcomes in this study was not present. In place of that item, a second prior history item, “number of

prior complaints with adjudicated criminal charges (felony and misdemeanor charges, excluding VOP),” a child age item, and two items related to the current/index complaint were added to the alternate assessment.

The alternate assessment provides more distinction between outcome rates by moving some youth from the high-risk to the moderate-risk group. The changes to the alternate assessment slightly improved performance overall; for males and females; and for Hispanic, Caucasian, and African American youth. The alternate assessment created using bivariate and multivariate analyses on the overall sample improved distinction between and distribution among risk levels for those three groups; it did not improve risk assessment performance for Native American youth. This may be due to the limited number of potential risk factors available in the dataset. Results from the same bivariate and multivariate analyses for just the Native American subsample indicated that the risk factors for Native American youth differ from those of the overall population. In order to improve the risk assessment performance for Native American youth, we included one item from the Native American regression analysis into the original alternate assessment, resulting in a new assessment that distinguishes well overall and for all subgroups.

The alternate assessment does work well for both males and females, but the difference in base rates between these groups caused outcome rates for each risk level to be higher for males than for females.

Table 10a Arizona Supreme Court Administrative Office of the Courts Revised Risk Assessment Construction Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Construction Sample	3,866	100.0%	1,403	36.3%	1,080	27.9%	912	23.6%
Gender								
Male	2,991	77.4%	1,159	38.7%	882	29.5%	742	24.8%
Female	875	22.6%	244	27.9%	198	22.6%	170	19.4%
Race/Ethnicity								
Hispanic	1,710	44.2%	644	37.7%	512	29.9%	434	25.4%
Caucasian	1,578	40.8%	561	35.6%	401	25.4%	339	21.5%
African American	302	7.8%	110	36.4%	101	33.4%	84	27.8%
Native American	232	6.0%	77	33.2%	58	25.0%	48	20.7%
Asian/Pacific Islander	30	0.8%	5	16.7%	2	6.7%	2	6.7%
Other/Unknown	14	0.4%	6	42.9%	6	42.9%	5	35.7%
Age at index complaint								
Under 11 years	15	0.4%	4	26.7%	2	13.3%	2	13.3%
11 years	39	1.0%	10	25.6%	8	20.5%	8	20.5%
12 years	136	3.5%	65	47.8%	54	39.7%	46	33.8%
13 years	313	8.1%	114	36.4%	101	32.3%	84	26.8%
14 years	594	15.4%	244	41.1%	192	32.3%	173	29.1%
15 years	948	24.5%	404	42.6%	334	35.2%	290	30.6%
16 years	1,064	27.5%	401	37.7%	294	27.6%	243	22.8%
17 years ¹²	757	19.6%	161	21.3%	95	12.5%	66	8.7%
Index offense type (most serious)								
Felony	1,974	51.1%	671	34.0%	504	25.5%	437	22.1%
Misdemeanor	1,202	31.1%	443	36.9%	341	28.4%	287	23.9%
Administrative	529	13.7%	209	39.5%	160	30.2%	130	24.6%

¹² Adult data were not available for analysis; therefore, outcome rates for youth who were 17 at the time of the index complaint may be lower because outcomes could not be examined for a full 12-month period for many of these youth.

Table 10a Arizona Supreme Court Administrative Office of the Courts Revised Risk Assessment Construction Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Construction Sample	3,866	100.0%	1,403	36.3%	1,080	27.9%	912	23.6%
Status	156	4.0%	78	50.0%	74	47.4%	57	36.5%
Other/Invalid	5	0.1%	2	40.0	1	20.0	1	20.0
Severity of index offense (most serious)								
Felony against person	338	8.7%	108	32.0%	75	22.2%	60	17.8%
Felony against property	888	23.0%	306	34.5%	252	28.4%	217	24.4%
Obstruction of justice: felonies and misdemeanors	557	14.4%	221	39.7%	166	29.8%	135	24.2%
Misdemeanor against person	302	7.8%	112	37.1%	95	31.5%	85	28.1%
Drugs: felonies and misdemeanors	632	16.3%	217	34.3%	147	23.3%	133	21.0%
Public peace: felonies and misdemeanors	638	16.5%	248	38.9%	179	28.1%	149	23.4%
Misdemeanor against property	350	9.1%	111	31.7%	91	26.0%	75	21.4%
Status offenses	156	4.0%	78	50.0%	74	47.4%	57	36.5%
Citations/Administrative	5	0.1%	2	40.0%	1	20.0%	1	20.0%
Risk assessment version								
One	904	23.4%	197	21.8%	134	14.8%	115	12.7%
Two	719	18.6%	237	33.0%	187	26.0%	154	21.4%
Three	2,243	58.0%	969	43.2%	759	33.8%	643	28.7%
Current risk assessment level								
Low	789	20.4%	154	19.5%	109	13.8%	91	11.5%
Medium	1,012	26.2%	343	33.9%	264	26.1%	229	22.6%
High	2,065	53.4%	906	43.9%	707	34.2%	592	28.7%

Table 10b Arizona Supreme Court Administrative Office of the Courts Revised Risk Assessment Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Validation Sample	3,723	100.0%	1,354	36.4%	1,045	28.1%	904	24.3%
Gender								
Male	2,931	78.7%	1,128	38.5%	868	29.6%	744	25.4%
Female	792	21.3%	226	28.5%	177	22.3%	160	20.2%
Race/Ethnicity								
Hispanic	1,678	45.1%	632	37.7%	481	28.7%	414	24.7%
Caucasian	1,484	39.9%	513	34.6%	397	26.8%	348	23.5%
African American	323	8.7%	118	36.5%	98	30.3%	80	24.8%
Native American	201	5.4%	80	39.8%	60	29.9%	53	26.4%
Asian/Pacific Islander	20	0.5%	5	25.0%	3	15.0%	3	15.0%
Other/Unknown	17	0.5%	6	35.3%	6	35.3%	6	35.3%
Age at index complaint								
Under 11 years	18	0.5%	5	27.8%	4	22.2%	3	16.7%
11 years	38	1.0%	11	28.9%	9	23.7%	8	21.1%
12 years	109	2.9%	31	28.4%	26	23.9%	24	22.0%
13 years	317	8.5%	122	38.5%	102	32.2%	91	28.7%
14 years	575	15.4%	254	44.2%	211	36.7%	184	32.0%
15 years	832	22.3%	361	43.4%	293	35.2%	262	31.5%
16 years	1,055	28.3%	413	39.1%	314	29.8%	270	25.6%
17 years ¹³	779	20.9%	157	20.2%	86	11.0%	62	8.0%
Index offense type (most serious)								
Felony	1,923	51.7%	646	33.6%	485	25.2%	416	21.6%
Misdemeanor	1,145	30.8%	441	38.5%	338	29.5%	293	25.6%
Administrative	498	13.4%	198	39.8%	159	31.9%	137	27.5%

¹³ Adult data were not available for analysis; therefore, outcome rates for youth who were 17 at the time of the index complaint may be lower because outcomes could not be examined for a full 12-month period for many of these youth.

Table 10b Arizona Supreme Court Administrative Office of the Courts Revised Risk Assessment Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
			N	%	N	%	N	%
Validation Sample	3,723	100.0%	1,354	36.4%	1,045	28.1%	904	24.3%
Status	144	3.9%	68	47.2%	63	43.8%	58	40.3%
Other/Invalid	13	0.3%	1	7.7%	0	0.0%	0	0.0%
Severity of index offense (most serious)								
Felony against person	326	8.8%	106	32.5%	84	25.8%	70	21.5%
Felony against property	858	23.0%	298	34.7%	227	26.5%	197	23.0%
Obstruction of justice: felonies and misdemeanors	520	14.0%	205	39.4%	162	31.2%	139	26.7%
Misdemeanor against person	271	7.3%	117	43.2%	94	34.7%	83	30.6%
Drugs: felonies and misdemeanors	634	17.0%	204	32.2%	149	23.5%	130	20.5%
Public peace: felonies and misdemeanors	631	16.9%	227	36.0%	163	25.8%	134	21.2%
Misdemeanor against property	326	8.8%	128	39.3%	103	31.6%	93	28.5%
Status offenses	144	3.9%	68	47.2%	63	43.8%	58	40.3%
Citations/Administrative	13	0.3%	1	7.7%	0	0.0%	0	0.0%
Risk assessment version								
One	884	23.7%	179	20.2%	146	16.5%	125	14.1%
Two	711	19.1%	228	32.1%	172	24.2%	143	20.1%
Three	2,128	57.2%	947	44.5%	727	34.2%	636	29.9%
Current risk assessment level								
Low	807	21.7%	177	21.9%	137	17.0%	112	13.9%
Medium	918	24.7%	290	31.6%	231	25.2%	204	22.2%
High	1,998	53.7%	887	44.4%	677	33.9%	588	29.4%

**Arizona Supreme Court
Administrative Office of the Courts
Revised Risk Assessment**

		Score
1.	Number of prior referrals (excluding invalid complaints)	
	a. None.....	-1
	b. One or two	0
	c. Three or more	1
2.	Number of prior complaints with adjudicated criminal charges, excluding violations of probation	
	a. None.....	0
	b. One or more	1
3.	Current age	
	a. 8–11, 16, or 17	0
	b. 12–15	1
4.	Current offense is a status offense	
	a. No.....	0
	b. Yes.....	1
	c. Yes, and finding of guilt.....	2
5.	Most serious offense on current complaint is public peace (felony or misdemeanor)	
	a. No.....	0
	b. Yes.....	1
6.	Juvenile’s relationship with his/her family involves frequent/intense conflict or youth is alienated/assaultive (known or suspected)	
	a. No.....	0
	b. Yes.....	1
7.	Juvenile has ever been assaultive	
	a. No.....	0
	b. Yes.....	1
8.	Used or is suspected of using drugs within the past year	
	a. No.....	0
	b. Yes.....	1
9.	Ever truant or extensive absenteeism from school	
	a. No.....	0
	b. Yes.....	1
10.	Has behavioral problems/mental health issues	
	a. No.....	0
	b. Yes.....	1
11.	Friends involved or suspected to be involved in delinquency	
	a. No.....	0
	b. Yes.....	1
12.	Runaway, runaway attempts (known or suspected)	
	a. No.....	0
	b. Yes.....	1

Total Score _____

<u>Risk Score:</u>	<u>Risk Level:</u>
___ -1–1	Low
___ 2–7	Medium
___ 8+	High

Outcome Rates by Revised Risk Assessment Level

Table 11 shows outcome rates by revised risk level.

Table 11								
Arizona Supreme Court Administrative Office of the Courts Outcome Rates by Revised Risk Level								
Revised Risk Level	Distribution		12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
	N	%	N	%	N	%	N	%
Construction Sample	3,866	100.0%	1,403	36.3%	1,080	27.9%	912	23.6%
Low	636	16.5%	110	17.3%	80	12.6%	66	10.4%
Medium	2,641	68.3%	970	36.7%	748	28.3%	632	23.9%
High	589	15.2%	323	54.8%	252	42.8%	214	36.3%
Validation Sample	3,723	100.0%	1,354	36.4%	1,045	28.1%	904	24.3%
Low	658	17.7%	128	19.5%	101	15.3%	84	12.8%
Medium	2,477	66.5%	905	36.5%	691	27.9%	596	24.1%
High	588	15.8%	321	54.6%	253	43.0%	224	38.1%

Outcome Rates by Revised Risk Assessment Level by Race/Ethnicity

Table 12a Arizona Supreme Court Administrative Office of the Courts Construction Sample Outcome Rates by Alternate Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
	N	%	N	%	N	%	N	%
Construction Sample	3,866	100.0%	1,403	36.3%	1,080	27.9%	912	23.6%
Hispanic								
Low	264	15.4%	39	14.8%	32	12.1%	28	10.6%
Medium	1,195	69.9%	468	39.2%	373	31.2%	316	26.4%
High	251	14.7%	137	54.6%	107	42.6%	90	35.9%
Subgroup Total	1,710	100.0%	644	37.7%	512	29.9%	434	25.4%
Caucasian								
Low	287	18.2%	58	20.2%	36	12.5%	28	9.8%
Medium	1,042	66.0%	362	34.7%	261	25.0%	218	20.9%
High	249	15.8%	141	56.6%	104	41.8%	93	37.3%
Subgroup Total	1,578	100.0%	561	35.6%	401	25.4%	339	21.5%
African American								
Low	49	16.2%	5	10.2%	5	10.2%	4	8.2%
Medium	197	65.2%	76	38.6%	66	33.5%	58	29.4%
High	56	18.5%	29	51.8%	30	53.6%	22	39.3%
Subgroup Total	302	100.0%	110	36.4%	101	33.4%	84	27.8%
Native American								
Low	28	12.1%	6	21.4%	5	17.9%	4	14.3%
Medium	177	76.3%	57	32.2%	43	24.3%	36	20.3%
High	27	11.6%	14	51.9%	10	37.0%	8	29.6%
Subgroup Total	232	100.0%	77	33.2%	58	25.0%	48	20.7%

Note: Only groups with 200 or more youth are included in this table.

Table 12b Arizona Supreme Court Administrative Office of the Courts Validation Sample Outcome Rates by Alternate Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
	N	%	N	%	N	%	N	%
Validation Sample	3,723	100.0%	1,354	36.4%	1,045	28.1%	904	24.3%
Hispanic								
Low	271	16.2%	50	18.5%	41	15.1%	34	12.5%
Medium	1,135	67.6%	426	37.5%	317	27.9%	276	24.3%
High	272	16.2%	156	57.4%	123	45.2%	104	38.2%
Subgroup Total	1,678	100.0%	632	37.7%	481	28.7%	414	24.7%
Caucasian								
Low	289	19.5%	56	19.4%	43	14.9%	38	13.1%
Medium	979	66.0%	351	35.9%	268	27.4%	231	23.6%
High	216	14.6%	106	49.1%	86	39.8%	79	36.6%
Subgroup Total	1,484	100.0%	513	34.6%	397	26.8%	348	23.5%
African American								
Low	58	18.0%	12	20.7%	8	13.8%	6	10.3%
Medium	204	63.2%	71	34.8%	65	31.9%	51	25.0%
High	61	18.9%	35	57.4%	25	41.0%	23	37.7%
Subgroup Total	323	100.0%	118	36.5%	98	30.3%	80	24.8%
Native American								
Low	31	15.4%	9	29.0%	8	25.8%	5	16.1%
Medium	135	67.2%	50	37.0%	35	25.9%	32	23.7%
High	35	17.4%	21	60.0%	17	48.6%	16	45.7%
Subgroup Total	201	100.0%	80	39.8%	60	29.9%	53	26.4%

Note: Only groups with 200 or more youth are included in this table.

Outcome Rates by Revised Risk Assessment Level by Gender

The revised risk assessment works well within each gender group. However, because the base rates for boys are higher than those for girls, the outcome rates for each risk level are higher for boys than for girls. Additionally, the risk assessment classifies more boys than girls as at high risk of reoffending. It is possible that separate assessments would work better; but due to the limited juvenile characteristic data available, there were not enough items to conduct separate studies for boys and girls.

Table 13a Arizona Supreme Court Administrative Office of the Courts Construction Sample Outcome Rates by Alternate Risk Level by Youth Gender								
Gender	Distribution		12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
	N	%	N	%	N	%	N	%
Construction Sample	3,866	100.0%	1,403	36.3%	1,080	27.9%	912	23.6%
Male								
Low	531	17.8%	99	18.6%	72	13.6%	59	11.1%
Medium	2,031	67.9%	805	39.6%	615	30.3%	519	25.6%
High	429	14.3%	255	59.4%	195	45.5%	164	38.2%
Subgroup Total	2,991	100.0%	1,159	38.7%	882	29.5%	742	24.8%
Female								
Low	105	12.0%	11	10.5%	8	7.6%	7	6.7%
Medium	610	69.7%	165	27.0%	133	21.8%	113	18.5%
High	160	18.3%	68	42.5%	57	35.6%	50	31.3%
Subgroup Total	875	100.0%	244	27.9%	198	22.6%	170	19.4%

Table 13b Arizona Supreme Court Administrative Office of the Courts Validation Sample Outcome Rates by Alternate Risk Level by Youth Gender								
Gender	Distribution		12-Month Outcomes					
			New Criminal Complaint, Excluding VOP		New Petition Filed for Criminal Complaint, Excluding VOP		New Adjudication (finding of guilt) for Criminal Charge, Excluding VOP	
	N	%	N	%	N	%	N	%
Validation Sample	3,723	100.0%	1,354	36.4%	1,045	28.1%	904	24.3%
Male								
Low	545	18.6%	113	20.7%	86	15.8%	71	13.0%
Medium	1,957	66.8%	765	39.1%	581	29.7%	498	25.4%
High	429	14.6%	250	58.3%	201	46.9%	175	40.8%
Subgroup Total	2,931	100.0%	1,128	38.5%	868	29.6%	744	25.4%
Female								
Low	113	14.3%	15	13.3%	15	13.3%	13	11.5%
Medium	520	65.7%	140	26.9%	110	21.2%	98	18.8%
High	159	20.1%	71	44.7%	52	32.7%	49	30.8%
Subgroup Total	792	100.0%	226	28.5%	177	22.3%	160	20.2%

Table 14 Arizona Supreme Court Administrative Office of the Courts Revised Risk Assessment Area Under the Curve (AUC)		
Outcome	AUC	
	Construction Sample (n=3,866)	Validation Sample (n=3,723)
New criminal complaint, excluding VOP	.642*	.646*
New petition filed for criminal complaint, excluding VOP	.638*	.630*
New adjudication (finding of guilt) for criminal charge, excluding VOP	.629*	.632*

*AUC significantly different than .5 (asymptotic significance ≤ .05; lower bound of confidence interval greater than .5).

Table 15 Arizona Supreme Court Administrative Office of the Courts Revised Risk Assessment DIFR Scores							
Outcome	Total Sample	Male Sample	Female Sample	Hispanic Sample	Caucasian Sample	African American Sample	Native American Sample
Construction Sample							
N size	3,866	2,991	875	1,710	1,578	302	232
New criminal complaint, excluding VOP	0.50	0.53	0.50	0.56	0.48	0.71	0.34
New petition filed for criminal complaint, excluding VOP	0.48	0.49	0.52	0.50	0.47	0.70	0.25
New adjudication for criminal charge, excluding VOP	0.46	0.47	0.50	0.46	0.50	0.63	0.23
Validation Sample							
N size	3,723	2,931	792	1,678	1,484	323	201
New criminal complaint, excluding VOP	0.47	0.49	0.48	0.51	0.42	0.50	0.40
New petition filed for criminal complaint, excluding VOP	0.42	0.45	0.34	0.44	0.40	0.47	0.38
New adjudication for criminal charge, excluding VOP	0.42	0.45	0.36	0.42	0.40	0.52	0.45

Arizona Department of Juvenile Corrections Dynamic Risk Assessment Validation Results

Sample Description

The Arizona Department of Juvenile Corrections provided data for 1,493 youth released from secure care in 2007 or 2008. NCCD selected a sample of youth with completed Dynamic Risk Instruments (DRI) items and matching item weights and Criminogenic and Protective Factors Assessments (CAPFA).¹⁴ Selection resulted in a final sample of 1,265 youth released in either 2007 or 2008.¹⁵ Sample characteristics and outcome rates are illustrated in Table 1.

Table 1 Arizona Department of Juvenile Corrections Dynamic Risk Instrument Validation Sample Description				
Sample Characteristic	N	%	Recommitment Rate	
			N	%
Total Sample	1,265	100.0%	480	37.9%
Year released				
2007	576	45.5%	244	42.4%
2008	689	54.5%	236	34.3%
Gender				
Female	153	12.1%	59	38.6%
Male	1,112	87.9%	421	37.9%
Race/Ethnicity ¹⁶				
African American	133	10.5%	57	42.9%
Caucasian	398	31.5%	144	36.2%
Hispanic/Mexican National	659	52.1%	246	37.3%
Other/Unknown	75	5.9%	33	44.0%
Age at release from secure care				
13 years	4	0.3%	Not reported due to N size*	
14 years	42	3.3%	24	57.1%
15 years	175	13.8%	99	56.6%

¹⁴ Note that some CAPFA items were missing for some youth. Cases in which all CAPFA items were missing were removed from sample selection.

¹⁵ One youth, who was over the age of 18 at the time of commitment, was removed from the sample.

¹⁶ Groups smaller than 100 were combined into one category for analysis.

Table 1				
Arizona Department of Juvenile Corrections				
Dynamic Risk Instrument Validation				
Sample Description				
Sample Characteristic	N	%	Recommitment Rate	
			N	%
Total Sample	1,265	100.0%	480	37.9%
16 years	371	29.3%	191	51.5%
17 years	483	38.2%	139	28.8%
18 years	190	15.0%	24	12.6%
Index commitment status type				
Youth’s first commitment	1,263	99.8%	480	38.0%
Recommitment	2	0.2%	Not reported due to N size*	
Index offense level				
Felony 2	45	3.6%	13	28.9%
Felony 3	183	14.5%	71	38.8%
Felony 4	170	13.4%	62	36.5%
Felony 5	156	12.3%	50	32.1%
Felony 6	418	33.0%	165	39.5%
Misdemeanor 1	241	19.1%	96	39.8%
Misdemeanor 2	31	2.5%	14	45.2%
Misdemeanor 3	7	0.6%	Not reported due to N size*	
Technical	4	0.3%	Not reported due to N size*	
Missing/Unidentified	10	0.8%	Not reported due to N size*	
Index offense category				
Drug	187	14.8%	71	38.0%
Property	593	46.9%	244	41.1%
Persons	261	20.6%	86	33.0%
Weapon	39	3.1%	11	28.2%
Public order	142	11.2%	48	33.8%
Other	34	2.7%	17	50.0%
Missing	9	0.7%	Not reported due to N size*	

*To protect youth identity, results for cohorts with 10 or fewer cases were not included in this report.

Dynamic Risk Instrument

Outcome Rates by DRI Risk Level

Table 2 shows recommitment outcome rates by DRI risk level. Note that this risk level reflects the initial risk level calculated for each youth.

Table 2 Arizona Department of Juvenile Corrections Dynamic Risk Instrument Validation Recommitment by Dynamic Risk Instrument Risk Level				
Risk Level	N	%	Recommitment Rate	
			N	%
Low	695	54.9%	216	31.1%
Medium	251	19.8%	113	45.0%
High	319	25.2%	151	47.3%
Total Sample	1,265	100.0%	480	37.9%

Note: DIFR for this scale is .32.

Outcome Rates by DRI Risk Level by Race/Ethnicity

Table 3				
Arizona Department of Juvenile Corrections Dynamic Risk Instrument Validation Recommitment by DRI Risk Level and Youth Race/Ethnicity				
Risk Level	N	%	Recommitment Rate	
			N	%
Total Sample	1,265	100.0%	480	37.9%
Hispanic/Mexican National				
Low	357	54.2%	106	29.7%
Medium	147	22.3%	66	44.9%
High	155	23.5%	74	47.7%
Subgroup Total	659	100.0%	246	37.3%
African American				
Low	75	56.4%	28	37.3%
Medium	22	16.5%	9	40.9%
High	36	27.1%	20	55.6%
Subgroup Total	133	100.0%	57	42.9%
Caucasian				
Low	226	56.8%	66	29.2%
Medium	66	16.6%	29	43.9%
High	106	26.6%	49	46.2%
Subgroup Total	398	100.0%	144	36.2%
Other				
Low	37	49.3%	16	43.2%
Medium	16	21.3%	9	56.3%
High	22	29.3%	8	36.4%
Subgroup Total	75	100.0%	33	44.0%

Outcome Rates by DRI Risk Level by Gender

Table 4				
Arizona Department of Juvenile Corrections Dynamic Risk Instrument Validation Recommitment by DRI Risk Level and Youth Gender				
Risk Level	N	%	Recommitment Rate	
			N	%
Total Sample	1,265	100.0%	480	37.9%
Female				
Low	116	75.8%	41	35.3%
Medium	24	15.7%	10	41.7%
High	13	8.5%	8	61.5%
Subgroup Total	153	100.0%	59	38.6%
Male				
Low	579	52.1%	175	30.2%
Medium	227	20.4%	103	45.4%
High	306	27.5%	143	46.7%
Subgroup Total	1,112	100.0%	421	37.9%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength

of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .594 for the total sample. This AUC score was significantly different from .5 (indicated with *), indicating that predictive abilities were greater than chance.

Table 5 Arizona Department of Juvenile Corrections Area Under the Curve (AUC) for DRI						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic/ Mexican National Sample
Sample Size	1,265	1,112	153	398	133	659
Recommitment	.594*	.599*	.563	.603*	.578	.602*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5.)

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups.

The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level (Silver and Banks, 1998).

Table 6 Arizona Department of Juvenile Corrections DIFR Scores for DRI						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Recommitment	.32	.34	.30	.35	.32	.36

DRI Item Analysis

Table 7						
Arizona Department of Juvenile Corrections Dynamic Risk Instrument						
Item Analysis						
DRI Item (Item Weight Multiplier)	Sample Distribution		Recommitment Within 12 Months of Release			
	N	%	N	%	Corr.	P-Value
Total Sample	1,265	100.0%	480	37.9%		
Age at first referral (-5.984) ¹⁷					.159	.000
6 years	7	0.6%	2	28.6%		
7 years	1	0.1%	0	0.0%		
8 years	36	2.8%	16	44.4%		
9 years	66	5.2%	31	47.0%		
10 years	85	6.7%	37	43.5%		
11 years	148	11.7%	72	48.6%		
12 years	177	14.0%	75	42.4%		
13 years	290	22.9%	122	42.1%		
14 years	262	20.7%	93	35.5%		
15 years	129	10.2%	23	17.8%		
16 years	55	4.3%	8	14.5%		
17 years	9	0.7%	1	11.1%		
Referral count at age at first commitment (-.351) ¹⁸					-.111	.000
1–2 referrals	53	4.2%	4	7.5%		
3–5 referrals	247	19.5%	89	36.0%		
6–8 referrals	352	27.8%	134	38.1%		
9–11 referrals	239	18.9%	90	37.7%		
12–14 referrals	169	13.4%	67	39.6%		
15–17 referrals	94	7.4%	43	45.7%		
18–19 referrals	38	3.0%	16	42.1%		
20–22 referrals	32	2.5%	17	53.1%		
23–25 referrals	25	2.0%	10	40.0%		
26 or more referrals	16	1.3%	10	62.5%		

¹⁷ The DRI calculates the item score based on each youth's age in years and portions of years. For the purposes of this item analysis, youth ages were collapsed into whole ages.

¹⁸ The DRI calculates the referral item score based on the specific number of referrals; for the purposes of the item analysis, referrals were collapsed into categories that resulted in a similar item score.

Table 7						
Arizona Department of Juvenile Corrections Dynamic Risk Instrument						
Item Analysis						
DRI Item (Item Weight Multiplier)	Sample Distribution		Recommitment Within 12 Months of Release			
	N	%	N	%	Corr.	P-Value
Belief in control over antisocial behavior (1.190)					.033	.120
1 = Clearly believes he or she can avoid/stop antisocial behavior (1.19)	72	5.7%	24	33.3%		
2 = Usually expresses belief that anti-social behavior is controllable (2.38)	696	55.0%	260	37.4%		
3 = Somewhat believes antisocial behavior is out of his or her control (3.57)	363	28.7%	143	39.4%		
4 = Believes his or her antisocial behavior is out of his or her control (4.76)	49	3.9%	15	30.6%		
5 = Not interested in controlling anti-social behavior (5.95)	85	6.7%	38	44.7%		
Manipulation (-4.740)					-.091	.001
1 = Always honest and straightforward (-4.74)	14	1.1%	2	14.3%		
2 = Usually, but not always, honest and straightforward (-9.48)	313	24.7%	98	31.3%		
3 = Uses lies, mistruths, withholding of truth mostly to protect others or avoid negative consequences (-14.22)	614	48.5%	242	39.4%		
4 = Uses lies, mistruths, withholding of truths to meet wants (-18.96)	283	22.4%	120	42.4%		
5 = Uses veiled threats, power, and deceit to control others and meet wants (-23.70)	41	3.2%	18	43.9%		
Empathy (5.970)					.060	.016
1 = Exhibits a genuine capacity for feeling empathy for his or her victim (5.97)	27	2.1%	8	29.6%		
2 = Usually shows capacity to feel empathy for victim (11.94)	165	13.0%	57	34.5%		
3 = Shows some capacity to feel empathy for victim (17.91)	347	27.4%	125	36.0%		
4 = Some degree of expressed empathy; however, these statements appear to be internalized (23.88)	436	34.5%	166	38.1%		
5 = Little or no evidence of empathy and/or clear evidence of callous disregard for the welfare of others (29.85)	290	22.9%	124	42.8%		
Respect for authority figures (-2.183)					-.069	.007
1 = Indicates respect for the role of authorities (-2.18)	34	2.7%	5	14.7%		
2 = Appreciates the role of authorities (-4.37)	193	15.3%	72	37.3%		
3 = Expresses neutral attitude toward authorities (-6.55)	550	43.5%	199	36.2%		
4 = Expresses resentment toward authorities (-8.73)	372	29.4%	157	42.2%		

Table 7						
Arizona Department of Juvenile Corrections Dynamic Risk Instrument						
Item Analysis						
DRI Item (Item Weight Multiplier)	Sample Distribution		Recommitment Within 12 Months of Release			
	N	%	N	%	Corr.	P-Value
5 = Views all authorities with contempt (-10.92)	116	9.2%	47	40.5%		
Attitude toward responsible law-abiding figures (1.009)					.086	.001
1 = Clearly positive commitment toward law-abiding behavior (1.01)	18	1.4%	4	22.2%		
2 = Expresses a desire to live in a law-abiding manner (2.02)	688	54.4%	243	35.3%		
3 = Expresses neutral attitude toward law-abiding behavior (3.03)	284	22.5%	112	39.4%		
4 = Feels law-abiding behavior does not apply to him/her (4.04)	227	17.9%	95	41.9%		
5 = Openly admits unwillingness to demonstrate law-abiding behavior (5.05)	48	3.8%	26	54.2%		
Level of conflict within the family (2.507)					.011	.347
0 = No conflict/some conflict that is well-managed (0.00)	573	45.3%	207	36.1%		
1 = Verbal intimidation, yelling, heated arguments/threats of physical violence (2.507)	403	31.9%	165	40.9%		
2 = Physical violence between parents/physical violence between parents and children/physical violence between siblings (5.01)	72	5.7%	27	37.5%		
3 = Both 1 and 2 above (7.52)	217	17.2%	81	37.3%		
Juvenile's attitude toward improving education (2.851)					.005	.434
1 = No need for change, not a problem (2.851)	290	22.9%	104	35.9%		
2 = Actively committed and working on change (5.70)	413	32.6%	166	40.2%		
3 = Cooperative and taking steps toward positive change (8.55)	505	39.9%	189	37.4%		
4 = Ambivalent about change (11.40)	37	2.9%	13	35.1%		
5 = Uncooperative/unwilling to work on positive change (14.26)	20	1.6%	8	40.0%		

Table 7						
Arizona Department of Juvenile Corrections Dynamic Risk Instrument						
Item Analysis						
DRI Item (Item Weight Multiplier)	Sample Distribution		Recommitment Within 12 Months of Release			
	N	%	N	%	Corr.	P-Value
Interest and involvement in structured community activities (.558) (Score is sum of four responses and ranges from 4 to 16; higher score indicates less interest)					.089	.001
5 points (2.79)	2	0.2%	1	50.0%		
6 points (3.35)	6	0.5%	2	33.3%		
7 points (3.91)	7	0.6%	3	42.9%		
8 points (4.46)	8	0.6%	1	12.5%		
9 points (5.02)	28	2.2%	12	42.9%		
10 points (5.58)	49	3.9%	14	28.6%		
11 points (6.14)	90	7.1%	26	28.9%		
12 points (6.70)	188	14.9%	59	31.4%		
13 points (7.25)	139	11.0%	45	32.4%		
14 points (7.81)	330	26.1%	133	40.3%		
15 points (8.37)	207	16.4%	98	47.3%		
16 points (8.93)	211	16.7%	86	40.8%		
Interest and involvement in unstructured recreational activities (1.458)					.015	.299
1 = Involved in three or more activities (1.458)	217	17.2%	86	39.6%		
2 = Involved in two or more activities (2.92)	258	20.4%	100	38.8%		
3 = Involved in one activity (4.37)	523	41.3%	181	34.6%		
4 = Currently interested but not involved (5.83)	54	4.3%	23	42.6%		
5 = Not interested in any unstructured activities (7.29)	213	16.8%	90	42.3%		
Attitude toward changing use of free time (-1.350)					-.096	.000
1 = No need for change, not a problem area (-1.35)	22	1.7%	2	9.1%		
2 = Actively committed and working on change (-2.70)	66	5.2%	16	24.2%		
3 = Cooperative and taking steps toward positive change (-4.05)	326	25.8%	125	38.3%		
4 = Ambivalent about change (-5.40)	805	63.6%	313	38.9%		
5 = Uncooperative/unwilling to work on positive change (-6.75)	46	3.6%	24	52.2%		
Alcohol use of persons with whom youth was raised (11.168)					.082	.002
0 = None (0.0)	704	55.7%	242	34.4%		
1 = Yes, at least one person (11.168)	561	44.3%	238	42.4%		

Table 7						
Arizona Department of Juvenile Corrections Dynamic Risk Instrument						
Item Analysis						
DRI Item (Item Weight Multiplier)	Sample Distribution		Recommitment Within 12 Months of Release			
	N	%	N	%	Corr.	P-Value
Drug use of persons with whom youth was raised (-.889)					-.135	.000
0 = None (0.0)	727	57.5%	235	32.3%		
1 = Yes, at least one person (-.889)	538	42.5%	245	45.5%		
Incarceration of persons with whom youth was raised (-3.222)					-.091	.001
0 = None (0.0)	674	53.3%	228	33.8%		
1 = Yes, at least one person (-3.222)	591	46.7%	252	42.6%		
Resistance to antisocial peer influence (4.819)					.094	.000
1 = Does not associate with antisocial friends (4.82)	40	3.2%	8	20.0%		
2 = Always resists going along with antisocial friends (9.64)	25	2.0%	2	8.0%		
3 = Usually resists going along with antisocial friends (14.46)	253	20.0%	89	35.2%		
4 = Rarely resists going along with antisocial friends (19.28)	857	67.7%	347	40.5%		
5 = Leads antisocial peers (24.10)	90	7.1%	34	37.8%		
Gender (8.656)					-.005	.433
0 = Female (0.0)	153	12.1%	59	38.6%		
1 = Male (8.656)	1,112	87.9%	421	37.9%		
Commitment offense (weight varies; see below)					.043	.062
Offense not scored (0.0)	637	50.4%	256	40.2%		
Person offense (-15.595)	267	21.1%	89	33.3%		
Drug offense (-8.054)	186	14.7%	71	38.2%		
Unknown (-3.51)	5	0.4%	1	20.0%		
Other offense (4.545)	170	13.4%	63	37.1%		

Revised Risk Assessment

NCCD used bivariate and multivariate analysis to identify which DRI and CAPFA items have the strongest statistical relationships to the recommitment outcome. The analysis resulted in a revised risk assessment containing 15 items. Item weights are based on each individual item's relationship to the outcome. Cut-points were determined by examining the relationship of the overall risk score to the outcomes and grouping scores with similar outcome rates.

Arizona Department of Juvenile Corrections Revised Risk Assessment

		Score
1.	Age at first referral	
	a. 15 years or older	-1
	b. 12–14 years	0
	c. Under 12 years	1 _____
2.	Referral count at age at first commitment/recommitment	
	a. 1–3 referrals.....	-1
	b. 4–6 referrals.....	0
	c. 7 or more referrals	1 _____
3.	Youth’s employment history	
	a. Youth has been employed	-1
	b. Too young for employment or has never been conventionally employed	0 _____
4.	Current commitment resulted from property offense	
	a. No	0
	b. Yes	1 _____
5.	Youth is/has been a victim of neglect	
	a. No	0
	b. Yes	1 _____
6.	Youth is/was physically abused by someone outside of the family	
	a. No	0
	b. Yes	1 _____
7.	Characteristics of persons with whom youth was raised	
	<i>(select only if youth was raised in a home with this person)</i>	
	a. None apply	0
	b. One or more apply (mark all that apply and add)	
	___ Biological mother drug use (past or current).....	1
	___ Biological mother incarcerated (current)	2
	___ Siblings incarcerated (past or current)	1 _____
8.	Youth history of running away/being kicked out	
	a. 0–3 instances of running away/being kicked out	0
	b. 4 or more instances of running away/being kicked out	1 _____
9.	Educational assessment results	
	a. Above, at, or one level below grade level	-1
	b. Two or more levels below grade level.....	0 _____
10.	Youth assessed as alcohol dependent	
	a. No	0
	b. Yes	1 _____

		Score
11.	Youth has spent time with antisocial peers and/or gang members/affiliations in last 90 days	
	a. No	0
	b. Yes	1 _____
12.	Youth's primary emotion(s) when committing crimes	
	a. Nervous, afraid, worried, uncertain, indecisive, unconcerned, or indifferent.....	0
	b. Hyper, excited, stimulated, confident, or brags about not getting caught.....	1 _____
13.	Youth history of violent behavior (with or without adjudication)	
	a. Not applicable	0
	b. One or more apply (<i>select all that apply</i>).....	1 _____
	___ Threatening/harassing people	
	___ Violent and willful destruction of property with intent to destroy	
	___ Displaying a weapon	
14.	Youth history of CPS-involved out-of-home and shelter placements exceeding 30 days	
	a. No	0
	b. Yes	1 _____
Total Score		=====

<u>Risk Score:</u>	<u>Risk Level:</u>
___ -4-2	Low
___ 3-5	Medium
___ 6-15	High

Outcome Rates by Revised Risk Assessment Level

Table 8 shows recommitment outcome rates by revised risk level.

Table 8				
Arizona Department of Juvenile Corrections Recommitment by Revised Risk Level				
Risk Level	N	%	Recommitment Rate	
			N	%
Low	343	27.1%	63	18.4%
Medium	638	50.4%	245	38.4%
High	284	22.5%	172	60.6%
Total Sample	1,265	100.0%	480	37.9%

Outcome Rates by Revised Risk Assessment Level by Race/Ethnicity

Table 9				
Arizona Department of Juvenile Corrections				
Recommitment by Revised Risk Assessment Level and Youth Race/Ethnicity				
Risk Level	N	%	Recommitment Rate	
			N	%
Total Sample	1,265	100.0%	480	37.9%
Hispanic/Mexican National				
Low	186	28.2%	32	17.2%
Medium	347	52.7%	137	39.5%
High	126	19.1%	77	61.1%
Subgroup Total	659	100.0%	246	37.3%
African American				
Low	29	21.8%	7	24.1%
Medium	64	48.1%	24	37.5%
High	40	30.1%	26	65.0%
Subgroup Total	133	100.0%	57	42.9%
Caucasian				
Low	109	27.4%	19	17.4%
Medium	193	48.5%	69	35.8%
High	96	24.1%	56	58.3%
Subgroup Total	398	100.0%	144	36.2%
Other (majority of this group is Native American youth)				
Low	19	25.3%	5	26.3%
Medium	34	45.3%	15	44.1%
High	22	29.3%	13	59.0%
Subgroup Total	75	100.0%	33	44.0%

Outcome Rates by Revised Risk Assessment Level by Gender

Table 10				
Arizona Department of Juvenile Corrections Recommitment by Revised Risk Level and Youth Gender				
Risk Level	N	%	Recommitment Rate	
			N	%
Total Sample	1,265	100.0%	480	37.9%
Female				
Low	32	20.9%	5	15.6%
Medium	76	49.7%	29	38.2%
High	45	29.4%	25	55.6%
Subgroup Total	153	100.0%	59	38.6%
Male				
Low	311	28.0%	58	18.6%
Medium	562	50.5%	216	38.4%
High	239	21.5%	147	61.5%
Subgroup Total	1,112	100.0%	421	37.9%

Table 11	
Arizona Department of Juvenile Corrections Area Under the Curve (AUC) for Revised Risk Assessment (N = 1,265)	
Outcome	AUC
Recommitment	.689*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5.)

Table 12						
Arizona Department of Juvenile Corrections DIFR Scores for Revised Risk Assessment						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Recommitment	.68	.68	.67	.68	.66	.71

FLORIDA DEPARTMENT OF JUVENILE JUSTICE PACT RISK ASSESSMENT VALIDATION RESULTS COMMITMENT/RESIDENTIAL PLACEMENT SAMPLE

Sample Description

The Florida Department of Juvenile Justice (FL DJJ) provided data for 12,694 youth released from residential placement between July 1, 2007 and June 30, 2009. If a youth was released from placement more than one time during the period, NCCD selected the first release for the sample. Next, NCCD selected a sample of youth with a PACT pre- or full-screen assessment completed within 90 days prior to or 30 days following the placement start. Note that the risk level is derived from pre-screen items, and that the pre-screen items are all contained within the full assessment. Pre-screen assessments were selected if available; full PACT assessments were selected if a pre-screen was not available within the selection timeframe. If more than one PACT was completed within the 90/30 timeframe, the assessment closest to residential placement release was selected for the sample. Selection resulted in a final sample of 11,154 youth. Outcomes include new arrest, new conviction/adjudication, and new commitment/prison and were available for both juvenile and adult courts.¹⁹ Outcomes were measured for a 12-month standardized follow-up period starting on the date the youth was released from residential placement. Sample characteristics and outcome rates are illustrated in Table 1.

¹⁹ Outcome data were available from Florida DJJ, Florida DOC, and the Florida Department of Law Enforcement (FDLE).

Table 1								
Florida Department of Juvenile Justice								
PACT Validation: Commitment/Residential Placement Sample								
Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Arrest		New Conviction/Adjudication		New Juvenile Commitment/Adult Prison	
			N	%	N	%	N	%
Total Sample	11,154	100.0%	6,900	61.9%	4,892	43.9%	2,446	21.9%
Gender								
Male	9,449	84.7%	6,150	65.1%	4,399	46.6%	2,213	23.4%
Female	1,705	15.3%	750	44.0%	493	28.9%	233	13.7%
Race/Ethnicity								
African American	5,571	49.9%	3,842	69.0%	2,782	49.9%	1,477	26.5%
Caucasian	4,093	36.7%	2,175	53.1%	1,552	37.9%	720	17.6%
Hispanic	1,174	10.5%	682	58.1%	429	36.5%	199	17.0%
Other/Unknown	316	2.8%	201	63.6%	129	40.8%	50	15.8%
Age at release complaint								
11 years or under	7	0.1%	5	71.4%	3	42.9%	2	28.6%
12 years	28	0.3%	19	67.9%	19	67.9%	14	50.0%
13 years	186	1.7%	126	67.7%	100	53.8%	68	36.6%
14 years	676	6.1%	453	67.0%	372	55.0%	276	40.8%
15 years	1,615	14.5%	1,083	67.1%	838	51.9%	549	34.0%
16 years	2,662	23.9%	1,704	64.0%	1,265	47.5%	767	28.8%
17 years	3,159	28.3%	1,881	59.5%	1,275	40.4%	520	16.5%
18 or older	2,821	25.3%	1,629	57.7%	1,020	36.2%	250	8.9%
Index offense type (most serious)²⁰								
Felony	5,125	45.9%	3,284	64.1%	2,355	46.0%	1,223	23.9%
Misdemeanor	2,576	23.1%	1,628	63.2%	1,147	44.5%	582	22.6%
Technical	2,957	26.5%	1,679	56.8%	1,175	39.7%	537	18.2%
Other	496	4.4%	309	62.3%	215	43.3%	104	21.0%

²⁰ The index offense type represents the offense committed most recently prior to commitment start. Technical and other violations may represent more serious offense types that were violations of the youth's probation, resulting in the sample commitment.

PACT Pre-Screen Assessment Findings

The PACT pre-screen items are divided into four domains: record of referrals, social history, mental health, and attitude/behavioral indicators. The items in the record of referrals and social history sections are summed to produce a record of referrals risk score and a social history risk score. The overall pre-screen risk level is determined by a matrix of the scores from those two domains. Outcomes by overall risk level are described in the following sections.

Outcome Rates by PACT Pre-Screen Risk Level

Table 2 shows outcome rates by PACT pre-screen risk assessment level. Note that this risk level reflects the risk level calculated for each youth within 90 days prior to or 30 days following release from residential placement.

Table 2								
Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Outcome Rates by PACT Risk Level								
Current Risk Level	N	%	12-Month Outcomes					
			New Arrest		New Conviction/Adjudication		New Juvenile Commitment/Adult Prison	
			N	%	N	%	N	%
Total Sample	11,154	100.0%	6,900	61.9%	4,892	43.9%	2,446	21.9%
Low	1,410	12.6%	605	42.9%	409	29.0%	160	11.3%
Moderate	1,830	16.4%	1,001	54.7%	724	39.6%	342	18.7%
Moderate-high	3,636	32.6%	2,349	64.6%	1,659	45.6%	832	22.9%
High	4,278	38.4%	2,945	68.8%	2,100	49.1%	1,112	26.0%

Table 3 Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Outcome Rates by Current Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	N	%	12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Juvenile Commitment/Adult Prison	
			N	%	N	%	N	%
Total Sample	11,154	100.0%	6,900	61.9%	4,892	43.9%	2,446	21.9%
African American								
Low	592	10.6%	305	51.5%	204	34.5%	90	15.2%
Moderate	835	15.0%	530	63.5%	401	48.0%	207	24.8%
Moderate-high	1,991	35.7%	1,405	70.6%	1,016	51.0%	547	27.5%
High	2,153	38.6%	1,602	74.4%	1,161	53.9%	633	29.4%
Subgroup Total	5,571	100.0%	3,842	69.0%	2,782	49.9%	1,477	26.5%
Caucasian								
Low	651	15.9%	237	36.4%	157	24.1%	53	8.1%
Moderate	759	18.5%	353	46.5%	250	32.9%	107	14.1%
Moderate-high	1,145	28.0%	639	55.8%	458	40.0%	208	18.2%
High	1,538	37.6%	946	61.5%	687	44.7%	352	22.9%
Subgroup Total	4,093	100.0%	2,175	53.1%	1,552	37.9%	720	17.6%
Hispanic								
Low	129	11.0%	51	39.5%	38	29.5%	11	8.5%
Moderate	184	15.7%	91	49.5%	58	31.5%	24	13.0%
Moderate-high	378	32.2%	218	57.7%	126	33.3%	57	15.1%
High	483	41.1%	322	66.7%	207	42.9%	107	22.2%
Subgroup Total	1,174	100.0%	682	58.1%	429	36.5%	199	17.0%
Other								
Low	38	12.0%	12	31.6%	10	26.3%	6	15.8%
Moderate	52	16.5%	27	51.9%	15	28.8%	4	7.7%
Moderate-high	122	38.6%	87	71.3%	59	48.4%	20	16.4%
High	104	32.9%	75	72.1%	45	43.3%	20	19.2%
Subgroup Total	316	100.0%	201	63.6%	129	40.8%	50	15.8%

Table 4 Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Outcome Rates by Risk Level by Youth Gender								
Gender	N	%	12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Juvenile Commitment/Adult Prison	
			N	%	N	%	N	%
Total Sample	11,154	100.0%	6,900	61.9%	4,892	43.9%	2,446	21.9%
Male								
Low	1,179	12.5%	542	46.0%	363	30.8%	137	11.6%
Moderate	1,518	16.1%	886	58.4%	645	42.5%	310	20.4%
Moderate-high	3,142	33.3%	2,121	67.5%	1,512	48.1%	762	24.3%
High	3,610	38.2%	2,601	72.0%	1,879	52.0%	1,004	27.8%
Male Subgroup Total	9,449	100.0%	6,150	65.1%	4,399	46.6%	2,213	23.4%
Female								
Low	231	13.5%	63	27.3%	46	19.9%	23	10.0%
Moderate	312	18.3%	115	36.9%	79	25.3%	32	10.3%
Moderate-high	494	29.0%	228	46.2%	147	29.8%	70	14.2%
High	668	39.2%	344	51.5%	221	33.1%	108	16.2%
Female Subgroup Total	1,705	100.0%	750	44.0%	493	28.9%	233	13.7%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .628 for the new complaint outcome, .619 for the new petition filed outcome, and .615 for the new adjudication outcome, for the total sample. These AUC scores were significantly different from .5 (indicated with *), indicating predictive abilities were greater than chance.

Table 5a Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Area Under the Curve (AUC) Criminal History Risk Score						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	11,154	9,449	1,705	4,093	5,571	1,174
New arrest	.613*	.609*	.602*	.602*	.594*	.594*
New conviction/adjudication	.580*	.576*	.566*	.580*	.560*	.556*
New juvenile commitment/adult prison	.588*	.586*	.557*	.596*	.563*	.598*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 5b Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Area Under the Curve (AUC) Social History Risk Score						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	11,154	9,449	1,705	4,093	5,571	1,174
New arrest	.529*	.543*	.530*	.547*	.535*	.573*
New conviction/adjudication	.524*	.536*	.516	.551*	.526*	.542*
New juvenile commitment/adult prison	.524*	.531*	.536	.557*	.523*	.544

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups for the current risk assessment. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level. The index, however, measures distance from the mean without considering whether it is in the expected or logical direction; therefore, when outcome rates do not conform to the basic expectation that “failure rates” will increase as risk levels increase, the test is inappropriate (Silver and Banks, 1998).

Table 6 Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample DIFR Scores for PACT Assessment							
Outcome	Total Sample	Male Sample	Female Sample	African American Sample	Caucasian Sample	Hispanic Sample	Other Race/ Ethnicity Sample
New arrest	.36	.36	.36	.31	.37	.37	.59
New conviction/adjudication	.28	.28	.23	.23	.33	.23	*
New juvenile commitment/adult prison	.33	.34	.23	.25	.42	.37	*

*Outcome rates did not increase with each increase in risk level for these groups; therefore, a DIFR score was not calculated.

Table 7 shows the correlations for each item and the outcome rate by item response for each of the current risk assessment items.

Correlations and outcome rates are based on the way each item is scored on the PACT pre-screen assessment. Items that do not contribute to the risk score were not included in the table.

Table 7														
Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Juvenile Commitment/Adult Prison			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
D1.1 Age at first offense					.137	.000			.122	.000			.149	.000
Over 16	240	2.2%	99	41.3%			54	22.5%			10	4.2%		
16	780	7.0%	375	48.1%			250	32.1%			57	7.3%		
15	1,469	13.2%	810	55.1%			549	37.4%			220	15.0%		
13 to 14	4,368	39.2%	2,684	61.4%			1,915	43.8%			991	22.7%		
12 and under	4,297	38.5%	2,932	68.2%			2,124	49.4%			1,168	27.2%		
D1.2 Misdemeanor referrals					.131	.000			.099	.000			.057	.000
None or one	4,113	36.9%	2,239	54.4%			1,566	38.1%			789	19.2%		
Two	2,577	23.1%	1,603	62.2%			1,141	44.3%			575	22.3%		
Three or four	3,109	27.9%	2,075	66.7%			1,479	47.6%			724	23.3%		
Five or more	1,355	12.1%	983	72.5%			706	52.1%			358	26.4%		
D1.3 Felony referrals					.130	.000			.093	.000			.094	.000
None	1,541	13.8%	835	54.2%			601	39.0%			265	17.2%		
One	3,393	30.4%	1,901	56.0%			1,341	39.5%			626	18.4%		
Two	2,762	24.8%	1,725	62.5%			1,194	43.2%			606	21.9%		
Three or more	3,458	31.0%	2,439	70.5%			1,756	50.8%			949	27.4%		

Table 7														
Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Juvenile Commitment/Adult Prison			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
D1.4 Weapon referrals					.135	.000			.025	.004			-.001	.474
None	9,074	81.4%	5,539	61.0%			3,925	43.3%			1,991	21.9%		
One or more	2,080	18.6%	1,361	65.4%			967	46.5%			455	21.9%		
D1.5 Against-person misdemeanor referrals					.053	.000			.045	.000			.045	.000
None	6,401	57.4%	3,833	59.9%			2,695	42.1%			1,325	20.7%		
One	3,005	26.9%	1,899	63.2%			1,358	45.2%			662	22.0%		
Two or more	1,748	15.7%	1,168	66.8%			839	48.0%			459	26.3%		
D1.6 Against-person felony referrals					.036	.000			.011	.117			.033	.000
None	6,645	59.6%	4,033	60.7%			2,900	43.6%			1,398	21.0%		
One or two	4,045	36.3%	2,546	62.9%			1,767	43.7%			918	22.7%		
Three or more	464	4.2%	321	69.2%			225	48.5%			130	28.0%		
D1.9 Confinements in secure detention where youth was held for at least 48 hours					.140	.000			.096	.000			.069	.000
None	1,803	16.2%	950	52.7%			676	37.5%			327	18.1%		
One	2,804	25.1%	1,539	54.9%			1,091	38.9%			527	18.8%		
Two	2,245	20.1%	1,427	63.6%			1,014	45.2%			515	22.9%		
Three or more	4,302	38.6%	2,984	69.4%			2,111	49.1%			1,077	25.0%		
D1.10 Commitment orders where youth served at least one day confined under residential commitment					.069	.000			.055	.000			.070	.000
None	8,233	73.8%	4,943	60.0%			3,498	42.5%			1,675	20.3%		
One	2,321	20.8%	1,522	65.6%			1,070	46.1%			586	25.2%		
Two or more	600	5.4%	435	72.5%			324	54.0%			185	30.8%		

Table 7														
Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Juvenile Commitment/Adult Prison			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
D1.11 Escapes					.015	.062			.018	.030			.033	.000
None	10,933	98.0%	6,753	61.8%			4,782	43.7%			2,376	21.7%		
One	209	1.9%	138	66.0%			103	49.3%			66	31.6%		
Two or more	12	.1%	9	75.0%			7	58.3%			4	33.3%		
D1.12 Pick-up orders for failure to appear in court or absconding supervision					.098	.000			.052	.000			.017	.038
None	5,250	47.1%	2,989	56.9%			2,156	41.1%			1,099	20.9%		
One	2,461	22.1%	1,581	64.2%			1,122	45.6%			577	23.4%		
Two or more	3,443	30.9%	2,330	67.7%			1,614	46.9%			770	22.4%		
D2.1 Youth’s gender					.157	.000			.129	.000			.085	.000
Female	1,706	15.3%	750	44.0%			492	28.8%			233	13.7%		
Male	9,448	84.7%	6,150	65.1%			4,400	46.6%			2,213	23.4%		
D2.2 School ²¹					.045	.000			.045	.000			.028	.002
Category 1	1,994	17.9%	1,162	58.3%			760	38.1%			350	17.6%		
Category 2	3,010	27.0%	1,816	60.3%			1,357	45.1%			737	24.5%		
Category 3	6,150	55.1%	3,922	63.8%			2,775	45.1%			1,359	22.1%		
D2.3 Current friends/companions					.027	.002			.019	.021			.029	.001
Has only pro-social friends	3,744	33.6%	2,306	61.6%			1,606	42.9%			795	21.2%		

²¹ The school item is based on a combination of responses from several items related to school; for the purposes of this report, responses were put into category 1, category 2, and category 3. Category 1 includes no school problems; category 2 would be selected if the youth is enrolled in school and problems reported by teachers or calls to parents, or some full-day unexcused absences, or mostly Cs and Ds, some Fs; category 3 would be selected if the student is enrolled and there were calls to police, or habitual truant, or some Ds and mostly Fs, or if the student dropped out, was expelled, or was suspended from school.

Table 7

**Florida Department of Juvenile Justice
PACT Validation: Commitment/Residential Placement Sample
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Juvenile Commitment/Adult Prison			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
No friends, or pro- and antisocial friends	4,865	43.6%	2,939	60.4%			2,127	43.7%			1,027	21.1%		
Has all antisocial friends	1,784	16.0%	1,145	64.2%			811	45.5%			432	24.2%		
Is gang member/ associate	761	6.8%	510	67.0%			348	45.7%			192	25.2%		
D2.4 History of court-ordered or DCF voluntary out-of-home placement and shelter care placements exceeding 30 days					-.008	.190			-.002	.400			.007	.241
None	9,097	81.6%	5,645	62.1%			3,995	43.9%			1,983	21.8%		
One or more	2,057	18.4%	1,255	61.0%			897	43.6%			463	22.5%		
D2.5 History of running away or times kicked out of home					-.004	.333			-.001	.451			.008	.204
No history	6,084	54.5%	3,768	61.9%			2,654	43.6%			1,309	21.5%		
One	1,524	13.7%	954	62.6%			703	46.1%			352	23.1%		
Two or more	3,546	31.8%	2,178	61.4%			1,535	43.3%			785	22.1%		
D2.6 History of jail/imprisonment of persons who are involved with the household					.037	.000			.038	.000			.036	.000
None	7,099	63.6%	4,296	60.5%			3,013	42.4%			1,477	20.8%		
Sibling, mother, or father	4,055	36.4%	2,604	64.2%			1,879	46.3%			969	23.9%		

Table 7														
Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Juvenile Commitment/Adult Prison			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
D2.7 Current parental authority and control					.043	.000			.036	.000			.029	.001
Youth usually obeys and follows rules	2,450	22.0%	1,415	57.8%			982	40.1%			481	19.6%		
Sometimes obeys or obeys some rules	6,063	54.4%	3,795	62.6%			2,711	44.7%			1,352	22.3%		
Consistently disobeys and/or is hostile	2,641	23.7%	1,690	64.0%			1,199	45.4%			613	23.2%		
D2.8 Current alcohol/drug use					.022	.009			.006	.271			-.011	.117
NA	8,347	74.8%	5,111	61.2%			3,647	43.7%			1,853	22.2%		
Causing family conflict, disrupting education, causing health problems, interfering with keeping pro-social friends, or contributing to criminal behavior	2,807	25.2%	1,789	63.7%			1,245	44.4%			593	21.1%		
D2.9 History of violence/physical abuse/sexual abuse/rape					-.057	.000			-.034	.000			-.012	.106
No physical or sexual abuse	8,800	78.9%	5,570	63.3%			3,936	44.7%			1,952	22.2%		
Physical or sexual abuse	2,354	21.1%	1,330	56.5%			956	40.6%			494	21.0%		
D2.10 History of being a victim of neglect					-.009	.184			-.015	.052			-.002	.416
Not a victim of neglect	10,047	90.1%	6,229	62.0%			4,432	44.1%			2,206	22.0%		

Table 7														
Florida Department of Juvenile Justice PACT Validation: Commitment/Residential Placement Sample Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Juvenile Commitment/Adult Prison			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Victim of neglect	1,107	9.9%	671	60.6%			460	41.6%			240	21.7%		
D2.11 History of mental health problems					-.019	.021			-.004	.336			-.006	.256
No history	8,945	80.2%	5,575	62.3%			3,932	44.0%			1,973	22.1%		
Diagnosed with mental health problems/mental health treatment prescribed/ treatment and medication	2,209	19.8%	1,325	60.0%			960	43.5%			473	21.4%		

Revised Risk Assessments

NCCD wanted to determine if a revised assessment could be developed that would simplify scoring and improve the distribution of youth between risk levels. The PACT validation suggested the assessment may work differently for boys and girls. This may be due to differences in base rates between groups, or it may indicate that risk items for boys differ from risk items for girls. In order to determine if gender-specific risk assessments produce better results for each group, NCCD attempted to develop gender-specific revised assessments; however, a number of issues precluded the development of revised risk assessments. The attempt for boys revealed substantial differences in recidivism rates by race across most of the items available on the PACT (data were limited to items contained on the PACT). Similar attempts for girls indicated that the resulting classifications were not robust enough to withstand the validation process, possibly because outcome rates were substantially different between the construction and validation samples, items on the PACT were insufficient, or other data anomalies. Therefore, we were unable to construct a risk assessment for youth in the commitment sample.

FLORIDA DEPARTMENT OF JUVENILE JUSTICE PACT RISK ASSESSMENT VALIDATION RESULTS PROBATION SAMPLE

Sample Description

The Florida Department of Juvenile Justice (FL DJJ) provided data for 39,111 youth whose probation ended between July 1, 2007 and June 30, 2009.²² If a youth was placed on probation and released more than one time during this period, NCCD selected the first probation start for analysis. Next, NCCD selected a sample of youth with a PACT pre- or full-screen assessment completed within 90 days prior to or 30 days following the probation start. Note that the risk level is determined from responses to pre-screen items, but that the pre-screen items are all contained within the full assessment. Pre-screen assessments were selected, if available, within that period; if a pre-screen was not completed within the 90/30 day timeframe, NCCD selected a full PACT assessment instead. If more than one PACT was completed within the 90/30 timeframe, the assessment closest to probation start was selected for the sample (pre-screens were always selected over full assessments, when available).²³ Next, because only Juvenile Justice Information System (JJIS) data were available for the probation sample, youth who were age 17 or older at the time of probation start were omitted from the analysis.²⁴ Finally, NCCD examined service history files to determine the number of days each youth was placed in detention or residential commitment during the 12-month probation follow-up

²² The original file provided by FL DJJ included all types of placements ending during this period; note that probation start rather than probation end will be used as the start of the follow-up period for this sample. Probation start dates did not necessarily fall within the two-year period noted here.

²³ A PACT assessment completed within 90 days prior to or 30 days following probation start was identified for 30,301 of the 39,111 youth in the sample pool. The arrest and adjudication outcome rates were similar for youth with a PACT completed within the 90/30 timeframe. The commitment outcome rate, however, was nearly twice as high for youth with a PACT completed within 90 days prior or 30 days after probation start (12.3%) compared to youth without a PACT completed in that timeframe (6.6%).

²⁴ This resulted in the removal of 2,770 individuals who were age 18 or older at probation start.

period. Youth who were in detention or commitment for the entire follow-up period (i.e., 365 days) were removed from the sample pool. Selection resulted in a final sample of 27,369 youth.²⁵

The original data files provided by FL DJJ included pre-rolled JJIS and adult outcomes. However, the outcome period for that dataset began at the youths' release from probation. For the purposes of this study, NCCD wished to examine outcomes for probation youth for 12 months from probation start. To that end, FL DJJ provided NCCD raw offense, adjudication, and disposition data so that outcomes could be examined beginning on the probation start date, or completion of the PACT, whichever date was later. Outcomes for the probation sample include new JJIS offense, new JJIS conviction/adjudication, and new JJIS commitment. Sample characteristics by outcome rates are illustrated in Table 1.

²⁵ FL DJJ provided placement/service history data for all youth with a probation release; youth who were committed to a facility for all 365 days of the follow-up period were omitted from the sample because they were in placement and could therefore not commit a new offense. There were 162 youths under the age of 18 with a completed PACT who were in placement for their entire follow-up period.

r: February 25, 2013

Table 1 Florida Department of Juvenile Justice PACT Validation: Probation Sample Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Arrest/Offense (JJIS only)		New Conviction/Adjudication (JJIS only)		New Commitment (JJIS only)	
			N	%	N	%	N	%
Total Sample	27,369	100.0%	13,733	50.2%	9,813	35.9%	3,667	13.4%
Gender								
Male	20,621	75.3%	10,703	51.9%	7,634	37.0%	3,047	14.8%
Female	6,748	24.7%	3,030	44.9%	2,179	32.3%	620	9.2%
Race/Ethnicity								
African American	10,965	40.1%	6,177	56.3%	4,429	40.4%	1,838	16.8%
Caucasian	11,664	42.6%	5,327	45.7%	3,938	33.8%	1,342	11.5%
Hispanic	3,885	14.2%	1,778	45.8%	1,136	29.2%	367	9.4%
Other/Unknown	855	3.1%	451	52.7%	310	36.3%	120	14.0%
Age at probation start								
Under 11 years	60	.2%	18	30.0%	14	23.3%	5	8.3%
11 years	167	.6%	64	38.3%	47	28.1%	15	9.0%
12 years	588	2.1%	295	50.2%	226	38.4%	93	15.8%
13 years	1,762	6.4%	958	54.4%	764	43.4%	370	21.0%
14 years	3,428	12.5%	1,942	56.7%	1,516	44.2%	732	21.4%
15 years	5,397	19.7%	3,062	56.7%	2,339	43.3%	1,004	18.6%
16 years	7,274	26.6%	3,945	54.2%	2,808	38.6%	980	13.5%
17 years	8,693	31.8%	3,449	39.7%	2,099	24.1%	468	5.4%
Index offense type (most serious)								
Felony	14,141	51.7%	6,984	49.4%	4,981	35.2%	1,989	14.1%
Misdemeanor	10,106	36.9%	5,158	51.0%	3,704	36.7%	1,286	12.7%
Technical	399	1.5%	285	71.4%	201	50.4%	106	26.6%
Other	2,722	9.9%	1,306	48.0%	927	34.1%	286	10.5%

PACT Assessment Findings

Outcome Rates by PACT Pre-Screen Risk Level

Table 2 shows outcome rates by PACT pre-screen risk assessment level. Note that this risk level reflects the risk level calculated for each youth within 90 days prior to or 30 days following probation start.

Table 2 Florida Department of Juvenile Justice PACT Validation: Probation Sample Outcome Rates by PACT Risk Level								
Current Risk Level	N	%	12-Month Outcomes					
			New Arrest		New Conviction/Adjudication		New Commitment	
			N	%	N	%	N	%
Total Sample	27,369	100.0%	13,733	50.2%	9,813	35.9%	3,667	13.4%
Low	18,350	67.0%	7,854	42.8%	5,500	30.0%	1,623	8.8%
Moderate	4,839	17.7%	2,958	61.1%	2,148	44.4%	880	18.2%
Moderate-high	2,741	10.0%	1,842	67.2%	1,337	48.8%	682	24.9%
High	1,439	5.3%	1,079	75.0%	828	57.5%	482	33.5%

r: February 25, 2013

Table 3 Florida Department of Juvenile Justice PACT Validation: Probation Sample Outcome Rates by Current Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	N	%	12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Commitment	
			N	%	N	%	N	%
Total Sample	27,369	100.0%	13,733	50.2%	9,813	35.9%	3,667	13.4%
African American								
Low	6,941	63.3%	3,385	48.8%	2,384	34.3%	801	11.5%
Moderate	2,052	18.7%	1,333	65.0%	958	46.7%	430	21.0%
Moderate-high	1,329	12.1%	942	70.9%	676	50.9%	359	27.0%
High	643	5.9%	517	80.4%	411	63.9%	248	38.6%
Subgroup Total	10,965	100.0%	6,177	56.3%	4,429	40.4%	1,838	16.8%
Caucasian								
Low	8,155	69.9%	3,156	38.7%	2,289	28.1%	615	7.5%
Moderate	1,960	16.8%	1,146	58.5%	879	44.8%	331	16.9%
Moderate-high	963	8.3%	608	63.1%	461	47.9%	229	23.8%
High	586	5.0%	417	71.2%	309	52.7%	167	28.5%
Subgroup Total	11,664	100.0%	5,327	45.7%	3,938	33.8%	1,342	11.5%
Hispanic								
Low	2,714	69.9%	1,071	39.5%	666	24.5%	167	6.2%
Moderate	667	17.2%	384	57.6%	243	36.4%	82	12.3%
Moderate-high	344	8.9%	217	63.1%	147	42.7%	66	19.2%
High	160	4.1%	106	66.3%	80	50.0%	52	32.5%
Subgroup Total	3,885	100.0%	1,778	45.8%	1,136	29.2%	367	9.4%
Other								
Low	540	63.2%	242	44.8%	161	29.8%	40	7.4%
Moderate	160	18.7%	95	59.4%	68	42.5%	37	23.1%
Moderate-high	105	12.3%	75	71.4%	53	50.5%	28	26.7%
High	50	5.8%	39	78.0%	28	56.0%	15	30.0%
Subgroup Total	855	100.0%	451	52.7%	310	36.3%	120	14.0%

r: February 25, 2013

Table 4 Florida Department of Juvenile Justice PACT Validation: Probation Sample Outcome Rates by Risk Level by Youth Gender								
Gender	N	%	12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Commitment	
			N	%	N	%	N	%
Total Sample	27,369	100.0%	13,733	50.2%	9,813	35.9%	3,667	13.4%
Male								
Low	13,631	66.1%	6,050	44.4%	4,234	31.1%	1,344	9.9%
Moderate	3,690	17.9%	2,305	62.5%	1,669	45.2%	727	19.7%
Moderate-high	2,157	10.5%	1,488	69.0%	1,075	49.8%	575	26.7%
High	1,143	5.5%	860	75.2%	656	57.4%	401	35.1%
Male Subgroup Total	20,621	100.0%	10,703	51.9%	7,634	37.0%	3,047	14.8%
Female								
Low	4,719	69.9%	1,804	38.2%	1,266	26.8%	279	5.9%
Moderate	1,149	17.0%	653	56.8%	479	41.7%	153	13.3%
Moderate-high	584	8.7%	354	60.6%	262	44.9%	107	18.3%
High	296	4.4%	219	74.0%	172	58.1%	81	27.4%
Female Subgroup Total	6,748	100.0%	3,030	44.9%	2,179	32.3%	620	9.2%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .628 for the new complaint outcome, .619 for the new petition filed outcome, and .615 for the new adjudication outcome, for the total sample. These AUC scores were significantly different from .5 (indicated with *), indicating predictive abilities were greater than chance.

Table 5a Florida Department of Juvenile Justice PACT Validation: Probation Sample Area Under the Curve (AUC) Criminal History Risk Score						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	27,369	20,621	6,748	11,664	10,965	3,885
New arrest	.608*	.611*	.592*	.597*	.608*	.595*
New conviction/adjudication	.594*	.595*	.584*	.588*	.589*	.591*
New commitment	.644*	.644*	.627*	.638*	.628*	.666*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 5b Florida Department of Juvenile Justice PACT Validation: Probation Sample Area Under the Curve (AUC) Social History Risk Score						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	27,369	20,621	6,748	11,664	10,965	3,885
New arrest	.647*	.639*	.664*	.656*	.652*	.634*
New conviction/adjudication	.629*	.622*	.646*	.635*	.631*	.625*
New commitment	.674*	.662*	.714*	.687*	.670*	.683*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups for the current risk assessment and the revised assessment presented in a later section. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level. The index, however, measures distance from the mean without considering whether it is in the expected or logical direction; therefore, when outcome rates do not conform to the basic expectation that “failure rates” will increase as risk levels increase, the test is inappropriate. (Silver and Banks, 1998).

Table 6 Florida Department of Juvenile Justice PACT Validation: Probation Sample DIFR Scores for PACT Assessment							
Outcome	Total Sample	Male Sample	Female Sample	African American Sample	Caucasian Sample	Hispanic Sample	Other Race/ Ethnicity Sample
New arrest	.46	.46	.44	.46	.45	.40	.49
New conviction/adjudication	.37	.37	.39	.36	.38	.35	.38
New commitment	.55	.54	.57	.51	.56	.56	.72

Table 7 shows the correlations for each item and the outcome rate by item response for each of the current risk assessment items.

Correlations and outcome rates are based on the way each item is scored on the PACT pre-screen assessment. Items that do not contribute to the risk score were not included in the table.

Table 7														
Florida Department of Juvenile Justice PACT Validation: Probation Sample Current Risk Assessment Item Analysis														
Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
D1.1 Age at first offense					.143	.000			.138	.000			.134	.000
Over 16	1,927	7.0%	559	29.0%			334	17.3%			59	3.1%		
16	4,092	15.0%	1,764	43.1%			1,172	28.6%			317	7.7%		
15	4,997	18.3%	2,445	48.9%			1,720	34.4%			583	11.7%		
13 to 14	10,035	36.7%	5,315	53.0%			3,884	38.7%			1,516	15.1%		
12 and under	6,318	23.1%	3,650	57.8%			2,703	42.8%			1,192	18.9%		
D1.2 Misdemeanor referrals					.128	.000			.105	.000			.086	.000
None or one	16,761	61.2%	7,650	45.6%			5,418	32.3%			1,932	11.5%		
Two	6,427	23.5%	3,466	53.9%			2,485	38.7%			913	14.2%		
Three or four	3,592	13.1%	2,200	61.2%			1,598	44.5%			675	18.8%		
Five or more	589	2.2%	417	70.8%			312	53.0%			147	25.0%		
D1.3 Felony referrals					.089	.000			.072	.000			.105	.000
None	10,207	37.3%	4,869	47.7%			3,465	33.9%			1,105	10.8%		
One	12,253	44.8%	5,845	47.7%			4,166	34.0%			1,520	12.4%		
Two	3,572	13.1%	2,153	60.3%			1,544	43.2%			704	19.7%		
Three or more	1,337	4.9%	866	64.8%			638	47.7%			338	25.3%		
D1.4 Weapon referrals					.010	.045			.000	.473			.013	.013
None	24,434	89.3%	12,217	50.0%			8,759	35.8%			3,235	13.2%		
One or more	2,935	10.7%	1,516	51.7%			1,054	35.9%			432	14.7%		
D1.5 Against-person misdemeanor referrals					.072	.000			.062	.000			.045	.000

Table 7

**Florida Department of Juvenile Justice
PACT Validation: Probation Sample
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
None	19,357	70.7%	9,289	48.0%			6,575	34.0%			2,404	12.4%		
One	6,106	22.3%	3,309	54.2%			2,425	39.7%			942	15.4%		
Two or more	1,906	7.0%	1,135	59.5%			813	42.7%			321	16.8%		
D1.6 Against-person felony referrals					.027	.000			.018	.001			.039	.000
None	21,618	79.0%	10,720	49.6%			7,669	35.5%			2,765	12.8%		
One or two	5,611	20.5%	2,915	52.0%			2,074	37.0%			860	15.3%		
Three or more	140	0.5%	98	70.0%			70	50.0%			42	30.0%		
D1.9 Confinements in secure detention where youth was held for at least 48 hours					.146	.000			.102	.000			.136	.000
None	20,662	75.5%	9,526	46.1%			6,824	33.0%			2,247	10.9%		
One	4,539	16.6%	2,699	59.5%			1,938	42.7%			858	18.9%		
Two	1,171	4.3%	806	68.8%			572	48.8%			296	25.3%		
Three or more	997	3.6%	702	70.4%			479	48.0%			266	26.7%		
D1.10 Commitment orders where youth served at least one day confined under residential commitment					.048	.000			.025	.000			.043	.000
None	26,388	96.4%	13,112	49.7%			9,400	35.6%			3,458	13.1%		
One	847	3.1%	536	63.3%			355	41.9%			181	21.4%		
Two or more	134	0.5%	85	63.4%			58	43.3%			28	20.9%		
D1.11 Escapes					.012	.021			.002	.353			.000	.482
None	27,326	99.8%	13,705	50.2%			9,797	35.9%			3,661	13.4%		
One	42	0.2%	27	64.3%			15	35.7%			6	14.3%		
Two or more	1	0.0%	1	100.0%			1	100.0%			0	0.0%		
D1.12 Pick-up orders for failure to appear in court or absconding supervision					.135	.000			.097	.000			.094	.000
None	22,864	83.5%	10,793	47.2%			7,721	33.8%			2,735	12.0%		
One	3,101	11.3%	1,955	63.0%			1,399	45.1%			613	19.8%		

Table 7

**Florida Department of Juvenile Justice
PACT Validation: Probation Sample
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Two or more	1,404	5.1%	985	70.2%			693	49.4%			319	22.7%		
D2.1 Youth's gender					.059	.000			.043	.000			.070	.000
Female	6,752	24.7%	3,037	45.0%			2,180	32.3%			623	9.2%		
Male	20,617	75.3%	10,696	51.9%			7,633	37.0%			3,044	14.8%		
D2.2 School ²⁶					.174	.000			.144	.000			.136	.000
Category 1	8,390	30.7%	3,155	37.6%			2,126	25.3%			558	6.7%		
Category 2	9,455	34.5%	4,929	52.1%			3,623	38.3%			1,373	14.5%		
Category 3	9,524	34.8%	5,649	59.3%			4,064	42.7%			1,736	18.2%		
D2.3 Current friends/companions					.117	.000			.086	.000			.091	.000
Has only pro-social friends	7,750	28.3%	3,350	43.2%			2,395	30.9%			782	10.1%		
No friends, or pro- and antisocial friends	16,591	60.6%	8,444	50.9%			6,039	36.4%			2,240	13.5%		
Has all antisocial friends	2,158	7.9%	1,365	63.3%			973	45.1%			442	20.5%		
Is gang member/ associate	870	3.2%	574	66.0%			406	46.7%			203	23.3%		
D2.4 History of court-ordered or DCF voluntary out-of-home placement and shelter care placements exceeding 30 days					.069	.000			.061	.000			.059	.000
None	24,667	90.1%	12,097	49.0%			8,605	34.9%			3,142	12.7%		
One or more	2,702	9.9%	1,636	60.5%			1,208	44.7%			525	19.4%		
D2.5 History of running away or times kicked out of home					.145	.000			.129	.000			.132	.000
No history	21,091	77.1%	9,776	46.4%			6,864	32.5%			2,335	11.1%		

²⁶ The school item is based on a combination of responses from several items related to school; for the purposes of this report, responses were put into category 1, category 2, and category 3. Category 1 includes no school problems; category 2 would be selected if the youth is enrolled in school and problems reported by teachers or calls to parents, or some full-day unexcused absences, or mostly Cs and Ds, some Fs; category 3 would be selected if the student is enrolled and there were calls to police, or habitual truant, or some Ds and mostly Fs, or if the student dropped out, was expelled, or was suspended from school.

Table 7

**Florida Department of Juvenile Justice
PACT Validation: Probation Sample
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
One	2,570	9.4%	1,495	58.2%			1,118	43.5%			455	17.7%		
Two or more	3,708	13.5%	2,462	66.4%			1,831	49.4%			877	23.7%		
D2.6 History of jail/imprisonment of persons who are involved with the household					.083	.000			.070	.000			.066	.000
None	21,019	76.8%	10,070	47.9%			7,147	34.0%			2,556	12.2%		
Sibling, mother, or father	6,350	23.2%	3,663	57.7%			2,666	42.0%			1,111	17.5%		
D2.7 Current parental authority and control					.183	.000			.161	.000			.152	.000
Youth usually obeys and follows rules	12,606	46.1%	5,166	41.0%			3,556	28.2%			1,096	8.7%		
Sometimes obeys or obeys some rules	12,265	44.8%	6,860	55.9%			4,959	40.4%			1,914	15.6%		
Consistently disobeys and/or is hostile	2,498	9.1%	1,707	68.3%			1,298	52.0%			657	26.3%		
D2.8 Current alcohol/drug use					.089	.000			.081	.000			.077	.000
NA	24,209	88.5%	11,756	48.6%			8,339	34.4%			3,013	12.4%		
Causing family conflict, disrupting education, causing health problems, interfering with keeping pro-social friends, or contributing to criminal behavior	3,160	11.5%	1,977	62.6%			1,474	46.6%			654	20.7%		
D2.9 History of violence/physical abuse/sexual abuse/rape					.058	.000			.056	.000			.039	.000
No physical or sexual abuse	23,640	86.4%	11,588	49.0%			8,224	34.8%			3,044	12.9%		

Table 7

**Florida Department of Juvenile Justice
PACT Validation: Probation Sample
Current Risk Assessment Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			New Arrest				New Conviction/Adjudication				New Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Physical or sexual abuse	3,729	13.6%	2,145	57.5%			1,589	42.6%			623	16.7%		
D2.10 History of being a victim of neglect					.054	.000			.054	.000			.043	.000
Not a victim of neglect	26,053	95.2%	12,915	49.6%			9,190	35.3%			3,405	13.1%		
Victim of neglect	1,316	4.8%	818	62.2%			623	47.3%			262	19.9%		
D2.11 History of mental health problems					.042	.000			.042	.000			.054	.000
No history	24,583	89.8%	12,161	49.5%			8,648	35.2%			3,142	12.8%		
Diagnosed with mental health problems/mental health treatment prescribed/treatment and medication	2,786	10.2%	1,572	56.4%			1,165	41.8%			525	18.8%		

Revised Risk Assessments

NCCD wanted to determine if a revised assessment could be developed that would simplify scoring and improve the distribution of youth between risk levels. The PACT validation suggested the assessment may work differently for boys and girls. This may be due to differences in base rates between groups, or it may indicate risk items for boys differ from risk items for girls. In order to determine if assessments created for boys and girls differ and produce better results for each group, NCCD developed separate revised assessments for boys and girls.

To construct a simple actuarial risk assessment, the study sample was divided randomly into two groups: a construction sample and a validation sample. The use of two samples allows a scale to be developed on one population (the construction sample) and tested on another (the validation sample). Classification results will be most robust for the sample from which the assessment was constructed. Validating the scale on a separate population better indicates how a risk assessment will perform if actually implemented. The samples were stratified by major race/ethnicity categories to ensure adequate representation across the two groups.

The ability of a risk assessment to classify youth by recidivism is expected to decrease somewhat when the risk assessment is applied to samples other than the construction sample. The amount of classification power lost from construction to validation sample is termed “shrinkage.” Shrinkage is normal and expected.

To construct the risk assessment, bivariate and multivariate analyses were used to determine which risk factors, including prior history items as well as items available on the PACT pre-screen assessment, had the strongest relationships to the outcomes. Those items were used to build new risk indices for boys and girls. The other change to the revised assessments is the use of three rather than four risk levels. Classifying youth into three groups allowed for better distinction between outcome rates at each risk level than the original assessment. The revised assessments and corresponding analyses are presented in the following sections.

Revised Boys’ Risk Assessment

Table 8								
Florida Department of Juvenile Justice Boys' Probation Construction Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Arrest/Offense (JJIS only)		New Conviction/Adjudication (JJIS only)		New Commitment (JJIS only)	
			N	%	N	%	N	%
Construction Sample	10,251	100.0%	5,354	52.2%	3,808	37.1%	1,528	14.9%
Race/Ethnicity								
African American	3,973	38.8%	2,380	59.9%	1,704	42.9%	776	19.5%
Caucasian	4,330	42.2%	2,002	46.2%	1,469	33.9%	524	12.1%
Hispanic	1,604	15.6%	780	48.6%	502	31.3%	163	10.2%
Other/Unknown	344	3.4%	192	55.8%	133	38.7%	65	18.9%
Age at probation start								
Under 11 years	24	0.2%	6	25.0%	5	20.8%	2	8.3%
11 years	65	0.6%	22	33.8%	19	29.2%	6	9.2%
12 years	243	2.4%	116	47.7%	92	37.9%	40	16.5%
13 years	695	6.8%	375	54.0%	303	43.6%	158	22.7%
14 years	1,253	12.2%	706	56.3%	552	44.1%	289	23.1%
15 years	2,005	19.6%	1,217	60.7%	935	46.6%	421	21.0%
16 years	2,662	26.0%	1,521	57.1%	1,084	40.7%	406	15.3%
17 years	3,304	32.2%	1,391	42.1%	818	24.8%	206	6.2%
Index offense type (most serious)								
Felony	5,808	56.7%	2,938	50.6%	2,079	35.8%	857	14.8%
Misdemeanor	3,419	33.4%	1,896	55.5%	1,348	39.4%	523	15.3%
Technical	131	1.3%	87	66.4%	64	48.9%	35	26.7%
Other	893	8.7%	433	48.5%	317	35.5%	113	12.7%
PACT risk level								
Low	6,784	66.2%	3,043	44.9%	2,133	31.4%	681	10.0%
Moderate	1,840	17.9%	1,145	62.2%	825	44.8%	360	19.6%
Moderate-high	1,059	10.3%	726	68.6%	517	48.8%	269	25.4%
High	568	5.5%	440	77.5%	333	58.6%	218	38.4%

Table 9								
Florida Department of Juvenile Justice Boys' Probation Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			New Arrest/Offense (JJIS only)		New Conviction/ Adjudication (JJIS only)		New Commitment (JJIS only)	
			N	%	N	%	N	%
Validation Sample	10,370	100.0%	5,349	51.6%	3,826	36.9%	1,519	14.6%
Race/Ethnicity								
African American	4,082	39.4%	2,416	59.2%	1,741	42.7%	780	19.1%
Caucasian	4,383	42.3%	2,029	46.3%	1,508	34.4%	531	12.1%
Hispanic	1,579	15.2%	723	45.8%	452	28.6%	165	10.4%
Other/Unknown	326	3.1%	181	55.5%	125	38.3%	43	13.2%
Age at probation start								
Under 11 years	25	0.2%	10	40.0%	7	28.0%	2	8.0%
11 years	82	0.8%	35	42.7%	24	29.3%	8	9.8%
12 years	232	2.2%	116	50.0%	88	37.9%	36	15.5%
13 years	650	6.3%	362	55.7%	295	45.4%	150	23.1%
14 years	1,313	12.7%	761	58.0%	588	44.8%	306	23.3%
15 years	2,017	19.5%	1,150	57.0%	879	43.6%	393	19.5%
16 years	2,729	26.3%	1,553	56.9%	1,098	40.2%	432	15.8%
17 years	3,322	32.0%	1,362	41.0%	847	25.5%	192	5.8%
Index offense type (most serious)								
Felony	5,805	56.0%	2,937	50.6%	2,104	36.2%	879	15.1%
Misdemeanor	3,471	33.5%	1,824	52.5%	1,316	37.9%	482	13.9%
Technical	150	1.4%	115	76.7%	78	52.0%	45	30.0%
Other	942	9.1%	473	50.2%	328	34.8%	113	12.0%
PACT risk level								
Low	6,847	66.0%	3,007	43.9%	2,101	30.7%	663	9.7%
Moderate	1,850	17.8%	1,160	62.7%	844	45.6%	367	19.8%
Moderate-high	1,098	10.6%	762	69.4%	558	50.8%	306	27.9%
High	575	5.5%	420	73.0%	323	56.2%	183	31.8%

**Florida Department of Juvenile Justice
 Revised Probation Risk Assessment for Boys**

		<u>Score</u>
1.	Number of prior misdemeanor referrals	
	a. None or one	0
	b. Two.....	1
	c. Three or more.....	2
2.	Number of prior felony referrals	
	a. None or one	0
	b. Two or more.....	1
3.	Number of prior failures to appear in court that resulted in a warrant being issued	
	a. None	0
	b. One or more.....	1
4.	History of runaways or times kicked out of home	
	a. None	0
	b. One or more.....	1
5.	Age at first arrest	
	a. 16 or older.....	-1
	b. 13 to 15	0
	c. 12 or under	1
6.	Current parental authority and control	
	a. Youth usually obeys and follows rules.....	0
	b. Youth sometimes obeys or obeys some rules.....	1
	c. Consistently disobeys and/or is hostile	2
7.	Youth's academic performance in the most recent term	
	a. Not applicable.....	0
	b. One of the following applies.....	1
	<input type="checkbox"/> Youth received mostly Cs and Ds, some Fs (GPA 1.0 to 2.0)	
	<input type="checkbox"/> Youth received some Ds, mostly Fs (GPA below 1.0)	
8.	Youth's school conduct in the most recent term	
	a. None apply	0
	b. One or more of the following apply.....	1
	<input type="checkbox"/> Problems reported by teachers	
	<input type="checkbox"/> Problem calls to parents	
	<input type="checkbox"/> Calls to police	
9.	Youth's enrollment status, attendance in the most recent term	
	a. None apply	0
	b. One or more of the following apply.....	1
	<input type="checkbox"/> Some full-day absences	
	<input type="checkbox"/> Habitual truant	
	<input type="checkbox"/> Dropped out	
10.	Drug use	
	a. Not applicable.....	0
	b. Current drug use	1

Score

11. Accepts responsibility for antisocial behavior

- a. Accepts responsibility for antisocial behavior..... 0
- b. One or more of the following apply..... 1 _____
- ☐ Minimizes, denies, justifies, excuses, or blames others
- ☐ Accepts antisocial behavior as okay
- ☐ Proud of antisocial behavior

12. Jail/imprisonment history of mother/female caretaker for at least three months

- a. Not applicable..... 0
- b. Mother/female caretaker has history of jail/imprisonment..... 1 _____

Total Risk Score _____

Risk Score: Risk Level:

___ -1-1 Low

___ 2-4 Moderate

___ 5-14 High

Outcome Rates by Boys' Risk Assessment Level

Table 9 Florida Department of Juvenile Justice Boys' Probation Sample Outcome Rates by Revised Risk Level								
Revised Risk Level	Distribution		12-Month Outcomes					
			New Arrest		New Conviction/Adjudication		New Commitment	
	N	%	N	%	N	%	N	%
Construction Sample	10,251	100.0%	5,354	52.2%	3,808	37.1%	1,528	14.9%
Low	2,219	21.6%	688	31.0%	438	19.7%	87	3.9%
Moderate	4,404	43.0%	2,178	49.5%	1,493	33.9%	509	11.6%
High	3,628	35.4%	2,488	68.6%	1,877	51.7%	932	25.7%
Validation Sample	10,370	100.0%	5,349	51.6%	3,826	36.9%	1,519	14.6%
Low	2,289	22.1%	706	30.8%	454	19.8%	99	4.3%
Moderate	4,385	42.3%	2,142	48.8%	1,499	34.2%	508	11.6%
High	3,696	35.6%	2,501	67.7%	1,873	50.7%	912	24.7%

Outcome Rates by Revised Boys' Risk Assessment Level by Race/Ethnicity

Table 10								
Florida Department of Juvenile Justice Boys' Probation Construction Sample Outcome Rates by Revised Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Commitment	
	N	%	N	%	N	%	N	%
Construction Sample	10,251	100.0%	5,354	52.2%	3,808	37.1%	1,528	14.9%
African American								
Low	682	17.2%	233	34.2%	152	22.3%	35	5.1%
Moderate	1,711	43.1%	983	57.5%	666	38.9%	264	15.4%
High	1,580	39.8%	1,164	73.7%	886	56.1%	477	30.2%
Subgroup Total	3,973	100.0%	2,380	59.9%	1,704	42.9%	776	19.5%
Caucasian								
Low	1,060	24.5%	305	28.8%	205	19.3%	44	4.2%
Moderate	1,870	43.2%	799	42.7%	581	31.1%	179	9.6%
High	1,400	32.3%	898	64.1%	683	48.8%	301	21.5%
Subgroup Total	4,330	100.0%	2,002	46.2%	1,469	33.9%	524	12.1%
Hispanic								
Low	398	24.8%	127	31.9%	66	16.6%	5	1.3%
Moderate	693	43.2%	326	47.0%	200	28.9%	46	6.6%
High	513	32.0%	327	63.7%	236	46.0%	112	21.8%
Subgroup Total	1,604	100.0%	780	48.6%	502	31.3%	163	10.2%
Other								
Low	79	23.0%	23	29.1%	15	19.0%	3	3.8%
Moderate	130	37.8%	70	53.8%	46	35.4%	20	15.4%
High	135	39.2%	99	73.3%	72	53.3%	42	31.1%
Subgroup Total	344	100.0%	192	55.8%	133	38.7%	65	18.9%

Table 11 Florida Department of Juvenile Justice Boys' Probation Validation Sample Outcome Rates by Revised Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Commitment	
	N	%	N	%	N	%	N	%
Validation Sample	10,370	100.0%	5,349	51.6%	3,826	36.9%	1,519	14.6%
African American								
Low	763	18.7%	286	37.5%	169	22.1%	49	6.4%
Moderate	1,717	42.1%	944	55.0%	676	39.4%	262	15.3%
High	1,602	39.2%	1,186	74.0%	896	55.9%	469	29.3%
Subgroup Total	4,082	100.0%	2,416	59.2%	1,741	42.7%	780	19.1%
Caucasian								
Low	1,042	23.8%	285	27.4%	206	19.8%	36	3.5%
Moderate	1,860	42.4%	816	43.9%	595	32.0%	184	9.9%
High	1,481	33.8%	928	62.7%	707	47.7%	311	21.0%
Subgroup Total	4,383	100.0%	2,029	46.3%	1,508	34.4%	531	12.1%
Hispanic								
Low	411	26.0%	118	28.7%	67	16.3%	13	3.2%
Moderate	677	42.9%	308	45.5%	182	26.9%	51	7.5%
High	491	31.1%	297	60.5%	203	41.3%	101	20.6%
Subgroup Total	1,579	100.0%	723	45.8%	452	28.6%	165	10.4%
Other								
Low	73	22.4%	17	23.3%	12	16.4%	1	1.4%
Moderate	131	40.2%	74	56.5%	46	35.1%	11	8.4%
High	122	37.4%	90	73.8%	67	54.9%	31	25.4%
Subgroup Total	326	100.0%	181	55.5%	125	38.3%	43	13.2%

Table 12 Florida Department of Juvenile Justice Probation Sample: Revised Risk Assessment for Boys Area Under the Curve (AUC)		
Outcome	AUC	
	Construction Sample (n=10,251)	Validation Sample (n=10,370)
New arrest	.677*	.673*
New conviction/adjudication	.663*	.657*
New commitment	.713*	.702*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 13 Florida Department of Juvenile Justice Probation Sample: Revised Risk Assessment for Boys DIFR Scores					
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic Sample	Other Race/Ethnicity Sample
Construction Sample					
N	10,251	3,973	4,330	1,604	344
New arrest	.59	.59	.57	.50	.73
New conviction/adjudication	.55	.53	.52	.55	.53
New commitment	.81	.75	.71	1.23	.96
Validation Sample					
N	10,370	4,082	4,383	1,579	326
New arrest	.58	.58	.56	.50	.83
New conviction/adjudication	.53	.54	.49	.49	.69
New commitment	.76	.66	.77	.82	1.27

Revised Girls' Risk Assessment

Table 14								
Florida Department of Juvenile Justice Girls' Probation Construction Sample Description								
Sample Characteristic	Distribution		12-Month Outcomes					
			New Arrest/Offense (JJIS only)		New Conviction/ Adjudication (JJIS only)		New Commitment (JJIS only)	
	N	%	N	%	N	%	N	%
Construction Sample	3,351	100.0%	1,519	45.3%	1,092	32.6%	296	8.8%
Race/Ethnicity								
African American	1,452	43.3%	694	47.8%	489	33.7%	132	9.1%
Caucasian	1,464	43.7%	645	44.1%	483	33.0%	140	9.6%
Hispanic	358	10.7%	145	40.5%	97	27.1%	19	5.3%
Other/Unknown	77	2.3%	35	45.5%	23	29.9%	5	6.5%
Age at probation start								
Under 11 years	4	0.1%	1	25.0%	1	25.0%	1	25.0%
11 years	6	0.2%	1	16.7%	1	16.7%	0	0.0%
12 years	69	2.1%	39	56.5%	28	40.6%	11	15.9%
13 years	204	6.1%	111	54.4%	85	41.7%	32	15.7%
14 years	433	12.9%	241	55.7%	188	43.4%	63	14.5%
15 years	651	19.4%	321	49.3%	250	38.4%	82	12.6%
16 years	929	27.7%	429	46.2%	304	32.7%	67	7.2%
17 years	1,055	31.5%	376	35.6%	235	22.3%	40	3.8%
Index offense type (most serious)								
Felony	1,256	37.5%	555	44.2%	400	31.8%	123	9.8%
Misdemeanor	1,588	47.4%	729	45.9%	529	33.3%	139	8.8%
Technical	61	1.8%	39	63.9%	26	42.6%	9	14.8%
Other	446	13.3%	196	43.9%	137	30.7%	25	5.6%
PACT risk level								
Low	2,344	69.9%	899	38.4%	634	27.0%	134	5.7%
Moderate	560	16.7%	323	57.7%	240	42.9%	66	11.8%
Moderate-high	295	8.8%	187	63.4%	131	44.4%	60	20.3%
High	152	4.5%	110	72.4%	87	57.2%	36	23.7%

Table 15 Florida Department of Juvenile Justice Girls' Probation Validation Sample Description								
Sample Characteristic	Distribution		12-Month Outcomes					
	N	%	New Arrest/Offense (JJIS only)		New Conviction/Adjudication (JJIS only)		New Commitment (JJIS only)	
			N	%	N	%	N	%
Validation Sample	3,397	100.0%	1,511	44.5%	1,087	32.0%	324	9.5%
Race/Ethnicity								
African American	1,458	42.9%	687	47.1%	495	34.0%	150	10.3%
Caucasian	1,487	43.8%	651	43.8%	478	32.1%	147	9.9%
Hispanic	344	10.1%	130	37.8%	85	24.7%	20	5.8%
Other/Unknown	108	3.2%	43	39.8%	29	26.9%	7	6.5%
Age at probation start								
Under 11 years	7	0.2%	1	14.3%	1	14.3%	0	0.0%
11 years	14	0.4%	6	42.9%	3	21.4%	1	7.1%
12 years	44	1.3%	24	54.5%	18	40.9%	6	13.6%
13 years	213	6.3%	110	51.6%	81	38.0%	30	14.1%
14 years	429	12.6%	234	54.5%	188	43.8%	74	17.2%
15 years	724	21.3%	374	51.7%	275	38.0%	108	14.9%
16 years	954	28.1%	442	46.3%	322	33.8%	75	7.9%
17 years	1,012	29.8%	320	31.6%	199	19.7%	30	3.0%
Index offense type (most serious)								
Felony	1,272	37.4%	554	43.6%	398	31.3%	130	10.2%
Misdemeanor	1,628	47.9%	709	43.6%	511	31.4%	142	8.7%
Technical	57	1.7%	44	77.2%	33	57.9%	17	29.8%
Other	440	13.0%	204	46.4%	145	33.0%	35	8.0%
PACT risk level								
Low	2,375	69.9%	905	38.1%	632	26.6%	145	6.1%
Moderate	589	17.3%	330	56.0%	239	40.6%	87	14.8%
Moderate-high	289	8.5%	167	57.8%	131	45.3%	47	16.3%
High	144	4.2%	109	75.7%	85	59.0%	45	31.3%

**Florida Department of Juvenile Justice
Revised Probation Risk Assessment for Girls**

		<u>Score</u>
1.	Number of prior felony offenses/referrals	
	a. None or one.....	0
	b. Two or more	1
2.	Number of prior failures to appear in court that resulted in a warrant being issued	
	a. None.....	0
	b. One or more	1
3.	Number of prior disposition orders where youth served at least one day confined in detention	
	a. None.....	0
	b. One or more	1
4.	History of runaways or times kicked out of home	
	a. None.....	0
	b. One	1
	b. Two or more	2
5.	Age at first arrest	
	a. 17 or older.....	0
	b. 15–16	1
	c. 14 or under.....	2
6.	Current parental authority and control	
	a. Youth usually obeys and follows rules	0
	b. Youth sometimes obeys or obeys some rules	1
	c. Consistently disobeys and/or is hostile.....	2
7.	Youth currently uses alcohol	
	a. No.....	0
	b. Yes.....	1
8.	Youth currently uses drugs	
	a. No.....	0
	b. Yes.....	1
9.	Youth's academic performance in the most recent term	
	a. Not applicable.....	0
	b. One of the following applies.....	1
	<input type="checkbox"/> Youth received mostly Cs and Ds, some Fs (GPA 1.0 to 2.0)	
	<input type="checkbox"/> Youth received some Ds, mostly Fs (GPA below 1.0)	
10.	Youth's enrollment status, attendance in most recent term	
	a. None apply.....	0
	b. One of the following applies.....	1
	<input type="checkbox"/> Some full-day absences	
	<input type="checkbox"/> Habitual truant	
	<input type="checkbox"/> Expelled	
11.	Jail/imprisonment history of mother/female caretaker for at least three months	
	a. Not applicable.....	0
	b. Mother/female caretaker has history of jail/imprisonment	1

Total Risk Score _____

Risk Score: ____ 0–2 ____ 3–6 ____ 7+	Risk Level: Low Moderate High
-------------------------------------------------------	-----------------------------------------------

Outcome Rates by Revised Girls' Risk Assessment Level

Table 16 Florida Department of Juvenile Justice Girls' Probation Sample Outcome Rates by Revised Risk Level								
Current Risk Level	Distribution		12-Month Outcomes					
			New Arrest		New Conviction/Adjudication		New Commitment	
	N	%	N	%	N	%	N	%
Construction Sample	3,351	100.0%	1,519	45.3%	1,092	32.6%	296	8.8%
Low	796	23.8%	182	22.9%	118	14.8%	10	1.3%
Moderate	1,880	56.1%	861	45.8%	600	31.9%	139	7.4%
High	675	20.1%	476	70.5%	374	55.4%	147	21.8%
Validation Sample	3,397	100.0%	1,511	44.5%	1,087	32.0%	324	9.5%
Low	803	23.6%	215	26.8%	147	18.3%	17	2.1%
Moderate	1,878	55.3%	807	43.0%	573	30.5%	141	7.5%
High	716	21.1%	489	68.3%	367	51.3%	166	23.2%

Outcome Rates by Revised Girls' Risk Assessment Level by Race/Ethnicity

Table 17								
Florida Department of Juvenile Justice Girls' Probation Construction Sample Outcome Rates by Revised Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Commitment	
	N	%	N	%	N	%	N	%
Construction Sample	3,351	100.0%	1,519	45.3%	1,092	32.6%	296	8.8%
African American								
Low	335	23.1%	85	25.4%	55	16.4%	3	0.9%
Moderate	846	58.3%	397	46.9%	274	32.4%	65	7.7%
High	271	18.7%	212	78.2%	160	59.0%	64	23.6%
Subgroup Total	1,452	100.0%	694	47.8%	489	33.7%	132	9.1%
Caucasian								
Low	358	24.5%	73	20.4%	48	13.4%	6	1.7%
Moderate	794	54.2%	361	45.5%	263	33.1%	65	8.2%
High	312	21.3%	211	67.6%	172	55.1%	69	22.1%
Subgroup Total	1,464	100.0%	645	44.1%	483	33.0%	140	9.6%
Hispanic								
Low	86	24.0%	19	22.1%	11	12.8%	1	1.2%
Moderate	202	56.4%	85	42.1%	52	25.7%	8	4.0%
High	70	19.6%	41	58.6%	34	48.6%	10	14.3%
Subgroup Total	358	100.0%	145	40.5%	97	27.1%	19	5.3%
Other								
Low	17	22.1%	5	29.4%	4	23.5%	0	0.0%
Moderate	38	49.4%	18	47.4%	11	28.9%	1	2.6%
High	22	28.6%	12	54.5%	8	36.4%	4	18.2%
Subgroup Total	77	100.0%	35	45.5%	23	29.9%	5	6.5%

Table 18								
Florida Department of Juvenile Justice Girls' Probation Validation Sample Outcome Rates by Revised Risk Level by Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			New Arrest		New Conviction/ Adjudication		New Commitment	
	N	%	N	%	N	%	N	%
Validation Sample	3,397	100.0%	1,511	44.5%	1,087	32.0%	324	9.5%
African American								
Low	343	23.5%	109	31.8%	70	20.4%	6	1.7%
Moderate	841	57.7%	377	44.8%	264	31.4%	67	8.0%
High	274	18.8%	201	73.4%	161	58.8%	77	28.1%
Subgroup Total	1,458	100.0%	687	47.1%	495	34.0%	150	10.3%
Caucasian								
Low	356	23.9%	87	24.4%	66	18.5%	10	2.8%
Moderate	788	53.0%	336	42.6%	246	31.2%	60	7.6%
High	343	23.1%	228	66.5%	166	48.4%	77	22.4%
Subgroup Total	1,487	100.0%	651	43.8%	478	32.1%	147	9.9%
Hispanic								
Low	73	21.2%	15	20.5%	8	11.0%	0	0.0%
Moderate	195	56.7%	68	34.9%	47	24.1%	13	6.7%
High	76	22.1%	47	61.8%	30	39.5%	7	9.2%
Subgroup Total	344	100.0%	130	37.8%	85	24.7%	20	5.8%
Other								
Low	31	28.7%	4	12.9%	3	9.7%	1	3.2%
Moderate	54	50.0%	26	48.1%	16	29.6%	1	1.9%
High	23	21.3%	13	56.5%	10	43.5%	5	21.7%
Subgroup Total	108	100.0%	43	39.8%	29	26.9%	7	6.5%

Table 19 Florida Department of Juvenile Justice Probation Sample: Revised Risk Assessment for Girls Area Under the Curve (AUC)		
Outcome	AUC	
	Construction Sample (n=3,351)	Validation Sample (n=3,397)
New arrest	.693*	.678*
New conviction/adjudication	.681*	.661*
New commitment	.757*	.754*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 20 Florida Department of Juvenile Justice Probation Sample: Revised Risk Assessment for Girls DIFR Scores				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic Sample
Construction Sample				
N	3,351	1,452	1,464	358
New arrest	.69	.76	.72	.54
New conviction/adjudication	.65	.64	.71	.62
New commitment	1.11	1.26	1.01	.92
Validation Sample				
N	3,397	1,458	1,487	344
New arrest	.59	.59	.62	.61
New conviction/adjudication	.52	.56	.49	.55
New commitment	.93	1.08	.83	*

*DIFR cannot be calculated when one or more of the outcome rates are equal to zero.

GEORGIA COMPREHENSIVE RISK AND NEEDS ASSESSMENT VALIDATION RESULTS

Sample Description

The Georgia Department of Juvenile Justice (DJJ) provided a population of 10,350 youth released to the community during 2008. Some youth were released from secure commitment, some were sentenced to community commitment, and some were placed on probation. If a youth experienced more than one release during 2008, NCCD selected the first release as the index incident. NCCD then selected a convenience sample of youth with completed Comprehensive Risk and Need (CRN) assessments. In order to be included in the sample, the CRN had to be completed within 90 days prior to or 45 days following the start of the legal action related to the youth's index release if the youth was in commitment, or within 90 days prior to or 45 days following release for youth serving their sentences in the community (e.g., community commitment or probation). Additional youth were omitted from the sample when an index offense could not be identified. Selection resulted in a final sample of 7,412 youth released to the community in 2008.²⁷ Youth were observed for a standardized 12-month period to determine if subsequent charges (i.e., arrests), adjudications, or commitments to a facility occurred.²⁸

Final sample characteristics and outcome rates are described in Table 1.

²⁷ Note that youth in Georgia who serve their probation in an independent court county are not under DJJ supervision; therefore, recidivating events for youth in Chatham, Clayton, Cobb, Columbia, Crawford, DeKalb, Dougherty, Floyd, Fulton, Glynn, Gordon, Gwinnett, Hall, Peach, Spalding, Troup, and Whitfield counties, which represent about half of Georgia's probated juveniles, may not be captured by this analysis.

²⁸ Adult data were not available for analysis; therefore, outcome rates for youth who were 17 or 18 at the time of the index arrest may be lower because outcomes could not be examined for a full 12-month period for many of these youth.

Table 1 Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			Subsequent Arrest ²⁹		Subsequent Adjudication ³⁰		Subsequent Commitment ³¹	
			N	%	N	%	N	%
Total Sample	7,412	100.0%	2,803	37.8%	2,271	30.6%	255	3.4%
Gender								
Female	2,005	27.1%	578	28.8%	437	21.8%	18	0.9%
Male	5,407	72.9%	2,225	41.2%	1,834	33.9%	237	4.4%
Race/Ethnicity								
Caucasian	2,974	40.1%	890	29.9%	696	23.4%	37	1.2%
African American	3,994	53.9%	1,767	44.2%	1,457	36.5%	205	5.1%
Hispanic	339	4.6%	112	33.0%	89	26.3%	7	2.1%
Other/Unknown	105	1.4%	34	32.4%	29	27.6%	6	5.7%
Age at index arrest								
Under 10 years	7	0.1%	2	28.6%	1	14.3%	0	0.0%
10 years	21	0.3%	5	23.8%	4	19.0%	0	0.0%
11 years	74	1.0%	25	33.8%	23	31.1%	0	0.0%
12 years	264	3.6%	95	36.0%	79	29.9%	2	0.8%
13 years	622	8.4%	278	44.7%	231	37.1%	20	3.2%
14 years	1,212	16.4%	545	45.0%	446	36.8%	33	2.7%
15 years	1,750	23.6%	819	46.8%	660	37.7%	70	4.0%
16 years	2,316	31.2%	850	36.7%	666	28.8%	96	4.1%
17 years	1,132	15.3%	181	16.0%	159	14.0%	33	2.9%
18 years	14	0.2%	3	21.4%	2	14.3%	1	7.1%
Index offense level								
Felony	2,763	37.3%	1,068	38.7%	865	31.3%	156	5.6%
Misdemeanor	3,741	50.5%	1,444	38.6%	1,181	31.6%	86	2.3%
Status	908	12.3%	291	32.0%	225	24.8%	13	1.4%
Index offense type (most serious)								
Drug	824	11.1%	236	28.6%	186	22.6%	17	2.1%
Property	2,134	28.8%	928	43.5%	741	34.7%	105	4.9%
Public order	1,229	16.6%	476	38.7%	391	31.8%	43	3.5%

²⁹ Charges were used as a proxy for arrest; includes only criminal, i.e., felony or misdemeanor arrests.

³⁰ Legal action was used as a proxy for adjudication; includes only criminal, i.e., felony or misdemeanor adjudications.

³¹ Commitment to a facility, not regular commitment (note that all commitments to a facility were due to a criminal offense).

Table 1 Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			Subsequent Arrest ²⁹		Subsequent Adjudication ³⁰		Subsequent Commitment ³¹	
			N	%	N	%	N	%
Total Sample	7,412	100.0%	2,803	37.8%	2,271	30.6%	255	3.4%
Violent	1,444	19.5%	559	38.7%	458	31.7%	46	3.2%
Sexual	243	3.3%	51	21.0%	42	17.3%	2	0.8%
Status	790	10.7%	261	33.0%	206	26.1%	12	1.5%
VOAP	467	6.3%	210	45.0%	180	38.5%	23	4.9%
Traffic	153	2.1%	22	14.4%	16	10.5%	0	0.0%
Weapon	302	4.1%	85	28.1%	72	23.8%	8	2.6%
Index legal action (type of release)								
YDC committed	395	5.3%	175	44.3%	158	40.0%	65	16.5%
NSRes committed	641	8.6%	213	33.2%	174	27.1%	26	4.1%
YDC + NSRes committed	74	1.0%	33	44.6%	27	36.5%	3	4.1%
Community committed	561	7.6%	294	52.4%	261	46.5%	59	10.5%
STP + commitment	46	0.6%	18	39.1%	16	34.8%	4	8.7%
STP + probation	590	8.0%	355	60.2%	313	53.1%	39	6.6%
Probation	5,105	68.9%	1,715	33.6%	1,322	25.9%	59	1.2%

Current CRN Risk Instrument

Table 2 shows outcome rates by CRN risk level. Note that this risk level reflects the initial risk level calculated for each youth.

Table 2 Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Outcome Rates by Risk Level								
CRN Risk Level	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Total Sample	7,412	100.0%	2,803	37.8%	2,271	30.6%	255	3.4%
Low	5,692	76.8%	1,874	32.9%	1,464	25.7%	92	1.6%
Medium	1,395	18.8%	750	53.8%	654	46.9%	100	7.2%
High	325	4.4%	179	55.1%	153	47.1%	63	19.4%

Table 3 illustrates outcome rates for youth who were placed in a commitment facility, committed to the community, and placed on probation. Note that for youth placed in a facility, the follow-up period starts upon release to the community.

Table 3 Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Outcome Rates by Risk Level by Release Type								
Release Type/ CRN Risk Level	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Total Sample	7,412	100.0%	2,803	37.8%	2,271	30.6%	255	3.4%
Commitment in a facility*								
Low	117	24.9%	31	26.5%	28	23.9%	5	4.3%
Medium	171	36.5%	81	47.4%	74	43.3%	21	12.3%
High	181	38.6%	96	53.0%	83	45.9%	42	23.2%
Subgroup Total	469	100.0%	208	44.3%	185	39.4%	68	14.5%
Community commitment**								
Low	586	47.0%	203	34.6%	173	29.5%	28	4.8%
Medium	558	44.7%	269	48.2%	231	41.4%	44	7.9%
High	104	8.3%	53	51.0%	47	45.2%	17	16.3%
Subgroup Total	1,248	100.0%	525	42.1%	451	36.1%	89	7.1%
Probation***								
Low	4,989	87.6%	1,640	32.9%	1,263	25.3%	59	1.2%
Medium	666	11.7%	400	60.1%	349	52.4%	35	5.3%
High	40	0.7%	30	75.0%	23	57.5%	4	10.0%
Subgroup Total	5,695	100.0%	2,070	36.3%	1,635	28.7%	98	1.7%

*Includes YDC commitment and YDC + NSRes commitment.

**Includes community commitment, NSRes commitment, and STP + commitment.

***Includes probation and STP + probation.

Outcome Rates by CRN Risk Level by Race/Ethnicity

Table 4								
Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Outcome Rates by CRN Risk Level and Youth Race/Ethnicity								
Race/Ethnicity	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Total Sample	7,412	100.0%	2,803	37.8%	2,271	30.6%	255	3.4%
White/Caucasian								
Low	2,520	84.7%	678	26.9%	515	20.4%	14	0.6%
Medium	389	13.1%	175	45.0%	150	38.6%	12	3.1%
High	65	2.2%	37	56.9%	31	47.7%	11	16.9%
Subgroup Total	2,974	100.0%	890	29.9%	696	23.4%	37	1.2%
Black/African American								
Low	2,829	70.8%	1,102	39.0%	877	31.0%	72	2.5%
Medium	921	23.1%	531	57.7%	465	50.5%	81	8.8%
High	244	6.1%	134	54.9%	115	47.1%	52	21.3%
Subgroup Total	3,994	100.0%	1,767	44.2%	1,457	36.5%	205	5.1%
Hispanic/Latino								
Low	263	77.6%	71	27.0%	54	20.5%	4	1.5%
Medium	63	18.6%	35	55.6%	30	47.6%	3	4.8%
High	13	3.8%	6	46.2%	5	38.5%	0	0.0%
Subgroup Total	339	100.0%	112	33.0%	89	26.3%	7	2.1%
Other								
Low	80	76.2%	23	28.7%	18	22.5%	2	2.5%
Medium	22	21.0%	9	40.9%	9	40.9%	4	18.2%
High	3	2.9%	2	66.7%	2	66.7%	0	0.0%
Subgroup Total	105	100.0%	34	32.4%	29	27.6%	6	5.7%

Outcome Rates by CRN Risk Level by Gender

Table 5								
Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Outcome Rates by CRN Risk Level and Youth Gender								
Gender	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Total Sample	7,412	100.0%	2,803	37.8%	2,271	30.6%	255	3.4%
Male								
Low	3,980	73.6%	1,421	35.7%	1,133	28.5%	84	2.1%
Medium	1,140	21.1%	645	56.6%	562	49.3%	94	8.2%
High	287	5.3%	159	55.4%	139	48.4%	59	20.6%
Subgroup Total	5,407	100.0%	2,225	41.2%	1,834	33.9%	237	4.4%
Female								
Low	1,712	85.4%	453	26.5%	331	19.3%	8	0.5%
Medium	255	12.7%	105	41.2%	92	36.1%	6	2.4%
High	38	1.9%	20	52.6%	14	36.8%	4	10.5%
Subgroup Total	2,005	100.0%	578	28.8%	437	21.8%	18	0.9%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC score of .630 for the arrest outcome, .642 for the adjudication outcome, and .756 for the commitment outcome, for the total sample. These AUC scores were significantly different from .5 (indicated with *), indicating predictive abilities were greater than chance.

Table 6 Area Under the Curve (AUC) for CRN (N = 12,370)						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	7,412	5,407	2,005	2,974	3,994	339
New criminal arrest	.630*	.632*	.593*	.615*	.618*	.677*
New criminal adjudication	.642*	.641*	.611*	.636*	.625*	.686*
New commitment to a facility	.756*	.742*	.773*	.790*	.727*	.662

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk (DIFR)

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level. The index, however, measures distance from the mean without considering whether it is in the expected or logical direction. Therefore, when outcome rates do not conform to the basic expectation that “failure rates” will increase as risk levels increase, the test is inappropriate (Silver and Banks, 1998).

Criminal arrest and adjudication rates for high-risk males, high-risk African American youth, and high-risk Hispanic youth were lower than the outcome rates for medium-risk youth in the same category. For the reasons described above, the DIFR test is not an appropriate measure for these groups; therefore, scores are not presented in the table below.

Table 7 Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation DIFR Scores for CRN						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
New criminal arrest	.37	**	.26	.32	**	**
New criminal adjudication	.40	**	.31	.35	**	**
New commitment to a facility	.86	.82	.74	.84	.79	Cannot calculate*

*DIFR cannot be calculated when one or more of the outcome rates is 0.

**Outcome rates did not increase with each increase in risk level for these groups; therefore, a DIFR score was not calculated.

Description of How CRN Risk Level is Calculated

The risk score is based on the youth's age at first adjudication, number of prior adjudications, and 11 items (risk item descriptions are available in the item analysis table) included in the CRN. Each item includes several sub-items related to the item domain. Answers to each sub-item are scored on a scale from never to 4–7 times per week, none to most, definitely no to definitely yes, or no use to more than three times per week, etc., depending on the item. Each sub-item response corresponds with a score; sub-item scores for each item are added together and divided by the number of sub-items, for an overall average item score.

Once the average item scores are available, they, along with the age and adjudication levels, serve as the basis of a computation, which is described below.

1. Age level calculated:
 - missing = 1
 - 1–12 = 3
 - 13–14 = 2
 - 15+ = 1
2. Adjudication level calculated:
 - 0–1 = 1
 - 2–3 = 2
 - 4+ = 3
3. Weak social motivation score = items S2x2 + S5 + S15
 Family vulnerability score = items S21 + S18
 Normative deviance score = items S1 + S2x1 + S11a + S11b + S12 + S13
4. General delinquency = normative deviance score + family vulnerability score + weak social motivation score
5. Z-value = (general delinquency – 25.06)/4.9
6. T-value = Z-value x 10 + 50 (round)
7. Risk scale:
 - T-value > 62 = 3
 - T-value 40 – 62 = 2
 - Else = 1
8. Risk score = risk scale + age level + adjudication level
9. Risk score cut points:
 - 3–5 = Low risk
 - 6–7 = Medium risk
 - 8–9 = High risk

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Age Level (based on age at first adjudication)					.145	.000			.147	.000			.094	.000
Missing or 15+ years	3,921	52.9%	1,194	30.5%			931	23.7%			78	2.0%		
13–14 years	2,440	32.9%	1,125	46.1%			927	38.0%			106	4.3%		
1–12 years	1,051	14.2%	484	46.1%			413	39.3%			71	6.8%		
Adjudication Level (based on number of prior adjudications)					.182	.000			.200	.000			.200	.000
0–1	5,102	68.8%	1,631	32.0%			1,251	24.5%			71	1.4%		
2–3	1,624	21.9%	785	48.3%			675	41.6%			89	5.5%		
4+	686	9.3%	387	56.4%			345	50.3%			95	13.8%		
Risk Scale Score (based on items below, after applying algorithm above)					.146	.000			.147	.000			.141	.000
1	3,575	48.2%	1,080	30.2%			839	23.5%			42	1.2%		
2	3,556	48.0%	1,590	44.7%			1,317	37.0%			176	4.9%		
3	281	3.8%	133	47.3%			115	40.9%			37	13.2%		
S2a. Criminal Opportunity: Unstructured/Unsupervised—Outside of Home					.060	.000			.062	.000			.102	.000
Goes out with friends					.100	.000			.101	.000			.087	.000
Unknown/Missing	10	0.1%	2	20.0%			2	20.0%			1	10.0%		
Never	1,280	17.3%	404	31.6%			309	24.1%			18	1.4%		

October 3, 2011

r: February 27, 2013

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
< 1x per week	1,946	26.3%	679	34.9%			548	28.2%			42	2.2%		
1–3x per week	2,380	32.1%	891	37.4%			721	30.3%			86	3.6%		
4–7x per week	1,796	24.2%	827	46.0%			691	38.5%			108	6.0%		
Goes to mall/other local youth hangout					.046	.000			.048	.000			.081	.000
Unknown/Missing	13	0.2%	5	38.5%			5	38.5%			0	0.0%		
Never	3,062	41.3%	1,088	35.5%			875	28.6%			70	2.3%		
< 1x per week	2,414	32.6%	946	39.2%			756	31.3%			77	3.2%		
1–3x per week	1,353	18.3%	497	36.7%			410	30.3%			62	4.6%		
4–7x per week	570	7.7%	267	46.8%			225	39.5%			46	8.1%		
Goes to parties/dates					.021	.033			.028	.009			.069	.000
Unknown/Missing	24	0.3%	8	33.3%			7	29.2%			4	16.7%		
Never	4,149	56.0%	1,526	36.8%			1,229	29.6%			92	2.2%		
< 1x per week	2,175	29.3%	862	39.6%			690	31.7%			99	4.6%		
1–3x per week	852	11.5%	315	37.0%			266	31.2%			45	5.3%		
4–7x per week	212	2.9%	92	43.4%			79	37.3%			15	7.1%		
Goes to movies					.011	.162			.018	.057			.019	.049
Unknown/Missing	23	0.3%	4	17.4%			3	13.0%			0	0.0%		
Never	3,756	50.7%	1,416	37.7%			1,140	30.4%			123	3.3%		
< 1x per week	2,992	40.4%	1,139	38.1%			922	30.8%			104	3.5%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
1–3x per week	533	7.2%	190	35.6%			158	29.6%			20	3.8%		
4–7x per week	108	1.5%	54	50.0%			48	44.4%			8	7.4%		
Rides around with friends					.033	.002			.033	.002			.089	.000
Unknown/Missing	14	0.2%	3	21.4%			3	21.4%			0	0.0%		
Never	3,990	53.8%	1,476	37.0%			1,201	30.1%			90	2.3%		
< 1x per week	1,566	21.1%	587	37.5%			461	29.4%			57	3.6%		
1–3x per week	1,164	15.7%	437	37.5%			350	30.1%			56	4.8%		
4–7x per week	678	9.1%	300	44.2%			256	37.8%			52	7.7%		
Parties alone at home without adults					.037	.001			.034	.002			.067	.000
Unknown/Missing	20	0.3%	7	35.0%			6	30.0%			1	5.0%		
Never	6,596	89.0%	2,456	37.2%			1,991	30.2%			200	3.0%		
< 1x per week	574	7.7%	239	41.6%			187	32.6%			34	5.9%		
1–3x per week	142	1.9%	64	45.1%			56	39.4%			12	8.5%		
4–7x per week	80	1.1%	37	46.3%			31	38.8%			8	10.0%		
Is alone after school					.020	.045			.013	.1123			.037	.001
Unknown/Missing	42	0.6%	15	35.7%			15	35.7%			6	14.3%		
Never	4,789	64.6%	1,781	37.2%			1,445	30.2%			143	3.0%		
< 1x per week	895	12.1%	330	36.9%			265	29.6%			27	3.0%		

December 2011

r: February 27, 2013

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
1–3x per week	770	10.4%	325	42.2%			263	34.2%			27	3.5%		
4–7x per week	916	12.4%	352	38.4%			283	30.9%			52	5.7%		
S2b. Pro-Social Activities					.122	.000			.115	.000			.083	.000
Studies/reads at home					.146	.000			.146	.000			.095	.000
Unknown	13	0.2%	5	38.5%			5	38.5%			0	0.0%		
4–7x per week	1,092	14.7%	290	26.6%			218	20.0%			12	1.1%		
1–3x per week	1,902	25.7%	625	32.9%			495	26.0%			41	2.2%		
< 1x per week	1,952	26.3%	733	37.6%			588	30.1%			58	3.0%		
Never	2,453	33.1%	1,150	46.9%			965	39.3%			144	5.9%		
Participates in sports/athletics					.027	.009			.026	.012			.020	.042
Unknown	10	0.1%	2	20.0%			2	20.0%			0	0.0%		
4–7x per week	1,029	13.9%	362	35.2%			294	28.6%			28	2.7%		
1–3x per week	1,188	16.0%	434	36.5%			355	29.9%			41	3.5%		
< 1x per week	1,276	17.2%	492	38.6%			377	29.5%			37	2.9%		
Never	3,909	52.7%	1,513	38.7%			1,243	31.8%			149	3.8%		
Participates in church activities					.072	.000			.065	.000			.049	.000
Unknown	30	0.4%	10	33.3%			8	26.7%			1	3.3%		
4–7x per week	125	1.7%	40	32.0%			31	24.8%			5	4.0%		
1–3x per week	1,538	20.8%	487	31.7%			387	25.2%			22	1.4%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
< 1x per week	2,414	32.6%	911	37.7%			745	30.9%			87	3.6%		
Never	3,305	44.6%	1,355	41.0%			1,100	33.3%			140	4.2%		
Has hobbies/creative activities					.060	.000			.050	.000			.048	.000
Unknown	13	.2%	6	46.2%			6	46.2%			1	7.7%		
4–7x per week	1,418	19.1%	492	34.7%			409	28.8%			30	2.1%		
1–3x per week	1,462	19.7%	498	34.1%			395	27.0%			44	3.0%		
< 1x per week	1,490	20.1%	551	37.0%			432	29.0%			42	2.8%		
Never	3,029	40.9%	1,256	41.5%			1,029	34.0%			138	4.6%		
Participates in school activities					.085	.000			.080	.000			.055	.000
Unknown	18	0.2%	8	44.4%			6	33.3%			0	0.0%		
4–7x per week	482	6.5%	129	26.8%			105	21.8%			4	0.8%		
1–3x per week	623	8.4%	185	29.7%			150	24.1%			16	2.6%		
< 1x per week	1,320	17.8%	477	36.1%			363	27.5%			28	2.1%		
Never	4,969	67.0%	2,004	40.3%			1,647	33.1%			207	4.2%		
S1. Criminal Associates					.111	.000			.115	.000			.148	.000
Friends have dropped out					.068	.000			.074	.000			.105	.000
Unknown	15	0.2%	4	26.7%			3	20.0%			0	0.0%		
None	4,244	57.3%	1,496	35.2%			1,190	28.0%			82	1.9%		
Some	2,465	33.3%	985	40.0%			808	32.8%			115	4.7%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
About half	322	4.3%	154	47.8%			129	40.1%			32	9.9%		
Most	366	4.9%	164	44.8%			141	38.5%			26	7.1%		
Friends drink					.050	.000			.058	.000			.097	.000
Unknown	42	0.6%	14	33.3%			11	26.2%			0	0.0%		
None	3,952	53.3%	1,410	35.7%			1,115	28.2%			76	1.9%		
Some	2,519	34.0%	991	39.3%			825	32.8%			112	4.4%		
About half	387	5.2%	173	44.7%			136	35.1%			34	8.8%		
Most	512	6.9%	215	42.0%			184	35.9%			33	6.4%		
Friends sell drugs					.086	.000			.094	.000			.134	.000
Unknown	75	1.0%	30	40.0%			24	32.0%			2	2.7%		
None	5,554	74.9%	1,958	35.3%			1,559	28.1%			109	2.0%		
Some	1,357	18.3%	613	45.2%			511	37.7%			102	7.5%		
About half	201	2.7%	85	42.3%			75	37.3%			20	10.0%		
Most	225	3.0%	117	52.0%			102	45.3%			22	9.8%		
Friends use drugs					.099	.000			.104	.000			.134	.000
Unknown	29	0.4%	11	37.9%			11	37.9%			0	0.0%		
None	3,963	53.5%	1,316	33.2%			1,026	25.9%			55	1.4%		
Some	2,454	33.1%	1,030	42.0%			859	35.0%			119	4.8%		
About half	410	5.5%	182	44.4%			150	36.6%			32	7.8%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Most	556	7.5%	264	47.5%			225	40.5%			49	8.8%		
Friends are gang affiliated					.105	.000			.102	.000			.108	.000
Unknown	67	0.9%	23	34.3%			19	28.4%			4	6.0%		
None	5,532	74.6%	1,938	35.0%			1,552	28.1%			125	2.3%		
Some	1,269	17.1%	557	43.9%			461	36.3%			79	6.2%		
About half	222	3.0%	116	52.3%			97	43.7%			16	7.2%		
Most	322	4.3%	169	52.5%			142	44.1%			31	9.6%		
Friends have been arrested					.124	.000			.126	.000			.135	.000
Unknown	69	0.9%	26	37.7%			19	27.5%			1	1.4%		
None	3,262	44.0%	1,018	31.2%			800	24.5%			32	1.0%		
Some	3,107	41.9%	1,283	41.3%			1,046	33.7%			141	4.5%		
About half	429	5.8%	204	47.6%			173	40.3%			33	7.7%		
Most	545	7.4%	272	49.9%			233	42.8%			48	8.8%		
S5. Remorse/Guilt														
Blames victim					.057	.000			.053	.000			.049	.000
Unknown/No opinion	59	0.8%	16	27.1%			13	22.0%			2	3.4%		
Definitely no	3,817	51.5%	1,340	35.1%			1,090	28.6%			115	3.0%		
Suspect no	2,258	30.5%	913	40.4%			725	32.1%			67	3.0%		
Suspect yes	704	9.5%	292	41.5%			240	34.1%			33	4.7%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Definitely yes	574	7.7%	242	42.2%			203	35.4%			38	6.6%		
Blames other or situation					.056	.000			.054	.000			.080	.000
Unknown/No opinion	30	0.4%	8	26.7%			7	23.3%			1	3.3%		
Definitely no	3,340	45.1%	1,152	34.5%			934	28.0%			86	2.6%		
Suspect no	2,067	27.9%	835	40.4%			665	32.2%			53	2.6%		
Suspect yes	1,075	14.5%	436	40.6%			350	32.6%			47	4.4%		
Definitely yes	900	12.1%	372	41.3%			315	35.0%			68	7.6%		
Seems proud					.068	.000			.068	.000			.049	.000
Unknown/no opinion	74	1.0%	38	51.4%			31	41.9%			5	6.8%		
Definitely no	4,039	54.5%	1,396	34.6%			1,129	28.0%			114	2.8%		
Suspect no	2,714	36.6%	1,089	40.1%			867	31.9%			93	3.4%		
Suspect yes	353	4.8%	180	51.0%			156	44.2%			26	7.4%		
Definitely yes	232	3.1%	100	43.1%			88	37.9%			17	7.3%		
Seems indifferent to situation					.069	.000			.065	.000			.049	.000
Unknown/No opinion	180	2.4%	76	42.2%			62	34.4%			9	5.0%		
Definitely no	3,238	43.7%	1,085	33.5%			880	27.2%			84	2.6%		
Suspect no	2,280	30.8%	900	39.5%			716	31.4%			78	3.4%		
Suspect yes	1,038	14.0%	453	43.6%			368	35.5%			41	3.9%		
Definitely yes	676	9.1%	289	42.8%			245	36.2%			43	6.4%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Shows sorrow/regret					.087	.000			.079	.000			.071	.000
Unknown/No opinion	205	2.8%	79	38.5%			64	31.2%			10	4.9%		
Definitely yes	2,510	33.9%	801	31.9%			662	26.4%			54	2.2%		
Suspect yes	2,490	33.6%	954	38.3%			748	30.0%			73	2.9%		
Suspect no	1,235	16.7%	548	44.4%			436	35.3%			51	4.1%		
Definitely no	972	13.1%	421	43.3%			361	37.1%			67	6.9%		
S11a. Substance Use: Common Substances					.081	.000			.088	.000			.091	.000
Tobacco					.051	.000			.064	.000			.042	.000
No use in last six months	5,132	69.2%	1,840	35.9%			1,460	28.4%			151	2.9%		
< 1x per month	338	4.6%	140	41.4%			111	32.8%			14	4.1%		
1–3x per month	282	3.8%	133	47.2%			110	39.0%			11	3.9%		
1–2x per week	377	5.1%	166	44.0%			148	39.3%			17	4.5%		
>3x per week	1,283	17.3%	524	40.8%			442	34.5%			62	4.8%		
Alcohol					.033	.002			.035	.001			.060	.000
No use in last six months	6,098	82.3%	2,261	37.1%			1,823	29.9%			187	3.1%		
< 1x per month	708	9.6%	284	40.1%			235	33.2%			27	3.8%		
1–3x per month	368	5.0%	156	42.4%			127	34.5%			19	5.2%		
1–2x per week	159	2.1%	68	42.8%			57	35.8%			15	9.4%		
>3x per week	79	1.1%	34	43.0%			29	36.7%			7	8.9%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Marijuana					.102	.000			.098	.000			.111	.000
No use in last six months	5,304	71.6%	1,844	34.8%			1,476	27.8%			126	2.4%		
< 1x per month	611	8.2%	252	41.2%			202	33.1%			20	3.3%		
1–3x per month	459	6.2%	208	45.3%			181	39.4%			29	6.3%		
1–2x per week	409	5.5%	197	48.2%			163	39.9%			22	5.4%		
>3x per week	629	8.5%	302	48.0%			249	39.6%			58	9.2%		
S11b.Substance Use: Hard Drugs					.016	.084			.007	.278			-.029	.006
LSD					-.016	.082			-.012	.145			-.009	.216
No use in last three months	7,389	99.7%	2,798	37.9%			2,267	30.7%			255	3.5%		
< 1x per month	15	0.2%	3	20.0%			2	13.3%			0	0.0%		
1–3x per month	3	0.0%	1	33.3%			1	33.3%			0	0.0%		
1–2x per week	4	0.1%	1	25.0%			1	25.0%			0	0.0%		
>3x per week	1	0.0%	0	0.0%			0	0.0%			0	0.0%		
Amphetamines					.006	.303			.009	.216			.027	.011
No use in last three months	7,252	97.8%	2,739	37.8%			2,217	30.6%			245	3.4%		
< 1x per month	83	1.1%	34	41.0%			29	34.9%			3	3.6%		
1–3x per month	41	0.6%	15	36.6%			12	29.3%			4	9.8%		
1–2x per week	17	0.2%	7	41.2%			6	35.3%			2	11.8%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
>3x per week	19	0.3%	8	42.1%			7	36.8%			1	5.3%		
Other drugs without doctor's order					-.033	.390			-.002	.437			-.006	.293
No use in last three months	7,278	98.2%	2,756	37.9%			2,232	30.7%			252	3.5%		
< 1x per month	71	1.0%	22	31.0%			17	23.9%			1	1.4%		
1-3x per month	33	0.4%	13	39.4%			13	39.4%			1	3.0%		
1-2x per week	13	0.2%	7	53.8%			6	46.2%			1	7.7%		
>3x per week	17	0.2%	5	29.4%			3	17.6%			0	0.0%		
Cocaine					-.004	.374			-.004	.357			.017	.075
No use in last three months	7,303	98.5%	2,760	37.8%			2,236	30.6%			248	3.4%		
< 1x per month	56	0.8%	24	42.9%			21	37.5%			3	5.4%		
1-3x per month	27	0.4%	12	44.4%			8	29.6%			3	11.1%		
1-2x per week	9	0.1%	2	22.2%			2	22.2%			0	0.0%		
>3x per week	17	0.2%	5	29.4%			4	23.5%			1	5.9%		
Opiates					-.029	.007			-.028	.007			-.011	.179
No use in last three months	7,381	99.6%	2,797	37.9%			2,267	30.7%			255	3.5%		
< 1x per month	18	0.2%	5	27.8%			4	22.2%			0	0.0%		
1-3x per month	6	0.1%	1	16.7%			0	0.0%			0	0.0%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
1–2x per week	5	0.1%	0	0.0%			0	0.0%			0	0.0%		
>3x per week	2	0.0%	0	0.0%			0	0.0%			0	0.0%		
Inhalants					-.005	.326			-.002	.448			-.011	.178
No use in last three months	7,379	99.6%	2,790	37.8%			2,260	30.6%			255	3.5%		
< 1x per month	23	0.3%	11	47.8%			9	39.1%			0	0.0%		
1–3x per month	5	0.1%	1	20.0%			1	20.0%			0	0.0%		
1–2x per week	2	0.0%	0	0.0%			0	0.0%			0	0.0%		
>3x per week	3	0.0%	1	33.3%			1	33.3%			0	0.0%		
Ever injected					-.024	.018			-.025	.017			.007	.269
No/Unknown	7,396	99.8%	2,801	37.9%			2,270	30.7%			254	3.4%		
Yes	16	0.2%	2	12.5%			1	6.3%			1	6.3%		
S12. Substance Abuse and Delinquency					.056	.000			.054	.000			.091	.000
Got in trouble with police when drunk or high					.041	.000			.038	.000			.073	.000
Unknown/No opinion	6	0.1%	1	16.7%			1	16.7%			0	0.0%		
Definitely no	4,957	66.9%	1,765	35.6%			1,427	28.8%			124	2.5%		
Suspect no	1,450	19.6%	635	43.8%			513	35.4%			70	4.8%		
Suspect yes	412	5.6%	181	43.9%			148	35.9%			24	5.8%		
Definitely yes	587	7.9%	221	37.6%			182	31.0%			37	6.3%		

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Got in trouble because of poor judgment					.030	.005			.027	.010			.071	.000
Unknown/No opinion	14	0.2%	8	57.1%			8	57.1%			3	21.4%		
Definitely no	4,820	65.0%	1,717	35.6%			1,391	28.9%			119	2.5%		
Suspect no	1,395	18.8%	613	43.9%			489	35.1%			60	4.3%		
Suspect yes	541	7.3%	237	43.8%			197	36.4%			33	6.1%		
Definitely yes	642	8.7%	228	35.5%			186	29.0%			40	6.2%		
Had arguments/fights while drunk or high					.070	.000			.066	.000			.084	.000
Unknown/No opinion	17	0.2%	7	41.2%			6	35.3%			0	0.0%		
Definitely no	5,165	69.7%	1,830	35.4%			1,479	28.6%			139	2.7%		
Suspect no	1,664	22.5%	707	42.5%			565	34.0%			67	4.0%		
Suspect yes	275	3.7%	129	46.9%			112	40.7%			24	8.7%		
Definitely yes	291	3.9%	130	44.7%			109	37.5%			25	8.6%		
Had violent feelings when using drugs/alcohol					.076	.000			.069	.000			.077	.000
Unknown/No opinion	26	0.4%	13	50.0%			12	46.2%			3	11.5%		
Definitely no	5,226	70.5%	1,844	35.3%			1,492	28.5%			142	2.7%		
Suspect no	1,739	23.5%	744	42.8%			596	34.3%			71	4.1%		
Suspect yes	211	2.8%	104	49.3%			88	41.7%			19	9.0%		
Definitely yes	210	2.8%	98	46.7%			83	39.5%			20	9.5%		
S13. Promiscuity					.061	.000			.063	.000			.089	.000

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
"Hangs out" with opposite sex/Dates					.011	.169			.019	.053			.056	.000
Unknown/No opinion	12	0.2%	4	33.3%			2	16.7%			0	0.0%		
Definitely no	1,004	13.5%	340	33.9%			273	27.2%			15	1.5%		
Suspect no	704	9.5%	281	39.9%			222	31.5%			14	2.0%		
Suspect yes	2,170	29.3%	870	40.1%			695	32.0%			75	3.5%		
Definitely yes	3,522	47.5%	1,308	37.1%			1,079	30.6%			151	4.3%		
Had more than three partners in the last year					.075	.000			.077	.000			.074	.000
Unknown/No opinion	40	0.5%	18	45.0%			13	32.5%			3	7.5%		
Definitely no	4,019	54.2%	1,377	34.3%			1,104	27.5%			99	2.5%		
Suspect no	1,974	26.6%	799	40.5%			644	32.6%			68	3.4%		
Suspect yes	539	7.3%	244	45.3%			199	36.9%			29	5.4%		
Definitely yes	840	11.3%	365	43.5%			311	37.0%			56	6.7%		
Appears unconcerned about STDs					.040	.000			.036	.001			.039	.000
Unknown/No opinion	68	0.9%	28	41.2%			22	32.4%			1	1.5%		
Definitely no	4,031	54.4%	1,412	35.0%			1,150	28.5%			116	2.9%		
Suspect no	2,310	31.2%	961	41.6%			769	33.3%			91	3.9%		
Suspect yes	582	7.9%	248	42.6%			200	34.4%			25	4.3%		
Definitely yes	421	5.7%	154	36.6%			130	30.9%			22	5.2%		
Appears unconcerned about birth control					.046	.000			.041	.000			.035	.001

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Unknown/No opinion	56	0.8%	22	39.3%			17	30.4%			1	1.8%		
Definitely no	4,022	54.3%	1,405	34.9%			1,146	28.5%			117	2.9%		
Suspect no	2,310	31.2%	954	41.3%			762	33.0%			89	3.9%		
Suspect yes	593	8.0%	263	44.4%			212	35.8%			28	4.7%		
Definitely yes	431	5.8%	159	36.9%			134	31.1%			20	4.6%		
Has kids, or has fathered kids					-.003	.400			.001	.461			.037	.001
No/Unknown	7,137	96.3%	2,701	37.8%			2,186	30.6%			236	3.3%		
Yes	275	3.7%	102	37.1%			85	30.9%			19	6.9%		
S15. Goals/Aspirations					.090	.000			.083	.000			.097	.000
Plans to finish high school/GED					.051	.000			.043	.000			.072	.000
Yes	7,055	95.2%	2,629	37.3%			2,130	30.2%			222	3.1%		
No	357	4.8%	174	48.7%			141	39.5%			33	9.2%		
Wants good grades					.062	.000			.061	.000			.099	.000
Yes	6,813	91.9%	2,516	36.9%			2,031	29.8%			198	2.9%		
No	599	8.1%	287	47.9%			240	40.1%			57	9.5%		
Hopes to go to college/post-secondary training					.084	.000			.082	.000			.077	.000
Yes	6,182	83.4%	2,225	36.0%			1,790	29.0%			174	2.8%		
No	1,230	16.6%	578	47.0%			481	39.1%			81	6.6%		
Thinks education is important for future					.087	.000			.073	.000			.075	.000

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Unknown/No opinion	109	1.5%	50	45.9%			36	33.0%			0	0.0%		
Definitely yes	3,120	42.1%	1,021	32.7%			847	27.1%			80	2.6%		
Suspect yes	3,392	45.8%	1,347	39.7%			1,069	31.5%			116	3.4%		
Suspect no	544	7.3%	279	51.3%			232	42.6%			39	7.2%		
Definitely no	247	3.3%	106	42.9%			87	35.2%			20	8.1%		
S18. Family Disruption/Disorganization					.094	.000			.094	.000			.068	.000
Separated from either birth parent before age 16					.047	.000			.043	.000			.034	.002
No/Unknown	2,327	31.4%	802	34.5%			645	27.7%			59	2.5%		
Yes	5,085	68.6%	2,001	39.4%			1,626	32.0%			196	3.9%		
Raised by single parent					.081	.000			.069	.000			.039	.000
No/Unknown	2,862	38.6%	941	32.9%			762	26.6%			73	2.6%		
Yes	4,550	61.4%	1,862	40.9%			1,509	33.2%			182	4.0%		
Had multiple caretakers					.058	.000			.065	.000			.039	.000
No/Unknown	4,755	64.2%	1,698	35.7%			1,351	28.4%			138	2.9%		
Yes	2,657	35.8%	1,105	41.6%			920	34.6%			117	4.4%		
Had history of out-of-home placement					.075	.000			.086	.000			.075	.000
No/Unknown	5,781	78.0%	2,074	35.9%			1,650	28.5%			157	2.7%		
Yes	1,631	22.0%	729	44.7%			621	38.1%			98	6.0%		
Had siblings placed out of home					.050	.000			.048	.000			.040	.000

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
No/Unknown	6,166	83.2%	2,265	36.7%			1,828	29.6%			192	3.1%		
Yes	1,246	16.8%	538	43.2%			443	35.6%			63	5.1%		
S21. Family Criminality/Drugs (family who mostly raised youth up through 12 years)					.099	.000			.088	.000			.054	.000
Mother ever arrested					.090	.000			.076	.000			.018	.062
No/Unknown	5,092	68.7%	1,776	34.9%			1,439	28.3%			164	3.2%		
Yes	2,320	31.3%	1,027	44.3%			832	35.9%			91	3.9%		
Father ever arrested					.071	.000			.068	.000			.032	.003
No/Unknown	3,884	52.4%	1,342	34.6%			1,074	27.7%			112	2.9%		
Yes	3,528	47.6%	1,461	41.4%			1,197	33.9%			143	4.1%		
Siblings ever arrested					.068	.000			.057	.000			.049	.000
No/Unknown	5,288	71.3%	1,890	35.7%			1,532	29.0%			152	2.9%		
Yes	2,124	28.7%	913	43.0%			739	34.8%			103	4.8%		
Mother ever in jail or prison					.085	.000			.075	.000			.023	.023
No/Unknown	5,541	74.8%	1,962	35.4%			1,587	28.6%			177	3.2%		
Yes	1,871	25.2%	841	44.9%			684	36.6%			78	4.2%		
Father ever in jail or prison					.079	.000			.073	.000			.041	.000
No/Unknown	4,255	57.4%	1,468	34.5%			1,180	27.7%			119	2.8%		
Yes	3,157	42.6%	1,335	42.3%			1,091	34.6%			136	4.3%		

October 3, 2011

r: February 27, 2013

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Siblings ever in jail or prison					.054	.000			.044	.000			.043	.000
No/Unknown	5,854	79.0%	2,135	36.5%			1,733	29.6%			178	3.0%		
Yes	1,558	21.0%	668	42.9%			538	34.5%			77	4.9%		
Mother ever have alcohol problems					.036	.001			.041	.000			.023	.026
No/Unknown	6,510	87.8%	2,419	37.2%			1,949	29.9%			214	3.3%		
Yes	902	12.2%	384	42.6%			322	35.7%			41	4.5%		
Father ever have alcohol problems					.046	.000			.041	.000			.027	.010
No/Unknown	5,709	77.0%	2,090	36.6%			1,690	29.6%			181	3.2%		
Yes	1,703	23.0%	713	41.9%			581	34.1%			74	4.3%		
Siblings ever have alcohol problems					.014	.110			.004	.364			.027	.011
No/Unknown	6,940	93.6%	2,612	37.6%			2,123	30.6%			230	3.3%		
Yes	472	6.4%	191	40.5%			148	31.4%			25	5.3%		
Mother ever have drug problems					.040	.000			.039	.000			.029	.007
No/Unknown	6,478	87.4%	2,402	37.1%			1,941	30.0%			210	3.2%		
Yes	934	12.6%	401	42.9%			330	35.3%			45	4.8%		
Father ever have drug problems					.039	.000			.040	.000			.021	.000
No/Unknown	6,017	81.2%	2,221	36.9%			1,790	29.7%			196	3.3%		
Yes	1,395	18.8%	582	41.7%			481	34.5%			59	4.2%		
Siblings ever have drug problems					.030	.004			.024	.018			.033	.002

October 3, 2011

r: February 27, 2013

Table 8

**Georgia Department of Juvenile Justice
Comprehensive Risk and Needs Assessment
Item Analysis**

Item	Sample Distribution		12-Month Outcomes											
			Subsequent Criminal Arrest				Subsequent Criminal Adjudication				Subsequent Commitment (in facility)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
No/Unknown	6,739	90.9%	2,517	37.3%			2,041	30.3%			219	3.2%		
Yes	673	9.1%	286	42.5%			230	34.2%			36	5.3%		
Mother ever have mental health/psychological problems					.009	.218			.004	.368			.006	.307
No/Unknown	6,723	90.7%	2,533	37.7%			2,056	30.6%			229	3.4%		
Yes	689	9.3%	270	39.2%			215	31.2%			26	3.8%		
Father ever have mental health/psychological problems					.009	.216			.008	.247			.010	.194
No/Unknown	6,848	92.4%	2,581	37.7%			2,091	30.5%			232	3.4%		
Yes	564	7.6%	222	39.4%			180	31.9%			23	4.1%		
Siblings ever have mental health/psychological problems					.023	.025			.020	.041			.018	.060
No/Unknown	6,994	94.4%	2,626	37.5%			2,127	30.4%			235	3.4%		
Yes	418	5.6%	177	42.3%			144	34.4%			20	4.8%		

Revised Risk Assessment

NCCD used bivariate and multivariate analyses to identify which prior history, index investigation, and current risk assessment items have the strongest statistical relationships to the outcomes. The analyses resulted in an alternate risk assessment that worked better overall than the current assessment, but did not work equitably across genders, i.e., the revised assessment resulted in a risk assessment that classified a much larger proportion of boys as medium and high risk. This may be due to the difference in base rates between the groups, or because the risk factors for boys are different than risk factors for girls. Because a sufficient number of boys and girls were in the GA DJJ sample, NCCD then developed separate risk assessments for boys and girls.

To construct a simple actuarial risk assessment for boys, the sample was divided randomly into two groups: a construction sample and a validation sample. The use of two samples allows a scale to be developed on one population (the construction sample) and tested on another (the validation sample). Classification results will be most robust for the sample from which the assessment was constructed. Validating the scale on a separate population better indicates how a risk assessment will perform if actually implemented. The sample was stratified by major race/ethnicity categories to ensure adequate representation across the two groups.

The ability of a risk assessment to classify youth by recidivism is expected to decrease somewhat when the risk assessment is applied to samples other than the construction sample. The amount of classification power lost from construction to validation sample is termed “shrinkage.” Shrinkage is normal and expected.

The CRN validation included youth placed in the community as well as those placed in a secure facility. Due to the small number of facility-placed boys, and the fact that the sample was split into two cohorts, the boys’ revised assessment analysis includes only youth placed in the community (i.e., community commitments and probation). Because the number of cases for girls was insufficient, the girls’ analysis is based on a single sample, and facility-placed girls were retained for the revised risk assessment analysis.

The following sections show results for both groups.

Revised Risk Assessment for Boys

Table 9a Georgia Department of Juvenile Justice Revised Risk Assessment Boys' Construction Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Construction Sample	2,503	100.0%	1,005	40.2%	831	33.2%	85	3.4%
Race/Ethnicity								
Caucasian	1,045	41.7%	327	31.3%	265	25.4%	9	0.9%
African American	1,299	51.9%	626	48.2%	522	40.2%	70	5.4%
Hispanic	118	4.7%	37	31.4%	30	25.4%	4	3.4%
Other/Unknown	41	1.6%	15	36.6%	14	34.1%	2	4.9%
Age at index arrest								
Under 10 years	3	0.1%	0	0.0%	0	0.0%	0	0.0%
10 years	11	0.4%	2	18.2%	2	18.2%	0	0.0%
11 years	33	1.3%	12	36.4%	10	30.3%	0	0.0%
12 years	96	3.8%	34	35.4%	28	29.2%	0	0.0%
13 years	227	9.1%	107	47.1%	92	40.5%	5	2.2%
14 years	421	16.8%	207	49.2%	166	39.4%	12	2.9%
15 years	549	21.9%	282	51.4%	234	42.6%	22	4.0%
16 years	752	30.0%	291	38.7%	233	31.0%	34	4.5%
17 years	406	16.2%	68	16.7%	64	15.8%	11	2.7%
18 years	5	0.2%	2	40.0%	2	40.0%	1	20.0%
Index offense level								
Felony	1,022	40.8%	425	41.6%	339	33.2%	47	4.6%
Misdemeanor	1,255	50.1%	491	39.1%	417	33.2%	29	2.3%
Status	226	9.0%	89	39.4%	75	33.2%	9	4.0%
Index offense type (most serious)								
Drug	313	12.5%	94	30.0%	78	24.9%	6	1.9%
Property	790	31.6%	360	45.6%	285	36.1%	33	4.2%
Public order	399	15.9%	163	40.9%	142	35.6%	17	4.3%
Violent	466	18.6%	191	41.0%	153	32.8%	9	1.9%
Sexual	105	4.2%	26	24.8%	21	20.0%	0	0.0%
Status	195	7.8%	81	41.5%	71	36.4%	9	4.6%
VOAP	141	5.6%	66	46.8%	61	43.3%	7	5.0%
Traffic	47	1.9%	6	12.8%	5	10.6%	0	0.0%

Table 9a Georgia Department of Juvenile Justice Revised Risk Assessment Boys' Construction Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Construction Sample	2,503	100.0%	1,005	40.2%	831	33.2%	85	3.4%
Weapon	128	5.1%	36	28.1%	30	23.4%	4	3.1%
Index legal action (type of release)								
NSRes committed	247	9.9%	82	33.2%	73	29.6%	6	2.4%
Community committed	222	8.9%	136	61.3%	120	54.1%	28	12.6%
STP + commitment	16	0.6%	7	43.8%	7	43.8%	1	6.3%
STP + probation	246	9.8%	157	63.8%	140	56.9%	17	6.9%
Probation	1,772	70.8%	623	35.2%	491	27.7%	33	1.9%
CRN risk level								
Low	1,934	77.3%	678	35.1%	543	28.1%	40	2.1%
Medium	500	20.0%	286	57.2%	252	50.4%	35	7.0%
High	69	2.8%	41	59.4%	36	52.2%	10	14.5%

Table 9b Georgia Department of Juvenile Justice Revised Risk Assessment Boys' Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Validation Sample	2,506	100.0%	1,034	41.3%	838	33.4%	86	3.4%
Race/Ethnicity								
Caucasian	1,014	40.5%	347	34.2%	268	26.4%	14	1.4%
African American	1,346	53.7%	639	47.5%	534	39.7%	70	5.2%
Hispanic	111	4.4%	39	35.1%	30	27.0%	0	0.0%
Other/Unknown	35	1.4%	9	25.7%	6	17.1%	2	5.7%
Age at index arrest								
Under 10 years	2	0.1%	1	50.0%	0	0.0%	0	0.0%
10 years	7	0.3%	2	28.6%	2	28.6%	0	0.0%
11 years	33	1.3%	13	39.4%	13	39.4%	0	0.0%
12 years	107	4.3%	40	37.4%	32	29.9%	1	0.9%
13 years	218	8.7%	99	45.4%	81	37.2%	6	2.8%
14 years	417	16.6%	205	49.2%	172	41.2%	10	2.4%
15 years	584	23.3%	284	48.6%	233	39.9%	22	3.8%
16 years	763	30.4%	322	42.2%	248	32.5%	37	4.8%
17 years	372	14.8%	68	18.3%	57	15.3%	10	2.7%
18 years	3	0.1%	0	0.0%	0	0.0%	0	0.0%
Index offense level								
Felony	1,048	41.8%	417	39.8%	340	32.4%	55	5.2%
Misdemeanor	1,264	50.4%	543	43.0%	441	34.9%	29	2.3%
Status	194	7.7%	74	38.1%	57	29.4%	2	1.0%
Index offense type (most serious)								
Drug	325	13.0%	97	29.8%	74	22.8%	7	2.2%
Property	790	31.5%	381	48.2%	306	38.7%	37	4.7%
Public order	400	16.0%	158	39.5%	127	31.8%	11	2.8%
Violent	484	19.3%	196	40.5%	166	34.3%	17	3.5%
Sexual	86	3.4%	15	17.4%	12	14.0%	0	0.0%
Status	166	6.6%	68	41.0%	53	31.9%	2	1.2%
VOAP	143	5.7%	77	53.8%	65	45.5%	10	7.0%
Traffic	59	2.4%	11	18.6%	7	11.9%	0	0.0%
Weapon	121	4.8%	36	29.8%	32	26.4%	2	1.7%
Index legal action (type of release)								
NSRes committed	241	9.6%	94	39.0%	74	30.7%	18	7.5%

Table 9b Georgia Department of Juvenile Justice Revised Risk Assessment Boys' Validation Sample Description								
Sample Characteristic	N	%	12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
			N	%	N	%	N	%
Validation Sample	2,506	100.0%	1,034	41.3%	838	33.4%	86	3.4%
Community committed	196	7.8%	108	55.1%	98	50.0%	25	12.8%
STP + Commitment	20	0.8%	9	45.0%	7	35.0%	2	10.0%
STP + Probation	241	9.6%	150	62.2%	130	53.9%	20	8.3%
Probation	1,808	72.1%	673	37.2%	529	29.3%	21	1.2%
CRN risk level								
Low	1,955	78.0%	716	36.6%	566	29.0%	39	2.0%
Medium	492	19.6%	285	57.9%	243	49.4%	38	7.7%
High	59	2.4%	33	55.9%	29	49.2%	9	15.3%

**Georgia Department of Juvenile Justice
Revised Risk Assessment for Community-Placed Boys**

	<u>Score</u>
1. Age at first adjudication	
a. 15 or older, or no prior adjudications	0
b. 14 or younger.....	1
2. Number of arrests prior to current arrest	
d. None.....	-1
e. One or two	0
f. Three or more	1
3. Most serious current offense was property related	
c. No.....	0
d. Yes.....	1
4. Youth had conflicts with teachers	
a. No.....	0
b. Yes, either known or suspected.....	1
5. Number of classes youth failed	
c. None.....	-1
d. One or two	0
e. Three or more	1
6. Number of times youth suspended since first grade	
a. 0–3 times	-1
b. 4–6 times	0
c. 7+ times	1
7. Youth argues or fights with other students	
c. No.....	0
d. Yes, either known or suspected.....	1
8. Characteristics of youth’s friends	
c. None apply.....	0
d. One or more apply (mark all that apply and add)	
___ At least some of youth’s friends are gang affiliated.....	1
___ More than half of youth’s friends have been arrested	1
9. Characteristics of youth	
a. None apply.....	0
b. One or more apply (mark all that apply and add)	
___ Youth does not participate in any sports, church, creative, or school activities	1
___ Youth has used marijuana at least once in the last three months	1
___ Youth has used alcohol at least one time per week for the last three months	1
Total Risk Score	

<u>Risk Score:</u>	<u>Risk Level:</u>
___ -3–0	Low
___ 1–4	Medium
___ 5–12	High

Outcome Rates by Boys' Risk Assessment Level

Table 10 shows outcome rates by the revised risk assessment level for boys.

Table 10								
Georgia Department of Juvenile Justice Outcome Rates by Revised Boys' Risk Level								
Revised Risk Level	Distribution		12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
	N	%	N	%	N	%	N	%
Construction Sample	2,503	100.0%	1,005	40.2%	831	33.2%	85	3.4%
Low	779	31.1%	163	20.9%	126	16.2%	4	0.5%
Medium	1,098	43.9%	453	41.3%	362	33.0%	30	2.7%
High	626	25.0%	389	62.1%	343	54.8%	51	8.1%
Validation Sample	2,506	100.0%	1,034	41.3%	838	33.4%	86	3.4%
Low	808	32.2%	190	23.5%	137	17.0%	4	0.5%
Medium	1,103	44.0%	489	44.3%	409	37.1%	27	2.4%
High	595	23.7%	355	59.7%	292	49.1%	55	9.2%

Outcome Rates by Revised Boys' Risk Assessment Level by Race/Ethnicity

Table 11a								
Georgia Department of Juvenile Justice								
Boys' Construction Sample								
Outcome Rates by Revised Risk Level and Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
	N	%	N	%	N	%	N	%
Construction Sample	2,503	100.0%	1,005	40.2%	831	33.2%	85	3.4%
White/Caucasian								
Low	417	39.9%	72	17.3%	55	13.2%	1	0.2%
Medium	459	43.9%	162	35.3%	130	28.3%	4	0.9%
High	169	16.2%	93	55.0%	80	47.3%	4	2.4%
Subgroup Total	1,045	100.0%	327	31.3%	265	25.4%	9	0.9%
Black/African American								
Low	303	23.3%	84	27.7%	66	21.8%	3	1.0%
Medium	584	45.0%	267	45.7%	214	36.6%	24	4.1%
High	412	31.7%	275	66.7%	242	58.7%	43	10.4%
Subgroup Total	1,299	100.0%	626	48.2%	522	40.2%	70	5.4%
Hispanic/Latino								
Low	46	39.0%	5	10.9%	4	8.7%	0	0.0%
Medium	40	33.9%	17	42.5%	11	27.5%	2	5.0%
High	32	27.1%	15	46.9%	15	46.9%	2	6.3%
Subgroup Total	118	100.0%	37	31.4%	30	25.4%	4	3.4%

Table 11b								
Georgia Department of Juvenile Justice Boys' Validation Sample Outcome Rates by Revised Risk Level and Youth Race/Ethnicity								
Race/Ethnicity	Distribution		12-Month Outcomes					
			Subsequent Arrest		Subsequent Adjudication		Subsequent Commitment	
	N	%	N	%	N	%	N	%
Validation Sample	2,506	100.0%	1,034	41.3%	838	33.4%	86	3.4%
White/Caucasian								
Low	403	39.7%	86	21.3%	56	13.9%	0	0.0%
Medium	460	45.4%	172	37.4%	140	30.4%	7	1.5%
High	151	14.9%	89	58.9%	72	47.7%	7	4.6%
Subgroup Total	1,014	100.0%	347	34.2%	268	26.4%	14	1.4%
Black/African American								
Low	352	26.2%	99	28.1%	78	22.2%	4	1.1%
Medium	588	43.7%	295	50.2%	252	42.9%	19	3.2%
High	406	30.2%	245	60.3%	204	50.2%	47	11.6%
Subgroup Total	1,346	100.0%	639	47.5%	534	39.7%	70	5.2%
Hispanic/Latino								
Low	44	39.6%	5	11.4%	3	6.8%	0	0.0%
Medium	38	34.2%	18	47.4%	15	39.5%	0	0.0%
High	29	26.1%	16	55.2%	12	41.4%	0	0.0%
Subgroup Total	111	100.0%	39	35.1%	30	27.0%	0	0.0%

Table 12		
Georgia Department of Juvenile Justice AUC Scores for Revised Risk Assessment for Boys		
Outcome	AUC	
	Construction Sample (n=2,503)	Validation Sample (n=2,506)
New criminal arrest	.691*	.675*
New criminal adjudication	.688*	.670*
New commitment to a facility	.760*	.785*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 13				
Georgia Department of Juvenile Justice DIFR Scores for Revised Boys' Risk Assessment				
Outcome	Total Sample	Caucasian Sample	African American Sample	Hispanic Sample
Construction Sample				
N	2,503	1,045	1,299	118
New criminal arrest	0.69	0.64	0.61	0.93
New criminal adjudication	0.69	0.65	0.61	1.47
New commitment to a facility	1.19	1.04	0.95	*Cannot calculate
Validation Sample				
N	2,506	1,014	1,346	111
New criminal arrest	.60	.58	.52	1.04
New criminal adjudication	.61	.63	.50	1.12
New commitment to a facility	1.20	*Cannot calculate	1.00	*Cannot calculate

*DIFR cannot be calculated when one or more of the outcome rates is 0.

**Georgia Department of Juvenile Justice
Revised Risk Assessment for Girls**

		<u>Score</u>
1.	Number of arrests prior to index arrest	
	a. None	-1
	b. One or two.....	0
	c. Three or more.....	1
2.	Number of prior adjudications for property offenses	
	a. None	0
	b. One or more.....	1
3.	Age at index arrest	
	a. 11 or under, 17 or older	-1
	b. 12 to 16	0
4.	Number of times youth suspended since first grade	
	a. 0–3 times.....	-1
	b. 4–6 times.....	0
	c. 7+ times.....	1
5.	Youth had conflicts with teachers	
	a. No	0
	b. Yes, either known or suspected.....	1
6.	Youth participates in activities	
	a. Youth participates in at least one sport, church, creative, or school activity	0
	b. Youth does not participate in any activities.....	1
7.	Youth's parent(s) knows who youth's friends are	
	a. Yes	0
	b. No, either known or suspected	1
8.	Family characteristics	
	a. None applicable	0
	b. One or both apply (mark all that apply and add)	
	___ Youth's mother was ever arrested	1
	___ Youth's mother was ever in jail or prison	1
9.	Youth was raised by a single parent	
	a. No	0
	b. Yes	1
10.	Youth's friends have been arrested	
	a. None or some of youth's friends	0
	b. More than half of youth's friends	1

Total Risk Score _____

<u>Risk Score:</u>	<u>Risk Level:</u>
___ -3 to -1	Low
___ 0–3	Medium
___ 4–10	High

Outcome Rates by Revised Girls' Risk Assessment Level

Table 14 shows outcome rates by revised risk level.

Table 14						
Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Outcome Rates by Revised Girls' Risk Level						
Revised Risk Level	N	%	12-Month Outcomes			
			Subsequent Arrest		Subsequent Adjudication	
			N	%	N	%
Total Sample	2,005	100.0%	578	28.8%	437	21.8%
Revised risk level						
Low	461	23.0%	75	16.3%	54	11.7%
Medium	1,087	54.2%	305	28.1%	228	21.0%
High	457	22.8%	198	43.3%	155	33.9%

Outcome Rates by Revised Girls Risk Assessment Level by Race/Ethnicity

Table 15						
Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation Outcome Rates by Revised Girls' Risk Level and Youth Race/Ethnicity						
Race/Ethnicity	N	%	12-Month Outcomes			
			Subsequent Arrest		Subsequent Adjudication	
			N	%	N	%
Total Girl Sample	2,005	100.0%	578	28.8%	437	21.8%
White/Caucasian						
Low	279	33.5%	41	14.7%	29	10.4%
Medium	432	51.9%	92	21.3%	70	16.2%
High	122	14.6%	44	36.1%	33	27.0%
Subgroup Total	833	100.0%	177	21.2%	132	15.8%
Black/African American						
Low	156	14.4%	31	19.9%	23	14.7%
Medium	613	56.8%	201	32.8%	149	24.3%
High	311	28.8%	144	46.3%	115	37.0%
Subgroup Total	1,080	100.0%	376	34.8%	287	26.6%
Hispanic/Latino						
Low	21	30.4%	3	14.3%	2	9.5%
Medium	33	47.8%	7	21.2%	5	15.2%
High	15	21.7%	7	46.7%	4	26.7%
Subgroup Total	69	100.0%	17	24.6%	11	15.9%

Table 16 Georgia Department of Juvenile Justice Comprehensive Risk and Needs Assessment Validation AUC Scores for Revised Girls' Risk Assessment (N = 2,005)	
Outcome	AUC
New criminal arrest	.637*
New criminal adjudication	.635*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 17 DIFR Scores for Revised Girls' Risk Assessment				
Outcome	Total Sample	Caucasian Sample	African American Sample	Hispanic Sample
New criminal arrest	.46	.38	.39	.61
New criminal adjudication	.46	.38	.39	.45

NEBRASKA OFFICE OF JUVENILE SERVICES YLS/CMI ASSESSMENT VALIDATION RESULTS

Sample Description

Nebraska Office of Juvenile Services (OJS) provided a population of 1,060 youth who were released from the Youth Rehabilitation and Treatment Center (YRTC) between January 2008 and December 2009. NCCD selected youth committed prior to age 18 with a completed YLS/CMI assessment.³² Selection resulted in a final sample of 597 youth released from the YRTC during the two-year timeframe. Outcomes were observed for a standardized 12-month time period. Sample characteristics and outcome rates are described in Table 1.

Table 1 Nebraska Office of Juvenile Services YLS/CMI Risk Instrument Validation Sample Description								
Sample Characteristic	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%
Gender								
Female	136	22.8%	29	21.3%	24	17.6%	12	8.8%
Male	461	77.2%	102	22.1%	77	16.7%	55	11.9%
Race/Ethnicity								
American Indian or Alaska Native	33	5.5%	7	21.2%	5	15.2%	4	12.1%
Asian	4	0.7%	0	0.0%	0	0.0%	0	0.0%
Black/African American	101	16.9%	27	26.7%	17	16.8%	14	13.9%
Hispanic	115	19.3%	23	20.0%	18	15.7%	12	10.4%
White	312	52.3%	67	21.5%	56	17.9%	36	11.5%
Other/Unknown	32	5.4%	7	21.9%	5	15.6%	1	3.1%

³² A YLS/CMI risk assessment was identified for 886 youth. Of the 886 youth with a completed YLS/CMI risk assessment, 606 had an assessment completed within 90 days (before or after) of their release date. Nebraska OJS matched YLS data for an additional 67 youth, bringing the total youth with a valid YLS to 673. An additional 76 youth were dropped from the analysis because they were age 18 or older at the time of commitment. This preliminary analysis includes commitment for possible status offenses.

Table 1 Nebraska Office of Juvenile Services YLS/CMI Risk Instrument Validation Sample Description								
Sample Characteristic	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%
Age at release								
12 to 15 years	130	21.8%	47	36.2%	37	28.5%	25	19.2%
16 years	179	30.0%	50	27.9%	40	22.3%	26	14.5%
17 years	222	37.2%	32	14.4%	23	10.4%	15	6.8%
18 years and older	66	11.1%	2	3.0%	1	1.5%	1	1.5%

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome also includes instances where a commitment occurred during the follow-up period with no adjudication record.

YLS/CMI Assessment

Outcome Rates by YLS/CMI Scored Risk Level

Table 2 shows outcome rates by the scored YLS/CMI risk level. Note that only some distinction exists in outcome rates by risk level, e.g., there is very little difference in outcome rates for a youth classified as low versus moderate risk for all outcomes.

Table 2								
Nebraska Office of Juvenile Services YLS/CMI Risk Instrument Validation Follow-Up Offense Rates by Initial Risk Level								
Risk Level	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Low	20	3.4%	4	20.0%	2	10.0%	1	5.0%
Moderate	192	32.2%	40	20.8%	34	17.7%	22	11.5%
High	376	63.0%	85	22.6%	63	16.8%	44	11.7%
Very high	9	1.5%	2	22.2%	2	22.2%	0	0.0%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record.

Outcome Rates by YLS/CMI Scored Risk Level by Race/Ethnicity

Table 3								
Nebraska Office of Juvenile Services YLS/CMI Risk Instrument Validation Follow-Up Offense by Scored Risk Level and Youth Race/Ethnicity								
Risk Level	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%
Hispanic								
Low	3	2.6%	1	33.3%	1	33.3%	1	33.3%
Moderate	32	27.8%	9	28.1%	8	25.0%	5	15.6%
High	78	67.8%	12	15.4%	8	10.3%	6	7.7%
Very high	2	1.7%	1	50.0%	1	50.0%	0	0.0%
Subgroup Total	115	100.0%	23	20.0%	18	15.7%	12	10.4%
Black or African American								
Low	6	5.9%	1	16.7%	0	0.0%	0	0.0%
Moderate	45	44.6%	11	24.4%	8	17.8%	7	15.6%
High	49	48.5%	15	30.6%	9	18.4%	7	14.3%
Very high	1	1.0%	0	0.0%	0	0.0%	0	0.0%
Subgroup Total	101	100.0%	27	26.7%	17	16.8%	14	13.9%
White								
Low	11	3.5%	2	18.2%	1	9.1%	0	0.0%
Moderate	97	31.1%	18	18.6%	16	16.5%	9	9.3%
High	200	64.1%	46	23.0%	38	19.0%	27	13.5%
Very high	4	1.3%	1	25.0%	1	25.0%	0	0.0%
Subgroup Total	312	100.0%	67	21.5%	56	17.9%	36	11.5%

Note: Includes only subgroups of 50 or more.

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record.

Outcome Rates by YLS/CMI Scored Risk Level by Gender

Table 4								
Nebraska Office of Juvenile Services YLS/CMI Risk Instrument Validation Follow-Up Offense by Scored Risk Level and Youth Gender								
Risk Level	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%
Female								
Low	5	3.7%	2	40.0%	1	20.0%	0	0.0%
Moderate	57	41.9%	10	17.5%	8	14.0%	4	7.0%
High	73	53.7%	17	23.3%	15	20.5%	8	11.0%
Very high	1	0.7%	0	0.0%	0	0.0%	0	0.0%
Subgroup Total	136	100.0%	29	21.3%	24	17.6%	12	8.8%
Male								
Low	15	3.3%	2	13.3%	1	6.7%	1	6.7%
Moderate	135	29.3%	30	22.2%	26	19.3%	18	13.3%
High	303	65.7%	68	22.4%	48	15.8%	36	11.9%
Very high	8	1.7%	2	25.0%	2	25.0%	0	0.0%
Subgroup Total	461	100.0%	102	22.1%	77	16.7%	55	11.9%

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record.

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .537 for the petition outcome, .536 for the adjudication outcome, and .526 for the commitment outcome, for the total sample. These AUC scores were not significantly different from .5 (indicated with *), indicating that predictive abilities were not greater than chance.

Table 5 Nebraska Office of Juvenile Services YLS/CMI Validation Area Under the Curve (AUC)						
Outcome	Total Sample	Male Sample	Female Sample	White Sample	Black or African American Sample	Hispanic Sample
Sample Size	597	461	136	312	101	115
Follow-up petition	.537	.516	.589	.560	.519	.502
Follow-up adjudication	.536	.505	.633*	.565	.538	.474
Follow-up commitment	.526	.501	.608	.574	.498	.476

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups.

The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level (Silver and Banks, 1998).

Table 6						
DIFR* Scores for YLS/CMI						
Outcome	Total Sample	Male Sample	Female Sample	Hispanic Sample	White Sample	Black Sample
Follow-up petition	**	0.11	NA	**	0.13	NA
Follow-up adjudication	**	**	NA	**	0.17	NA
Follow-up commitment	NA	NA	NA	NA	NA	NA

*DIFR cannot be calculated when the outcome rate for a group is 0.0%. Instances where this is the case are indicated with “NA.”

**Outcome rates did not increase with each increase in risk level for these groups; therefore, a DIFR score was not calculated.

Table 7

**Nebraska Office of Juvenile Services
YLS/CMI Risk Instrument Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Follow-Up Petition				Follow-Up Adjudication				Follow-Up Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	597	100.0%	131	21.9%			101	16.9%			67	11.2%		
Prior and Current Offenses/Dispositions														
Three or more prior convictions					-.034	.203			-.021	.306			-.040	.165
Yes	256	42.9%	52	20.3%			41	16.0%			25	9.8%		
No	341	57.1%	79	23.2%			60	17.6%			42	12.3%		
Two or more failures to comply					-.089	.0015**			-.085	.019**			-.094	.011**
Yes	328	54.9%	61	18.6%			46	14.0%			28	8.5%		
No	269	45.1%	70	26.0%			55	20.4%			39	14.5%		
Prior probation					-.084	.020**			-.058	.079*			-.066	.055*
Yes	374	62.6%	72	19.3%			57	15.2%			36	9.6%		
No	223	37.4%	59	26.5%			44	19.7%			31	13.9%		
Prior custody					.038	.179			.054	.094*			.044	.140
Yes	266	44.6%	63	23.7%			51	19.2%			34	12.8%		
No	331	55.4%	68	20.5%			50	15.1%			33	10.0%		
Three or more current convictions					-.060	.071*			-.040	.166			-.069	.045**
Yes	128	21.4%	22	17.2%			18	14.1%			9	7.0%		
No	469	78.6%	109	23.2%			83	17.7%			58	12.4%		
Family Circumstances/Parenting														
Inadequate supervision					.074	.035**			.066	.052*			.066	.054*
Yes	365	61.1%	89	24.4%			69	18.9%			47	12.9%		
No	232	38.9%	42	18.1%			32	13.8%			20	8.6%		
Difficulty in controlling behavior					.047	.125			.057	.081*			.066	.052*
Yes	525	87.9%	119	22.7%			93	17.7%			63	12.0%		
No	72	12.1%	12	16.7%			8	11.1%			4	5.6%		
Inappropriate discipline					.064	.059*			.097	.009**			.048	.121
Yes	194	32.5%	50	25.8%			43	22.2%			26	13.4%		
No	403	67.5%	81	20.1%			58	14.4%			41	10.2%		
Inconsistent parenting					.030	.235			.043	.149			.002	.476
Yes	399	66.8%	91	22.8%			72	18.0%			45	11.3%		
No	198	33.2%	40	20.2%			29	14.6%			22	11.1%		

Table 7

**Nebraska Office of Juvenile Services
YLS/CMI Risk Instrument Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Follow-Up Petition				Follow-Up Adjudication				Follow-Up Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	597	100.0%	131	21.9%			101	16.9%			67	11.2%		
Poor relations (father-youth)					.041	.157			.034	.201			.044	.141
Yes	374	62.6%	87	23.3%			67	17.9%			46	12.3%		
No	223	37.4%	44	19.7%			34	15.2%			21	9.4%		
Poor relations (mother-youth)					.057	.082*			.042	.153			-.002	.484
Yes	233	39.0%	58	24.9%			44	18.9%			26	11.2%		
No	364	61.0%	73	20.1%			57	15.7%			41	11.3%		
Education/Employment														
Disruptive classroom behavior					.063	.061*			.069	.045**			.021	.305
Yes	357	59.8%	86	24.1%			68	19.0%			42	11.8%		
No	240	40.2%	45	18.8%			33	13.8%			25	10.4%		
Disruptive behavior on school property					.069	.046**			.043	.144			.028	.245
Yes	209	35.0%	54	25.8%			40	19.1%			26	12.4%		
No	388	65.0%	77	19.8%			61	15.7%			41	10.6%		
Low achievement					-.039	.171			-.002	.479			.009	.415
Yes	421	70.5%	88	20.9%			71	16.9%			48	11.4%		
No	176	29.5%	43	24.4%			30	17.0%			19	10.8%		
Problems with peers					.055	.090*			.044	.144			.018	.328
Yes	261	43.7%	64	24.5%			49	18.8%			31	11.9%		
No	336	56.3%	67	19.9%			52	15.5%			36	10.7%		
Problems with teachers					.033	.208			.021	.309			.004	.464
Yes	282	47.2%	66	23.4%			50	17.7%			32	11.3%		
No	315	52.8%	65	20.6%			51	16.2%			35	11.1%		
Truancy					.013	.373			-.007	.432			.037	.185
Yes	371	62.1%	83	22.4%			62	16.7%			45	12.1%		
No	226	37.9%	48	21.2%			39	17.3%			22	9.7%		
Unemployed/Not seeking employment					-.018	.332			.027	.255			.063	.061*
Yes	150	25.1%	31	20.7%			28	18.7%			22	14.7%		
No	447	74.9%	100	22.4%			73	16.3%			45	10.1%		

Table 7

**Nebraska Office of Juvenile Services
YLS/CMI Risk Instrument Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Follow-Up Petition				Follow-Up Adjudication				Follow-Up Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	597	100.0%	131	21.9%			101	16.9%			67	11.2%		
Peer Relations														
Some delinquent acquaintances					.068	.047**			.064	.058*			.038	.176
Yes	543	91.0%	124	22.8%			96	17.7%			63	11.6%		
No	54	9.0%	7	13.0%			5	9.3%			4	7.4%		
Some delinquent friends					.035	.197			.000	.497			-.006	.445
Yes	520	87.1%	117	22.5%			88	16.9%			58	11.2%		
No	77	12.9%	14	18.2%			13	16.9%			9	11.7%		
No/few positive acquaintances					.080	.026**			.041	.161			.053	.099*
Yes	376	63.0%	92	24.5%			68	18.1%			47	12.5%		
No	221	37.0%	39	17.6%			33	14.9%			20	9.0%		
No/few positive friends					.052	.101			.028	.244			.029	.242
Yes	396	66.3%	93	23.5%			70	17.7%			47	11.9%		
No	201	33.7%	38	18.9%			31	15.4%			20	10.0%		
Substance Abuse														
Occasional drug use					.009	.412			-.014	.368			-.005	.453
Yes	387	64.8%	86	22.2%			64	16.5%			43	11.1%		
No	210	35.2%	45	21.4%			37	17.6%			24	11.4%		
Chronic drug use					-.017	.337			-.047	.127			.038	.179
Yes	219	36.7%	46	21.0%			32	14.6%			28	12.8%		
No	378	63.3%	85	22.5%			69	18.3%			39	10.3%		
Chronic alcohol use					-.004	.464			-.020	.309			-.034	.207
Yes	111	18.6%	24	21.6%			17	15.3%			10	9.0%		
No	486	81.4%	107	22.0%			84	17.3%			57	11.7%		
Substance abuse interferes with life					-.030	.229			-.035	.199			-.029	.240
Yes	336	56.3%	70	20.8%			53	15.8%			35	10.4%		
No	261	43.7%	61	23.4%			48	18.4%			32	12.3%		
Substance use linked to offense(s)					-.028	.248			-.003	.468			-.047	.126
Yes	280	46.9%	58	20.7%			47	16.8%			27	9.6%		
No	317	53.1%	73	23.0%			54	17.0%			40	12.6%		

Table 7

**Nebraska Office of Juvenile Services
YLS/CMI Risk Instrument Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Follow-Up Petition				Follow-Up Adjudication				Follow-Up Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	597	100.0%	131	21.9%			101	16.9%			67	11.2%		
Leisure/Recreation														
Limited organized activities					.022	.298			.032	.214			.081	.024**
Yes	492	82.4%	110	22.4%			86	17.5%			61	12.4%		
No	105	17.6%	21	20.0%			15	14.3%			6	5.7%		
Could make better use of time					-.018	.327			.011	.395			.082	.023**
Yes	491	82.2%	106	21.6%			84	17.1%			61	12.4%		
No	106	17.8%	25	23.6%			17	16.0%			6	5.7%		
No personal interests					.128	.001**			.134	.001**			.119	.002**
Yes	184	30.8%	55	29.9%			45	24.5%			31	16.8%		
No	413	69.2%	76	18.4%			56	13.6%			36	8.7%		
Personality/Behavior														
Inflated self-esteem					-.007	.429			-.001	.495			-.028	.250
Yes	154	25.8%	33	21.4%			26	16.9%			15	9.7%		
No	443	74.2%	98	22.1%			75	16.9%			52	11.7%		
Physically aggressive					-.043	.146			-.050	.113			-.037	.182
Yes	334	55.9%	68	20.4%			51	15.3%			34	10.2%		
No	263	44.1%	63	24.0%			50	19.0%			33	12.5%		
Tantrums					.016	.348			.049	.115			-.013	.379
Yes	269	45.1%	61	22.7%			51	19.0%			29	10.8%		
No	328	54.9%	70	21.3%			50	15.2%			38	11.6%		
Short attention span					-.002	.481			.003	.467			.012	.388
Yes	311	52.1%	68	21.9%			53	17.0%			36	11.6%		
No	286	47.9%	63	22.0%			48	16.8%			31	10.8%		
Poor frustration tolerance					.058	.079*			.054	.094*			.015	.356
Yes	480	80.4%	111	23.1%			86	17.9%			55	11.5%		
No	117	19.6%	20	17.1%			15	12.8%			12	10.3%		
Inadequate guilt feelings					.038	.178			.032	.220			-.016	.352
Yes	316	52.9%	74	23.4%			57	18.0%			34	10.8%		
No	281	47.1%	57	20.3%			44	15.7%			33	11.7%		

Table 7

**Nebraska Office of Juvenile Services
YLS/CMI Risk Instrument Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Follow-Up Petition				Follow-Up Adjudication				Follow-Up Commitment			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	597	100.0%	131	21.9%			101	16.9%			67	11.2%		
Verbally aggressive, impudent					.007	.434			-.010	.407			-.035	.195
Yes	402	67.3%	89	22.1%			67	16.7%			42	10.4%		
No	195	32.7%	42	21.5%			34	17.4%			25	12.8%		
Attitudes/Orientation														
Anti-social/pro-criminal attitudes					-.032	.215			-.040	.163			.002	.480
Yes	328	54.9%	68	20.7%			51	15.5%			37	11.3%		
No	269	45.1%	63	23.4%			50	18.6%			30	11.2%		
Not seeking help					-.011	.397			.010	.407			.054	.092*
Yes	384	64.3%	83	21.6%			66	17.2%			48	12.5%		
No	213	35.7%	48	22.5%			35	16.4%			19	8.9%		
Actively rejecting help					.014	.369			.050	.113			.052	.104
Yes	234	39.2%	53	22.6%			45	19.2%			31	13.2%		
No	363	60.8%	78	21.5%			56	15.4%			36	9.9%		
Defies authority					.001	.490			-.016	.346			-.019	.325
Yes	510	85.4%	112	22.0%			85	16.7%			56	11.0%		
No	87	14.6%	19	21.8%			16	18.4%			11	12.6%		
Callous, little concern for others					-.025	.275			-.001	.491			-.015	.355
Yes	172	28.8%	35	20.3%			29	16.9%			18	10.5%		
No	425	71.2%	96	22.6%			72	16.9%			49	11.5%		

Note: Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record. * is significant at the .10 level; ** is significant at the .05 level.

Revised Risk Assessment

NCCD used bivariate and multivariate analysis to identify which YLS/CMI items have the strongest statistical relationships to the outcomes. The analysis resulted in a revised risk assessment containing 11 items. Item weights are based on each individual item's relationship to the outcomes. Cut points were determined by examining the relationship of the overall risk score to the outcomes and grouping scores with similar outcome rates.

**Nebraska OJS
Revised Risk Assessment**

		<u>Score</u>
1.	Youth's age at current commitment (constructed)	
	a. 16 years and older	-1
	b. 14 to 15 years	1
	c. 13 years or younger	2
2.	Youth's age at first petition (constructed)	
	a. Under age 12	2
	b. Age 12 or older	0
3.	Number of delinquency petitions youth has had (constructed)	
	a. Less than two	0
	b. Two or more	1
4.	Prior custody (from YLS)	
	a. No	0
	b. Yes	1
5.	Parenting Issues (modified from YLS)	
	a. One or more of the following apply	0
	<input type="checkbox"/> Inadequate supervision	
	<input type="checkbox"/> Difficulty controlling behavior	
	<input type="checkbox"/> Inappropriate discipline	
	b. None apply	-1
6.	Disruptive school behavior (from YLS)	
	a. No	0
	b. Yes	1
7.	Youth is unemployed/not seeking employment (from YLS)	
	a. No	0
	b. Yes	1
8.	Problems with peers (from YLS)	
	a. No	0
	b. Yes	1
9.	Youth has some delinquent acquaintances and/or friends (modified from YLS)	
	a. No	0
	b. Yes	1
10.	Youth has no personal interests (from YLS)	
	a. No	0
	b. Yes	1
11.	Youth has inflated self-esteem (from YLS)	
	a. No	0
	b. Yes	1
Total Score		<u> </u>

<u>Risk Score:</u> ____ -2-1 ____ 2-4 ____ 5-12	<u>Risk Level:</u> Low Moderate High
-----------------------------------------------------------------	------------------------------------------------------

Outcome Rates by Risk Level (Revised Assessment)

Table 8 shows outcome rates by revised risk level. The difference in outcome rates is more pronounced between risk levels than in the original risk assessment. Also note that the revised risk assessment uses only three levels.

Table 8								
Nebraska Office of Juvenile Services								
Follow-Up Offense Rates by Revised Risk Level								
Revised Risk Level	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Low	98	16.4%	8	8.2%	6	6.1%	3	3.1%
Moderate	334	55.9%	69	20.7%	47	14.1%	31	9.3%
High	165	27.6%	54	32.7%	48	29.1%	33	20.0%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record.

Outcome Rates by Revised Risk Level by Race/Ethnicity

Table 9 shows outcome rates by the revised risk level disaggregated by ethnicity. The revised tool equitably classifies youth by their likelihood of re-offending, though some crossover was observed for high-risk Hispanic youth (the outcome rates for these youth were only slightly higher than the outcome rates for moderate-risk, Black youth). There is also less pronounced difference between the outcome rates for moderate- and high-risk Hispanic youth than for the other two ethnicity groups. When constructing the revised risk level, it was observed that many of the variables pertaining to prior history did not apply to Hispanic youth. This may be due to more Hispanic youth having unknown prior delinquent activity. For example, if these youth are part of a migrant

population, it is possible that their prior history may be unknown. Language barriers also may preclude probation workers from fully assessing the youth's delinquency history during an interview. There were also only 115 Hispanic youth in the sample. All of these factors may explain why the revised risk assessment was less effective in classifying these Hispanic youth compared to youth from the other ethnicity groups.

Table 9								
Nebraska Office of Juvenile Services								
Follow-Up Offense by Revised Risk Level and Youth Race/Ethnicity								
Revised Risk Level	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%
Black/African American								
Low	16	15.8%	1	6.3%	1	6.3%	1	6.3%
Moderate	52	51.5%	14	26.9%	7	13.5%	6	11.5%
High	33	32.7%	12	36.4%	9	27.3%	7	21.2%
Subgroup Total	101	100.0%	27	26.7%	17	16.8%	14	13.9%
Hispanic								
Low	19	16.5%	1	5.3%	1	5.3%	1	5.3%
Moderate	58	50.4%	11	19.0%	9	15.5%	6	10.3%
High	38	33.0%	11	28.9%	8	21.1%	5	13.2%
Subgroup Total	115	100.0%	23	20.0%	18	15.7%	12	10.4%
White								
Low	51	16.3%	5	9.8%	3	5.9%	0	0.0%
Moderate	180	57.7%	36	20.0%	27	15.0%	17	9.4%
High	81	26.0%	26	32.1%	26	32.1%	19	23.5%
Subgroup Total	312	100.0%	67	21.5%	56	17.9%	36	11.5%

Note: Includes only subgroups of 50 or more.

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record.

Table 10 shows outcome rates by gender when the revised risk assessment is applied to the OJS sample. The revised assessment equitably classified youth, regardless of gender, though the follow-up commitment rate for high-risk females was fairly similar to that of moderate-risk females.

Table 10								
Nebraska Office of Juvenile Services								
Follow-Up Offense by Revised Risk Level and Youth Gender								
Revised Risk Level	N	%	Outcome*					
			Follow-Up Petition		Follow-Up Adjudication		Follow-Up Commitment	
			N	%	N	%	N	%
Total Sample	597	100.0%	131	21.9%	101	16.9%	67	11.2%
Female								
Low	30	22.1%	2	6.7%	2	6.7%	1	3.3%
Moderate	75	55.1%	16	21.3%	11	14.7%	7	9.3%
High	31	22.8%	11	35.5%	11	35.5%	4	12.9%
Subgroup Total	136	100.0%	29	21.3%	24	17.6%	12	8.8%
Male								
Low	68	14.8%	6	8.8%	4	5.9%	2	2.9%
Moderate	259	56.2%	53	20.5%	36	13.9%	24	9.3%
High	134	29.1%	43	32.1%	37	27.6%	29	21.6%
Subgroup Total	461	100.0%	102	22.1%	77	16.7%	55	11.9%

*Outcome must occur within 12 months after release or YLS/CMI completion date, whichever is more recent. Because OJS does not always petition and/or adjudicate youth who are on parole, the petition outcome reflects a petition received during the follow-up period or that an adjudication or commitment occurred during the follow-up period; similarly, the adjudication outcome includes instances where a commitment occurred during the follow-up period with no adjudication record.

AUC

Table 11 Nebraska Office of Juvenile Services Area Under the Curve (AUC) for Revised Assessment (N = 597)	
Outcome	AUC
Follow-up petition	.634*
Follow-up adjudication	.657*
Follow-up commitment	.645*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index For Risk

Table 12 Nebraska Office of Juvenile Services DIFR Scores for Revised Assessment						
Outcome	Total Sample	Male Sample	Female Sample	Hispanic Sample	White Sample	Black Sample
Follow-up petition	.55	.50	.71	.67	.47	.72
Follow-up adjudication	.61	.59	.70	.53	.66	.60
Follow-up commitment	.69	.72	.53	.34	NA	.48

NEBRASKA JUVENILE PROBATION SERVICES YLS/CMI ASSESSMENT VALIDATION RESULTS

Sample Description

Nebraska Juvenile Probation Services provided a population of 1,772 youth who started probation between June and December 2009. NCCD selected youth with a completed Youth Level of Service/Case Management Inventory (YLS/CMI) assessment.³³ Selection resulted in a final sample of 1,077 youth starting probation in the second half of 2009. Sample characteristics and outcome rates are described in Table 1. Note that “Criminal offense” excludes status offenses, traffic offenses, and minor infractions. It is simply intended to describe the type of activity involved in the offense. “Sanctioning” is a term that indicates the offense resulted in some type of sentence, fine, or penalty, which will be used as a proxy for guilt or probable cause.

Table 1										
Nebraska Juvenile Probation YLS/CMI Validation Sample Description										
Sample Characteristic	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%
Gender										
Female	342	31.8%	85	24.9%	62	18.1%	76	22.2%	52	15.2%
Male	735	68.2%	259	35.2%	204	27.8%	235	32.0%	182	24.8%
Race/Ethnicity										
American Indian	20	1.9%	7	35.0%	5	25.0%	7	35.0%	5	25.0%
Asian	8	0.7%	4	50.0%	4	50.0%	2	25.0%	2	25.0%
Black	215	20.0%	76	35.3%	65	30.2%	73	34.0%	61	28.4%
Hispanic	159	14.8%	47	29.6%	34	21.4%	42	26.4%	31	19.5%

³³ A YLS/CMI risk assessment was identified for 1,375 youth. Analysis was restricted to 1,077 youth who had a YLS/CMI assessment completed up to 90 days prior to the probation sanctioning date and up to 30 days after the probation Sanctioning date. This preliminary analysis includes probation for possible status offenses.

Table 1 Nebraska Juvenile Probation YLS/CMI Validation Sample Description										
Sample Characteristic	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%
White	659	61.2%	204	31.0%	152	23.1%	182	27.6%	130	19.7%
Other/Unknown	16	1.5%	6	37.5%	6	37.5%	5	31.3%	5	31.3%
Age at Probation Start										
9–13 years	97	9.0%	27	27.8%	22	22.7%	25	25.8%	20	20.6%
14 years	117	10.9%	28	23.9%	18	15.4%	25	21.4%	17	14.5%
15 years	235	21.8%	68	28.9%	53	22.6%	59	25.1%	47	20.0%
16 years	273	25.3%	94	34.4%	70	25.6%	86	31.5%	59	21.6%
17 years	279	25.9%	99	35.5%	79	28.3%	89	31.9%	68	24.4%
18 years	76	7.1%	28	36.8%	24	31.6%	27	35.5%	23	30.3%

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent.

YLS/CMI Assessment

Outcome Rates by YLS/CMI Scored Risk Level

Table 2 shows outcome rates by the scored YLS/CMI risk level. Note that only some distinction exists in outcome rates by risk level, e.g., very little difference is shown in outcome rates for a youth classified as moderate versus high risk.

Table 2 Nebraska Juvenile Probation YLS/CMI Validation Follow-Up Offense Rates by Initial Risk Level										
Risk Level	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Low	291	27.0%	85	29.2%	61	21.0%	74	25.4%	52	17.9%
Moderate	718	66.7%	234	32.6%	184	25.6%	214	29.8%	165	23.0%
High	68	6.3%	25	36.8%	21	30.9%	23	33.8%	17	25.0%
Very High	0	0.0%	0	NA	0	NA	0	NA	0	NA
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%

*Arrest/offense must occur within 12 months after probation Sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

Outcome Rates by YLS/CMI Scored Risk Level by Race/Ethnicity

Table 3										
Nebraska Probation YLS/CMI Validation Follow-Up Offense by Scored Risk Level and Youth Race/Ethnicity										
Risk Level	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%
Hispanic										
Low	41	25.8%	11	26.8%	8	19.5%	10	24.4%	7	17.1%
Moderate	108	67.9%	34	31.5%	24	22.2%	30	27.8%	22	20.4%
High	10	6.3%	2	20.0%	2	20.0%	2	20.0%	2	20.0%
Very High	0	0.0%	0	NA	0	NA	0	NA	0	NA
Subgroup Total	159	100.0%	47	29.6%	34	21.4%	42	26.4%	31	19.5%
Black										
Low	43	20.0%	14	32.6%	14	32.6%	13	30.2%	12	27.9%
Moderate	155	72.1%	56	36.1%	45	29.0%	55	35.5%	44	28.4%
High	17	7.9%	6	35.3%	6	35.3%	5	29.4%	5	29.4%
Very High	0	0.0%	0	NA	0	NA	0	NA	0	NA
Subgroup Total	215	100.0%	76	35.3%	65	30.2%	73	34.0%	61	28.4%
White										
Low	198	30.0%	57	28.8%	36	18.2%	49	24.7%	31	15.7%
Moderate	421	63.9%	130	30.9%	103	24.5%	117	27.8%	89	21.1%
High	40	6.1%	17	42.5%	13	32.5%	16	40.0%	10	25.0%
Very High	0	0.0%	0	NA	0	NA	0	NA	0	NA
Subgroup Total	659	100.0%	204	31.0%	152	23.1%	182	27.6%	130	19.7%

Note: Includes only subgroups of 50 or more.

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

Outcome Rates by YLS/CMI Scored Risk Level by Gender

Table 4										
Nebraska Juvenile Probation YLS/CMI Validation Follow-Up Offense by Scored Risk Level and Youth Gender										
Risk Level	N	%	Any Offense*		Any Criminal Offense *		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%
Female										
Low	104	30.4%	21	20.2%	15	14.4%	18	17.3%	12	11.5%
Moderate	225	65.8%	61	27.1%	44	19.6%	55	24.4%	37	16.4%
High	13	3.8%	3	23.1%	3	23.1%	3	23.1%	3	23.1%
Very High	0	0.0%	0	NA	0	NA	0	NA	0	NA
Subgroup Total	342	100.0%	85	24.9%	62	18.1%	76	22.2%	52	15.2%
Male										
Low	187	25.4%	64	34.2%	46	24.6%	56	29.9%	40	21.4%
Moderate	493	67.1%	173	35.1%	140	28.4%	159	32.3%	128	26.0%
High	55	7.5%	22	40.0%	18	32.7%	20	36.4%	14	25.5%
Very High	0	0.0%	0	NA	0	NA	0	NA	0	NA
Subgroup Total	735	100.0%	259	35.2%	204	27.8%	235	32.0%	182	24.8%

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .534 for the any offense/arrest outcome, .545 for the any criminal offense/arrest outcome, .538 for the any offense/arrest with sanctioning outcome, and .546 for the any criminal offense/arrest with sanctioning outcome, for the total sample. The AUC scores for all outcomes other than the any offense/arrest were significantly different from .5 (indicated with *), indicating predictive abilities were greater than chance.

Table 5 Nebraska Juvenile Probation YLS/CMI Validation Area Under the Curve (AUC)						
Outcome	Total Sample	Male Sample	Female Sample	White Sample	Black Sample	Hispanic Sample
Sample Size	1,077	735	342	659	215	159
Any Offense/Arrest	.534	.518	.567	.554*	.495	.507
Any Criminal Offense/Arrest	.545*	.528	.584*	.586*	.480	.496
Any Offense/Arrest With Sanctioning	.538*	.517	.586*	.557*	.491	.499
Any Criminal Offense/Arrest With Sanctioning	.546*	.523	.606*	.578*	.481	.506

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5)

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups.

The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level (Silver and Banks, 1998).

Table 6 Nebraska Juvenile Probation YLS/CMI Validation DIFR Scores for YLS/CMI						
Outcome	Total Sample	Male Sample	Female Sample	Hispanic Sample	White Sample	Black Sample
Any Offense/Arrest	.09	.06	**	**	.14	**
Any Criminal Offense/Arrest	.14	.11	.18	**	.21	**
Any Offense/Arrest With Sanctioning	.11	.07	**	**	.16	**
Any Criminal Offense/Arrest With Sanctioning	.15	**	.22	**	.18	.02

**Outcome rates did not increase with each increase in risk level for these groups; therefore, a DIFR score was not calculated.

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Prior and Current Offenses/Dispositions																		
Three or more prior convictions					.039	.101			.083	.003			.030	.163			.075	.007
Yes	61	5.7%	24	39.3%			24	39.3%			21	34.4%			21	34.4%		
No	1,016	94.3%	320	31.5%			242	23.8%			290	28.5%			213	21.0%		
Two or more failures to comply					.028	.180			.002	.479			.035	.123			.008	.391
Yes	56	5.2%	21	37.5%			14	25.0%			20	35.7%			13	23.2%		
No	1,021	94.8%	323	31.6%			252	24.7%			291	28.5%			221	21.6%		
Prior probation					.087	.002			.068	.013			.078	.005			.062	.021
Yes	246	22.8%	97	39.4%			74	30.1%			87	35.4%			65	26.4%		
No	831	77.2%	247	29.7%			192	23.1%			224	27.0%			169	20.3%		
Prior custody					.065	.016			.056	.033			0.72	.009			0.63	.020
Yes	85	7.9%	36	42.4%			28	32.9%			34	40.0%			26	30.6%		
No	992	92.1%	308	31.0%			238	24.0%			277	27.9%			208	21.0%		
Three or more current convictions					.038	.104			.047	.060			.039	.100			.049	.056
Yes	64	5.9%	25	39.1%			21	32.8%			23	35.9%			19	29.7%		
No	1,013	94.1%	319	31.5%			245	24.2%			288	28.4%			215	21.2%		

Table 7																		
Nebraska Juvenile Probation YLS/CMI Validation Item Analysis																		
YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P- Value	N	%	Corr.	P- Value	N	%	Corr.	P- Value	N	%	Corr.	P- Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Family Circumstances/Parenting																		
Inadequate supervision					.044	.074			.059	.027			.031	.152			.040	.097
Yes	322	29.9%	113	35.1%			92	28.6%			100	31.1%			78	24.2%		
No	755	70.1%	231	30.6%			174	23.0%			211	27.9%			156	20.7%		
Difficulty in controlling behavior					.041	.088			.064	.018			.044	.074			.071	.010
Yes	503	46.7%	171	34.0%			139	27.6%			156	31.0%			125	24.9%		
No	574	53.3%	173	30.1%			127	22.1%			155	27.0%			109	19.0%		
Inappropriate discipline					.023	.224			.012	.352			.016	.295			.020	.258
Yes	214	19.9%	73	34.1%			55	25.7%			65	30.4%			50	23.4%		
No	863	80.1%	271	31.4%			211	24.4%			246	28.5%			184	21.3%		
Inconsistent parenting					.005	.438			.003	.460			.022	.233			.025	.204
Yes	394	36.6%	127	32.2%			98	24.9%			119	30.2%			91	23.1%		
No	683	63.4%	217	31.8%			168	24.6%			192	28.1%			143	20.9%		
Poor relations (father – youth)					.013	.334			-.010	.374			.001	.492			-.008	.399
Yes	422	39.2%	138	32.7%			102	24.2%			122	28.9%			90	21.3%		
No	655	60.8%	206	31.5%			164	25.0%			189	28.9%			144	22.0%		

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Poor relations (mother – youth)					.048	.057			.013	.335			.041	.091			.008	.392
Yes	205	19.0%	75	36.6%			53	25.9%			67	32.7%			46	22.4%		
No	872	81.0%	269	30.8%			213	24.4%			244	28.0%			188	21.6%		
Education/Employment																		
Disruptive classroom behavior					.021	.247			.040	.096			.028	.176			.038	.179
Yes	413	38.3%	137	33.2%			111	26.9%			126	30.5%			98	23.7%		
No	664	61.7%	207	31.2%			155	23.3%			185	27.9%			136	20.5%		
Disruptive behavior on school property					.029	.172			.044	.075			.035	.125			.040	.093
Yes	299	27.8%	102	34.1%			83	27.8%			94	31.4%			73	24.4%		
No	778	72.2%	242	31.1%			183	23.5%			217	27.9%			161	20.7%		
Low achievement					.031	.158			.051	.047			.016	.299			.039	.103
Yes	596	55.3%	198	33.2%			159	26.7%			176	29.5%			138	23.2%		
No	481	44.7%	146	30.4%			107	22.2%			135	28.1%			96	20.0%		
Problems with peers					.030	.165			.057	.031			.042	.083			.066	.015
Yes	277	25.7%	95	34.3%			80	28.9%			89	32.1%			73	26.4%		
No	800	74.3%	249	31.1%			186	23.3%			222	27.8%			161	20.1%		

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Problems with teachers					-.019	.269			.004	.449			-.005	.433			.008	.397
Yes	260	24.1%	79	30.4%			65	25.0%			74	28.5%			58	22.3%		
No	817	75.9%	265	32.4%			201	24.6%			237	29.0%			176	21.5%		
Truancy					.026	.195			.036	.116			.016	.295			.011	.359
Yes	440	40.9%	147	33.4%			117	26.6%			131	29.8%			98	22.3%		
No	637	59.1%	197	30.9%			149	23.4%			180	28.3%			136	21.4%		
Unemployed/not seeking employment					.046	.064			.036	.120			.026	.194			.013	.331
Yes	98	9.1%	38	38.8%			29	29.6%			32	32.7%			23	23.5%		
No	979	90.9%	306	31.3%			237	24.2%			279	28.5%			211	21.6%		
Peer Relations																		
Some delinquent acquaintances					-.022	.240			-.009	.383			-.008	.403			.001	.487
Yes	929	86.2%	293	31.5%			228	24.5%			267	28.7%			202	21.7%		
No	148	13.7%	51	34.5%			38	25.7%			44	29.7%			32	21.6%		
Some delinquent friends					-.030	.162			-.018	.276			-.010	.369			-.001	.492
Yes	852	79.1%	266	31.2%			207	24.3%			244	28.6%			185	21.7%		
No	225	20.9%	78	34.7%			59	26.2%			67	29.8%			49	21.8%		

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
No/few positive acquaintances					.050	.050			.062	.022			.053	.040			.055	.036
Yes	339	31.5%	120	35.4%			97	28.6%			110	32.4%			85	25.1%		
No	738	68.5%	224	30.4%			169	22.9%			201	27.2%			149	20.2%		
No/few positive friends					.008	.0402			.018	.282			.012	.350			.021	.242
Yes	289	26.8%	94	32.5%			75	26.0%			86	29.8%			67	23.2%		
No	788	73.2%	250	31.7%			191	24.2%			225	28.6%			167	21.2%		
Substance Abuse																		
Occasional drug use					.045	.070			.017	.291			.044	.075			.013	.335
Yes	438	40.7%	151	34.5%			112	25.6%			137	31.3%			98	22.4%		
No	639	59.3%	193	30.2%			154	24.1%			174	27.2%			136	21.3%		
Chronic drug use					.047	.063			.061	.023			.051	.047			.053	.041
Yes	147	13.6%	55	37.4%			46	31.3%			51	34.7%			40	27.2%		
No	930	86.4%	289	31.1%			220	23.7%			260	28.0%			194	20.9%		
Chronic alcohol use					.010	.375			.027	.187			.005	.429			.012	.345
Yes	50	4.6%	17	34.0%			15	30.0%			15	30.0%			12	24.0%		
No	1,027	95.4%	327	31.8%			251	24.4%			296	28.8%			222	21.6%		
Substance abuse interferes with life					.041	.091			.014	.324			.043	.080			.009	.382
Yes	300	27.9%	105	35.0%			77	25.7%			96	32.0%			67	22.3%		

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
No	777	72.1%	239	30.8%			189	24.3%			215	27.7%			167	21.5%		
Substance use linked to offense(s)					.014	.320			.003	.465			.019	.263			-.008	.398
Yes	362	33.6%	119	32.9%			90	24.9%			109	30.1%			77	21.3%		
No	715	66.4%	225	31.5%			176	24.6%			202	28.3%			157	22.0%		
Leisure/Recreation																		
Limited organized activities					.037	.115			.045	.070			.031	.155			.046	.066
Yes	734	68.2%	243	33.1%			191	26.0%			219	29.8%			169	23.0%		
No	343	31.8%	101	29.4%			75	21.9%			92	26.8%			65	19.0%		
Could make better use of time					.045	.069			.068	.012			.043	.081			0.69	.012
Yes	721	66.9%	241	33.4%			193	26.8%			218	30.2%			171	23.7%		
No	356	33.1%	103	28.9%			73	20.5%			93	26.1%			63	17.7%		
No personal interests					-.060	.024			-.060	.025			-.052	.044			-.052	.043
Yes	193	17.9%	50	25.9%			37	19.2%			46	23.8%			33	17.1%		
No	884	82.1%	294	33.3%			229	25.9%			265	30.0%			201	22.7%		

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Personality/Behavior																		
Inflated self-esteem					.004	.448			.007	.403			.025	.208			.023	.225
Yes	145	13.5%	47	32.4%			37	25.5%			46	31.7%			35	24.1%		
No	932	86.5%	297	31.9%			229	24.6%			265	28.4%			199	21.4%		
Physically aggressive					.016	.303			.064	.017			.031	.155			.087	.002
Yes	302	28.0%	100	33.1%			88	29.1%			94	31.1%			83	27.5%		
No	775	72.0%	244	31.5%			178	23.0%			217	28.0%			151	19.5%		
Tantrums					.009	.383			-.016	.298			.000	.495			-.034	.131
Yes	260	24.1%	85	32.7%			61	23.5%			75	28.8%			50	19.2%		
No	817	75.9%	259	31.7%			205	25.1%			236	28.9%			184	22.5%		
Short attention span					.023	.229			.019	.270			.028	.179			.023	.224
Yes	328	30.5%	110	33.5%			85	25.9%			101	30.8%			76	23.2%		
No	749	69.5%	234	31.2%			181	24.2%			210	28.0%			158	21.1%		
Poor frustration tolerance					.001	.486			-.008	.393			.001	.486			-.015	.307
Yes	522	48.5%	167	32.0%			127	24.3%			151	28.9%			110	21.1%		
No	555	51.5%	177	31.9%			139	25.0%			160	28.8%			124	22.3%		

Table 7

**Nebraska Juvenile Probation
YLS/CMI Validation
Item Analysis**

YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Inadequate guilt feelings					-.002	.478			.028	.181			-.011	.355			.028	.181
Yes	261	24.2%	83	31.8%			70	26.8%			73	28.0%			62	23.8%		
No	816	75.8%	261	32.0%			196	24.0%			238	29.2%			172	21.1%		
Verbally aggressive, impudent					.002	.477			.028	.180			.008	.396			.035	.129
Yes	340	31.6%	109	32.1%			90	26.5%			100	29.4%			81	23.8%		
No	737	68.4%	235	31.9%			176	23.9%			211	28.6%			153	20.8%		
Attitudes/Orientation																		
Anti-social/pro-criminal attitudes					.026	.194			.032	.145			.012	.341			.005	.433
Yes	203	18.8%	70	34.5%			56	27.6%			61	30.0%			45	22.2%		
No	874	81.2%	274	31.4%			210	24.0%			250	28.6%			189	21.6%		
Not seeking help					.022	.237			.043	.078			.020	.255			.027	.189
Yes	406	37.7%	135	33.3%			110	27.1%			122	30.0%			94	23.2%		
No	671	62.3%	209	31.1%			156	23.2%			189	28.2%			140	20.9%		
Actively rejecting help					-.011	.356			-.012	.346			-.007	.404			-.017	.287
Yes	83	7.7%	25	30.1%			19	22.9%			23	27.7%			16	19.3%		
No	994	92.3%	319	32.1%			247	24.8%			288	29.0%			218	21.9%		

Table 7																		
Nebraska Juvenile Probation YLS/CMI Validation Item Analysis																		
YLS/CMI Item	Sample Distribution		Any Offense*				Any Criminal Offense*				Any Offense* Resulting in Sentencing				Any Criminal Offense* Resulting in Sentencing			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,077	100.0%	344	31.9%			266	24.7%			311	28.9%			234	21.7%		
Defies authority					.032	.146			.032	.148			.040	.096			.039	.100
Yes	309	28.7%	106	34.3%			83	26.9%			98	31.7%			75	24.3%		
No	768	71.3%	238	31.0%			183	23.8%			213	27.7%			159	20.7%		
Callous, little concern for others					.057	.031			.058	.029			.064	.018			.055	.036
Yes	50	4.6%	22	44.0%			18	36.0%			21	42.0%			16	32.0%		
No	1,027	95.4%	322	31.4%			248	24.1%			290	28.2%			218	21.2%		

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

Revised Risk Assessment

NCCD used bivariate and multivariate analysis to identify which YLS/CMI items have the strongest statistical relationships to the outcomes. The analysis resulted in a revised risk assessment containing 16 items. Item weights are based on each individual item's relationship to the outcomes. Cut-points were determined by examining the relationship of the overall risk score to the outcomes and grouping scores with similar outcome rates.

Nebraska Probation Revised Risk Assessment

1. **Youth's age at current probation start (constructed)**
 - a. 15 years and older..... 1
 - b. Under 15 years 0
2. **Number of prior juvenile arrests in the last four years. Include all arrests. (constructed)**
 - a. None 0
 - b. One or more 1
3. **Prior convictions (from YLS)**
 - a. Less than three..... 0
 - b. Three or more 1
4. **Prior probation (from YLS)**
 - a. No 0
 - b. Yes 1
5. **Prior custody (from YLS)**
 - a. No 0
 - b. Yes 1
6. **Current convictions (from YLS)**
 - a. Less than three..... 0
 - b. Three or more 1
7. **Family/parents drug/alcohol abuse (from YLS needs)**
 - a. No 0
 - b. Yes 1
8. **Family/parents have chronic history of offenses (from YLS needs)**
 - a. No 0
 - b. Yes 1
9. **Parenting issues (from YLS)**
 - a. Neither apply 0
 - b. One or more apply 1
 - ☐ Inadequate supervision
 - ☐ Difficulty in controlling behavior
 - ☐ Inappropriate discipline
10. **Youth victim of neglect or physical abuse (from YLS needs)**
 - a. No 0
 - b. Yes 1
11. **Youth has no/few positive acquaintances (from YLS)**
 - a. No 0
 - b. Yes 1

12. Youth has problems with peers (from YLS education domain)
a. No 0
b. Yes 1 _____

13. Youth has low achievement in school (from YLS)
a. No 0
b. Yes 1 _____

14. Youth is physically aggressive (from YLS)
a. No 0
b. Yes 1 _____

15. Youth chronic drug use (from YLS)
a. No 0
b. Yes 1 _____

16. Youth is callous, has little concern for others (from YLS)
a. No 0
b. Yes 2 _____

Total Score _____

<u>Risk Score:</u>	<u>Risk Level:</u>
___ 0-2	Low
___ 3-6	Moderate
___ 7-17	High

Outcome Rates by Risk Level (Revised Assessment)

Table 8 shows outcome rates by revised risk level. The difference in outcome rates is more pronounced between risk levels than in the original risk assessment. Also note the revised risk assessment uses only three levels.

Table 8										
Nebraska Juvenile Probation Follow-Up Offense Rates by Revised Risk Level										
Revised Risk Level	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Low	275	25.5%	62	22.5%	41	14.9%	56	20.4%	35	12.7%
Moderate	646	60.0%	210	32.5%	163	25.2%	186	28.8%	141	21.8%
High	156	14.5%	72	46.2%	62	39.7%	69	44.2%	58	37.2%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

Outcome Rates by Revised Risk Level by Race/Ethnicity

Table 9 shows outcome rates by the revised risk level disaggregated by ethnicity. The revised tool equitably classifies youth by their likelihood of re-offending, though some crossover was observed for high-risk Hispanic youth (the outcome rates for these youth were lower than the outcome rates for moderate-risk Black youth). A less pronounced difference also appears between the outcome rates for low- and moderate-risk Hispanic youth than for the other two ethnicity groups. When constructing the revised risk level, it was observed that many of the variables pertaining to prior history did not apply to Hispanic youth. This may be due to more Hispanic youth having unknown prior delinquent activity. For example, if these youth are part of a migrant population, it is possible their prior history may be unknown. Language barriers may also preclude probation workers from

fully assessing the youth's delinquency history during an interview. In addition, only 159 Hispanic youth were in the sample. All of these factors may explain why the revised risk assessment was less effective in classifying these youth compared to youth from the other ethnicity groups.

Table 9										
Nebraska Probation										
Follow-Up Offense by Revised Risk Level and Youth Race/Ethnicity										
Revised Risk Level	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%
Hispanic										
Low	40	25.2%	9	22.5%	6	15.0%	9	22.5%	6	15.0%
Moderate	88	55.3%	30	34.1%	20	22.7%	25	28.4%	17	19.3%
High	31	19.5%	8	25.8%	8	25.8%	8	25.8%	8	25.8%
Subgroup Total	159	100.0%	47	29.6%	34	21.4%	42	26.4%	31	19.5%
Black										
Low	43	20.0%	9	20.9%	8	18.6%	9	20.9%	7	16.3%
Moderate	140	65.1%	50	35.7%	43	30.7%	48	34.3%	41	29.3%
High	32	14.9%	17	53.1%	14	43.8%	16	50.0%	13	40.6%
Subgroup Total	215	100.0%	76	35.3%	65	30.2%	73	34.0%	61	28.4%
White										
Low	187	28.4%	42	22.5%	25	13.4%	37	19.8%	21	11.2%
Moderate	387	58.7%	119	30.7%	90	23.3%	104	26.9%	75	19.4%
High	85	12.9%	43	50.6%	37	43.5%	41	48.2%	34	40.0%
Subgroup Total	659	100.0%	204	31.0%	152	23.1%	182	27.6%	130	19.7%

Note: Includes only subgroups of 50 or more.

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

Table 10 shows outcome rates by gender when the revised risk assessment is applied to the probation sample. Within gender the tool works well; however, some crossover is observed in outcome rates for moderate-risk females compared to low-risk males. This may be in part due to the difference in base rates by gender.

Table 10										
Nebraska Juvenile Probation										
Follow-Up Offense by Revised Risk Level and Youth Gender										
Revised Risk Level	N	%	Any Offense*		Any Criminal Offense*		Any Offense* Resulting in Sanctioning		Any Criminal Offense* Resulting in Sanctioning	
			N	%	N	%	N	%	N	%
Total Sample	1,077	100.0%	344	31.9%	266	24.7%	311	28.9%	234	21.7%
Female										
Low	91	26.6%	12	13.2%	7	7.7%	10	11.0%	5	5.5%
Moderate	213	62.3%	55	25.8%	40	18.8%	48	22.5%	32	15.0%
High	38	11.1%	18	47.4%	15	39.5%	18	47.4%	15	39.5%
Subgroup Total	342	100.0%	85	24.9%	62	18.1%	76	22.2%	52	15.2%
Male										
Low	184	25.0%	50	27.2%	34	18.5%	46	25.0%	30	16.3%
Moderate	433	58.9%	155	35.8%	123	28.4%	138	31.9%	109	25.2%
High	118	16.1%	54	45.8%	47	39.8%	51	43.2%	43	36.4%
Subgroup Total	735	100.0%	259	35.2%	204	27.8%	235	32.0%	182	24.8%

*Arrest/offense must occur within 12 months after probation sanctioning date or YLS/CMI completion date, whichever is more recent. Potentially includes status offenses.

AUC

Table 11 Nebraska Juvenile Probation Area Under the Curve (AUC) for Revised Assessment (N = 1,077)	
Outcome	AUC
Any Offense/Arrest	.579*
Any Criminal Offense/Arrest	.602*
Any Offense/Arrest With Sanctioning	.582*
Any Criminal Offense/Arrest With Sanctioning	.606*

Dispersion Index For Risk

Table 12 DIFR Scores for Revised Assessment						
Outcome	Total Sample	Male Sample	Female Sample	Hispanic Sample	White Sample	Black Sample
Any Offense/Arrest	.33	.26	.52	**	.38	.43
Any Criminal Offense/Arrest	.41	.34	.62	.25	.49	.37
Any Offense/Arrest With Sanctioning	.34	.26	.58	**	.40	.39
Any Criminal Offense/Arrest With Sanctioning	.44	.34	.72	.23	.50	.38

**Outcome rates did not increase with each increase in risk level for these groups; therefore, a DIFR score was not calculated.

OREGON YOUTH AUTHORITY JCP ASSESSMENT VALIDATION RESULTS

Sample Description

The Oregon Youth Authority (OYA) provided a population sample of 12,778 youths evaluated with the Juvenile Crime Prevention assessment (JCP) from January 2007 through December 31, 2008.³⁴

Sample characteristics and outcome rates are described in Table 1.

Table 1 Oregon Youth Authority JCP Validation Sample Description						
	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Year released						
2007	6,160	49.8%	1,813	29.4%	769	12.5%
2008	6,210	50.2%	1,704	27.4%	607	9.8%
Gender						
Female	3,692	29.8%	817	22.1%	312	8.5%
Male	8,678	70.2%	2,700	31.1%	1,064	12.3%
Race/Ethnicity						
African American	658	5.3%	301	45.7%	98	14.9%
Asian	154	1.2%	41	26.6%	12	7.8%
Caucasian	8,305	67.1%	2,180	26.2%	878	10.6%
Hispanic	2,440	19.7%	837	34.3%	316	13.0%
Native American	326	2.6%	95	29.1%	42	12.9%
Other/Unknown	487	3.9%	63	12.9%	30	6.2%
English as primary language						
No	1,406	11.4%	395	28.1%	156	11.1%
Yes	10,964	88.6%	3,122	28.5%	1,220	11.1%

³⁴ Youth over 18 years of age were excluded from the sample.

Table 1 Oregon Youth Authority JCP Validation Sample Description						
	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Age at JCP						
<=10 years	251	2.0%	23	9.2%	1	0.4%
11 years	287	2.3%	54	18.8%	14	4.9%
12 years	777	6.3%	215	27.7%	46	5.9%
13 years	1,365	11.0%	451	33.0%	115	8.4%
14 years	1,972	15.9%	683	34.6%	246	12.5%
15 years	2,517	20.3%	805	32.0%	348	13.8%
16 years	2,676	21.6%	831	31.1%	414	15.5%
17 years	2,525	20.4%	455	18.0%	192	7.6%
Index offense level						
Misdemeanor	6,667	53.9%	1,955	29.3%	705	10.6%
Felony	3,495	28.3%	963	27.6%	412	11.8%
Other	2,208	17.8%	599	27.1%	259	11.7%
Index offense category						
Violent	122	1.0%	37	30.3%	19	15.6%
Sexual	443	3.6%	62	14.0%	16	3.6%
Property	3,789	30.6%	1,102	29.1%	415	11.0%
Person	2,358	19.1%	702	29.8%	274	11.6%
Weapons	277	2.2%	86	31.0%	23	8.3%
Drug/Alcohol	1,925	15.6%	451	23.4%	211	11.0%
Other	3,456	27.9%	1,077	31.2%	418	12.1%
Total risk domains						
None	705	5.7%	73	10.4%	19	2.7%
One	1,514	12.2%	206	13.6%	56	3.7%
Two	2,124	17.2%	429	20.2%	107	5.0%
Three	2,402	19.4%	636	26.5%	222	9.2%
Four	2,310	18.7%	769	33.3%	305	13.2%
Five	2,003	16.2%	780	38.9%	352	17.6%

Table 1 Oregon Youth Authority JCP Validation Sample Description						
	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Six	1,312	10.6%	624	47.6%	315	24.0%
Total protective factors						
None	687	5.6%	300	43.7%	137	19.9%
One	1,335	10.8%	539	40.4%	228	17.1%
Two	1,647	13.3%	621	37.7%	275	16.7%
Three	1,921	15.5%	607	31.6%	236	12.3%
Four	2,270	18.4%	598	26.3%	224	9.9%
Five	2,514	20.3%	531	21.1%	195	7.8%
Six	1,996	16.1%	321	16.1%	81	4.1%
Total mental health indicators						
None	8,719	70.5%	2,309	26.5%	874	10.0%
One	2,181	17.6%	702	32.2%	276	12.7%
Two	943	7.6%	299	31.7%	129	13.7%
Three	388	3.1%	149	38.4%	70	18.0%
Four	120	1.0%	47	39.2%	24	20.0%
Five	19	0.2%	11	57.9%	3	15.8%
Violence indicators						
No	2,817	22.8%	500	17.7%	151	5.4%
Yes	9,553	77.2%	3,017	31.6%	1,225	12.8%

*Youth over 18 years of age were excluded from the sample.

Outcome Rates by Risk Level

Table 2 shows outcome rates by JCP risk level. Note that this risk level reflects the initial risk level calculated for each youth. Each increase in risk level corresponds to a subsequent increase in follow-up rates for each outcome.

Table 2						
Oregon Youth Authority Outcomes by JCP Risk Level						
JCP Risk Level (combined)	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Low	5,774	46.7%	1,013	17.5%	281	4.9%
Medium	4,678	37.8%	1,589	34.0%	661	14.1%
High*	1,918	15.5%	915	47.7%	434	22.6%

*Combines the alternate medium-high risk level with high risk.

Outcome Rates by Initial Risk Level by Race/Ethnicity

Table 3 Oregon Youth Authority JCP Validation Outcomes by JCP Risk Level by Youth Race/Ethnicity						
JCP Risk Level (combined)	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
African American						
Low	260	39.5%	69	26.5%	14	5.4%
Medium	261	39.7%	142	54.4%	45	17.2%
High	137	20.8%	90	65.7%	39	28.5%
Subgroup Total	658	100.0%	301	45.7%	98	14.9%
Asian						
Low	80	51.9%	16	20.0%	6	7.5%
Medium	55	35.7%	15	27.3%	2	3.6%
High	19	12.3%	10	52.6%	4	21.1%
Subgroup Total	154	100.0%	41	26.6%	12	7.8%
Caucasian						
Low	3,975	47.9%	643	16.2%	184	4.6%
Medium	3,101	37.3%	983	31.7%	424	13.7%
High	1,229	14.8%	554	45.1%	270	22.0%
Subgroup Total	8,305	100.0%	2,180	26.2%	878	10.6%
Hispanic/ Mexican National						
Low	1,045	42.8%	236	22.6%	61	5.8%
Medium	976	40.0%	389	39.9%	161	16.5%
High	419	17.2%	212	50.6%	94	22.4%
Subgroup Total	2,440	100.0%	837	34.3%	316	13.0%
Native American						
Low	118	36.2%	28	23.7%	6	5.1%
Medium	139	42.6%	37	26.6%	16	11.5%
High	69	21.2%	30	43.5%	20	29.0%
Subgroup Total	326	100.0%	95	29.1%	42	12.9%
Other/Unknown						
Low	296	60.8%	21	7.1%	10	3.4%
Medium	146	30.0%	23	15.8%	13	8.9%
High	45	9.2%	19	42.2%	7	15.6%
Subgroup Total	487	100.0%	63	12.9%	30	6.2%

Note: Combines the alternate medium-high risk level with high risk.

Outcome Rates by Initial Risk Level by Gender

Table 4 Oregon Youth Authority JCP Validation Outcomes by JCP Risk Level by Gender						
JCP Risk Level (combined)	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Female						
Low	1,795	48.6%	202	11.3%	48	2.7%
Medium	1,325	35.9%	379	28.6%	149	11.2%
High	572	15.5%	236	41.3%	115	20.1%
Subgroup Total	3,692	100.0%	817	22.1%	312	8.5%
Male						
Low	3,979	45.9%	811	20.4%	233	5.9%
Medium	3,353	38.6%	1,210	36.1%	512	15.3%
High	1,346	15.5%	679	50.4%	319	23.7%
Subgroup Total	8,678	100.0%	2,700	31.1%	1,064	12.3%

*Note: Combines the alternate medium-high risk level with high risk. Unknown/missing are not reported.

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test

(only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .668 for the referral outcome and .698 for the adjudication outcome, for the total sample. These AUC scores were significantly different from .5 (indicated with *), indicating predictive abilities were greater than chance.

Table 5 Oregon Youth Authority JCP Validation Area Under the Curve (AUC)						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample Size	12,370	8,678	3,692	8,305	658	2,440
Follow-up referral	.668*	.659*	.696*	.667*	.691*	.653*
Follow-up criminal adjudication	.698*	.686*	.736*	.702*	.711*	.672*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of

each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level (Silver and Banks, 1998).

Table 6 Oregon Youth Authority JCP Validation DIFR Scores for JCP						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Follow-up referral	.56	.52	.69	.55	.69	.50
Follow-up criminal adjudication	.71	.65	.95	.73	.81	.67

JCP Item Analysis

Table 7 Oregon Youth Authority JCP Validation JCP Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
School Issues										
Significant school attachment/commitment					.159	.000			.132	.000
Yes	7,751	62.7%	1,775	22.9%			613	7.9%		
No	4,619	37.3%	1,742	37.7%			763	16.5%		
Academic failure					.139	.000			.101	.000
Yes	4,668	37.7%	1,703	36.5%			709	15.2%		
No	7,702	62.3%	1,814	23.6%			667	8.7%		
Chronic truancy					.156	.000			.138	.000
Yes	3,079	24.9%	1,251	40.6%			574	18.6%		
No	9,291	75.1%	2,266	24.4%			802	8.6%		
School dropout					.061	.000			.076	.000
Yes	1,379	11.1%	500	36.3%			246	17.8%		
No	10,991	88.9%	3,017	27.4%			1,130	10.3%		

Table 7 Oregon Youth Authority JCP Validation JCP Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Peer and Other Relationships										
Friends disapprove of unlawful behavior					.122	.000			.106	.000
Yes	7,446	60.2%	1,785	24.0%			626	8.4%		
No	4,924	39.8%	1,732	35.2%			750	15.2%		
Friends engage in unlawful or serious acting-out behavior					.132	.000			.123	.000
Yes	6,251	50.5%	2,145	34.3%			935	15.0%		
No	6,119	49.5%	1,372	22.4%			441	7.2%		
Has friends who have been suspended or expelled or dropped out of school					.118	.000			.115	.000
Yes	6,462	52.2%	2,166	33.5%			942	14.6%		
No	5,908	47.8%	1,351	22.9%			434	7.3%		
Has friends who are academic achievers					.114	.000			.091	.000
Yes	9,973	80.6%	2,584	25.9%			969	9.7%		
No	2,397	19.4%	933	38.9%			407	17.0%		
There is an adult in youth's life (other than a parent) she/he can talk to					.086	.000			.059	.000
Yes	10,654	86.1%	2,863	26.9%			1,106	10.4%		
No	1,716	13.9%	654	38.1%			270	15.7%		

Table 7 Oregon Youth Authority JCP Validation JCP Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Behavior Issues										
Chronic aggressive, disruptive behavior at school starting before age 13					.170	.000			.097	.000
Yes	2,652	21.4%	1,143	43.1%			450	17.0%		
No	9,718	78.6%	2,374	24.4%			926	9.5%		
Aggressive, disruptive behavior at school during past month					.095	.000			.046	.000
Yes	1,715	13.9%	670	39.1%			252	14.7%		
No	10,655	86.1%	2,847	26.7%			1,124	10.5%		
Three or more referrals for criminal offenses					.183	.000			.134	.000
Yes	2,467	19.9%	1,109	45.0%			482	19.5%		
No	9,903	80.1%	2,408	24.3%			894	9.0%		
Involved in constructive extra-curricular activities					.130	.000			.100	.000
Yes	5,455	44.1%	1,191	21.8%			414	7.6%		
No	6,915	55.9%	2,326	33.6%			962	13.9%		
Chronic runaway					.124	.000			.116	.000
Yes	1,254	10.1%	566	45.1%			276	22.0%		
No	11,116	89.9%	2,951	26.5%			1,100	9.9%		

Table 7 Oregon Youth Authority JCP Validation JCP Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Recent runaway					.135	.000			.125	.000
Yes	965	7.8%	477	49.4%			238	24.7%		
No	11,405	92.2%	3,040	26.7%			1,138	10.0%		
In the past month, youth's behavior hurt others or put them in danger					.096	.000			.071	.000
Yes	1,941	15.7%	746	38.4%			317	16.3%		
No	10,429	84.3%	2,771	26.6%			1,059	10.2%		
Behavior hurts youth or puts him/her in danger					.104	.000			.101	.000
Yes	3,406	27.5%	1,228	36.1%			554	16.3%		
No	8,964	72.5%	2,289	25.5%			822	9.2%		
A pattern of impulsivity combined with aggressive behavior toward others					.144	.000			.098	.000
Yes	2,694	21.8%	1,097	40.7%			457	17.0%		
No	9,676	78.2%	2,420	25.0%			919	9.5%		
Harms or injures animals					.047	.000			.020	.000
Yes	206	1.7%	92	44.7%			33	16.0%		
No	12,164	98.3%	3,425	28.2%			1,343	11.0%		
Preoccupation with or use of weapons					.056	.000			.042	.000
Yes	689	5.6%	268	38.9%			114	16.5%		
No	11,681	94.4%	3,249	27.8%			1,262	10.8%		

Table 7 Oregon Youth Authority JCP Validation JCP Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Family Functioning										
Communicates effectively with family members					.136	.000			.123	.000
Yes	8,985	72.6%	2,217	24.7%			786	8.7%		
No	3,385	27.4%	1,300	38.4%			590	17.4%		
Poor family supervision and control					.133	.000			.112	.000
Yes	3,517	28.4%	1,334	37.9%			588	16.7%		
No	8,853	71.6%	2,183	24.7%			788	8.9%		
Serious family conflicts					.110	.000			.085	.000
Yes	3,081	24.9%	1,141	37.0%			485	15.7%		
No	9,289	75.1%	2,376	25.6%			891	9.6%		
History of reported child abuse/neglect or domestic violence					.087	.000			.063	.000
Yes	2,980	24.1%	1,056	35.4%			437	14.7%		
No	9,390	75.9%	2,461	26.2%			939	10.0%		
Criminal family member					.095	.000			.063	.000
Yes	2,695	21.8%	985	36.5%			401	14.9%		
No	9,675	78.2%	2,532	26.2%			975	10.1%		

Table 7										
Oregon Youth Authority JCP Validation JCP Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Substance Use										
Substance use beyond experimental use					.125	.000			.139	.000
Yes	3,476	28.1%	1,302	37.5%			630	18.1%		
No	8,894	71.9%	2,215	24.9%			746	8.4%		
Current substance use is causing problems in youth's life					.086	.000			.106	.000
Yes	3,130	25.3%	1,098	35.1%			528	16.9%		
No	9,240	74.7%	2,419	26.2%			848	9.2%		
Substance use began at age 13 or younger					.140	.000			.103	.000
Yes	2,349	19.0%	975	41.5%			418	17.8%		
No	10,021	81.0%	2,542	25.4%			958	9.6%		
Youth has been high or drunk at school at any time in the past					.064	.000			.092	.000
Yes	1,657	13.4%	592	35.7%			306	18.5%		
No	10,713	86.6%	2,925	27.3%			1,070	10.0%		
Life Skills										
Antisocial thinking attitudes, values, beliefs					.160	.000			.126	.000
Yes	2,690	21.7%	1,133	42.1%			502	18.7%		
No	9,860	79.7%	2,384	24.2%			874	8.9%		

Alternate JCP Results

Table 8						
Outcomes by Alternate JCP Risk Level						
Alternate JCP Risk Level	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	2,384	100.0%	777	32.6%	324	13.6%
Low	1,011	42.4%	198	19.6%	47	4.6%
Medium	957	40.1%	366	38.2%	172	18.0%
Medium-high*	193	8.1%	108	56.0%	54	28.0%
High	223	9.4%	105	47.1%	51	22.9%

*Alternate JCP scoring used in Marion, Douglas, and Linn county departments.

Revised Risk Assessment

NCCD used bivariate and multivariate analysis to identify which JCP items have the strongest statistical relationships to the recommitment outcome. The analysis resulted in a revised risk assessment containing 12 items. Item weights are based on each individual item's relationship to the outcome. Cut-points were determined by examining the relationship of the overall risk score to the outcomes and grouping scores with similar outcome rates.

**Oregon Youth Authority
Revised Risk Assessment**

		<u>Score</u>
1.	Three or more referrals for criminal offenses (R4.3)	
	a. No.....0	
	b. Yes.....1	_____
2.	Criminal referral within 12 months prior to current incident (constructed)	
	a. No.....0	
	b. Yes.....1	_____
3.	Prior felony referral (constructed)	
	a. No.....0	
	b. Yes.....1	_____
4.	Prior probation (constructed)	
	a. No.....0	
	b. Yes.....1	_____
5.	Referred for criminal offense at age 15 or younger (constructed)	
	a. No.....0	
	b. Yes.....1	_____
6.	Chronic truancy (R2.3)	
	a. No.....0	
	b. Yes.....1	_____
7.	Friends engage in unlawful or serious acting-out behavior (R3.2)	
	a. No.....0	
	b. Yes.....1	_____
8.	There is an adult in the youth's life (other than a parent) she/he can talk to (PF3.6)	
	a. No.....1	
	b. Yes.....0	_____
9.	Chronic or aggressive, disruptive behavior at school starting before age 13 (R4.1)	
	a. No.....0	
	b. Yes.....1	_____
10.	Recent runaway (C4.7)	
	a. No.....0	
	b. Yes.....1	_____
11.	Communicates effectively with family members (PF5.1)	
	a. No.....1	
	b. Yes.....0	_____
12.	Substance use began at age 13 or younger (R6.3)	
	a. No.....0	
	b. Yes.....1	_____
Total Score		=====

<u>Risk Score:</u> ____ 0–2 ____ 3–5 ____ 6–12	<u>Risk Level:</u> Low Medium High
----------------------------------------------------------------	----------------------------------------------------

Outcome Rates by Risk Level

Table 9						
Outcomes by Revised Assessment Risk Level						
Revised Risk Assessment Risk Level	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Low	6,138	49.6%	1,041	17.0%	313	5.1%
Medium	4,495	36.3%	1,565	34.8%	635	14.1%
High	1,737	14.0%	911	52.4%	428	24.6%

Outcome Rates by Risk Level by Race/Ethnicity

Table 10						
Revised Risk Assessment by Risk Level by Youth Race/Ethnicity						
Revised Risk Level	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
African American						
Low	234	35.6%	61	26.1%	11	4.7%
Medium	254	38.6%	120	47.2%	33	13.0%
High	170	25.8%	120	70.6%	54	31.8%
Subgroup Total	658	100.0%	301	45.7%	98	14.9%
Asian						
Low	82	53.2%	14	17.1%	4	4.9%
Medium	51	33.1%	17	33.3%	3	5.9%
High	21	13.6%	10	47.6%	5	23.8%
Subgroup Total	154	100.0%	41	26.6%	12	7.8%
Caucasian						
Low	4,289	51.6%	678	15.8%	209	4.9%
Moderate	2,940	35.4%	978	33.3%	412	14.0%
High	1,076	13.0%	524	48.7%	257	23.9%
Subgroup Total	8,305	100.0%	2,180	26.2%	878	10.6%
Hispanic/Mexican National						
Low	1,089	44.6%	234	21.5%	70	6.4%
Medium	963	39.5%	384	39.9%	156	16.2%
High	388	15.9%	219	56.4%	90	23.2%
Subgroup Total	2,440	100.0%	837	34.3%	316	13.0%
Native American						
Low	131	40.2%	31	23.7%	10	7.6%
Medium	141	43.3%	35	24.8%	12	8.5%
High	54	16.6%	29	53.7%	20	37.0%
Subgroup Total	326	100.0%	95	29.1%	42	12.9%
Other/Unknown						
Low	313	64.3%	23	7.3%	9	2.9%
Medium	146	30.0%	31	21.2%	19	13.0%
High	28	5.7%	9	32.1%	2	7.1%
Subgroup Total	487	100.0%	63	12.9%	30	6.2%

Outcome Rates by Risk Level by Gender

Table 11						
Outcomes by Revised Risk Assessment Risk Level by Gender						
Revised Risk Level	N	%	Follow-Up Referral		Follow-Up Criminal Adjudication	
			N	%	N	%
Total Sample	12,370	100.0%	3,517	28.4%	1,376	11.1%
Female						
Low	1,952	52.9%	240	12.3%	72	3.7%
Medium	1,299	35.2%	371	28.6%	144	11.1%
High	441	11.9%	206	46.7%	96	21.8%
Subgroup Total	3,692	100.0%	817	22.1%	312	8.5%
Male						
Low	4,186	48.2%	801	19.1%	241	5.8%
Medium	3,196	36.8%	1,194	37.4%	491	15.4%
High	1,296	14.9%	705	54.4%	332	25.6%
Subgroup Total	8,678	100.0%	2,700	31.1%	1,064	12.3%

Table 12 Oregon Youth Authority Revised Risk Assessment Area Under the Curve (AUC) for Revised Risk Assessment (N = 12,370)						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Sample size	12,370	8,678	3,692	8,305	658	2,440
Follow-up referral	.666*	.680*	.700*	.656*	.701*	.683*
Follow-up criminal adjudication	.701*	.693*	.721*	.673*	.718*	.704*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 13 Oregon Youth Authority Revised Risk Assessment DIFR Scores for Revised Risk Assessment						
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Hispanic Sample
Subsequent referral	.63	.61	.68	.61	.74	.58
Subsequent criminal adjudication	.71	.69	.77	.72	.91	.61

Revised Risk Assessment Item Analysis

Table 14										
Revised Risk Assessment Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Three or more referrals for criminal offenses					.183	.000			.134	.000
Yes	2,467	19.9%	1,109	45.0%			482	19.5%		
No	9,903	80.1%	2,408	24.3%			894	9.0%		
Criminal referral within 12 months prior to current incident (constructed)					.194	.000			.138	.000
Yes	3,102	25.1%	1,350	43.5%			578	18.6%		
No	9,268	74.9%	2,167	23.4%			798	8.6%		
Prior felony criminal adjudication (constructed)					.096	.000			.087	.000
Yes	990	8.0%	427	43.1%			202	20.4%		
No	11,380	92.0%	3,090	27.2%			1,174	10.3%		
Prior probation (constructed)					.061	.000			.067	.000
Yes	379	3.1%	166	43.8%			87	23.0%		
No	11,991	96.9%	3,351	27.9%			1,289	10.7%		
Referred for criminal offense at age 15 or younger (constructed)					.119	.000			.060	.000
Yes	9,791	79.2%	3,052	31.2%			1,184	12.1%		
No	2,579	20.8%	464	18.0%			192	7.4%		
Chronic truancy					.156	.000			.138	.000
Yes	3,079	24.9%	1,251	40.6%			574	18.6%		
No	9,291	75.1%	2,266	24.4%			802	8.6%		

Table 14										
Revised Risk Assessment Item Analysis										
JCP Risk Item	N	%	Follow-Up Referral				Follow-Up Criminal Adjudication			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	12,370	100.0%	3,517	28.4%			1,376	11.1%		
Friends engage in unlawful or serious acting-out behavior					.132	.000			.123	.000
Yes	6,251	50.5%	2,145	34.3%			935	15.0%		
No	6,119	49.5%	1,372	22.4%			441	7.2%		
There is an adult in youth’s life (other than a parent) she/he can talk to					.086	.000			.059	.000
Yes	10,654	86.1%	2,863	26.9%			1,106	10.4%		
No	1,716	13.9%	654	38.1%			270	15.7%		
Chronic or aggressive, disruptive behavior at school starting before age 13					.170	.000			.097	.000
Yes	2,652	21.4%	1,143	43.1%			450	17.0%		
No	9,718	78.6%	2,374	24.4%			926	9.5%		
Recent runaway					.135	.000			.125	.000
Yes	965	7.8%	477	49.4%			238	24.7%		
No	11,405	92.2%	3,040	26.7%			1,138	10.0%		
Communicates effectively with family members					.136	.000			.123	.000
Yes	8,985	72.6%	2,217	24.7%			786	8.7%		
No	3,385	27.4%	1,300	38.4%			590	17.4%		
Substance use began at age 13 or younger					.140	.000			.103	.000
Yes	2,349	19.0%	975	41.5%			418	17.8%		
No	10,021	81.0%	2,542	25.4%			958	9.6%		

SOLANO COUNTY PROBATION DEPARTMENT (JUVENILE DIVISION) RISK ASSESSMENT VALIDATION RESULTS

Sample Description

The Solano County Probation Department uses a risk assessment created by NCCD as part of OJJDP's graduated sanctions center (GSC) to assess risk for boys (with modifications to the original cut scores). For girls, the county uses a risk assessment constructed as part of the Girls Link program in Cook County, Illinois. The assessments are embedded in the Juvenile Assessment and Intervention System™ (JAIS).

The county provided a population sample of 2,788 new probation cases that began between May 2007 and December 2009. The following describes the characteristics of all youth provided by Solano County Probation. The outcome measures shown below were calculated using a standardized 12-month follow-up period from the start of the new probation case.

Table 1						
Solano County Probation Department Risk Assessment Validation Sample Description						
	N	%	Subsequent Referral ³⁵		Subsequent Sustained Referral ³⁶	
			N	%	N	%
Total Sample	2,788	100.0%	1,097	39.3%	659	23.6%
Probation start						
2007	788	28.3%	347	44.0%	205	26.0%
2008	1,070	38.4%	452	42.2%	283	26.4%
2009	930	33.4%	298	32.0%	171	18.4%

³⁵ Any referral to probation services for a new criminal offense. The date of the referral will fall after the sampled probation start and within 12 months of the probation start.

³⁶ Any sustained referral to probation services for a new criminal offense. The date of the referral will fall after the sampled probation start and within 12 months of the probation start. Solano County Probation identified sustained charges to include any referral charge status equal to: transferred in from other county, adjudicated/sentenced, deferred entry of judgment, admitted true, found true, 725 (a), count sustained, ward (own/relative home), ward (non-secure county facility), ward (secure county facility w/emp), ward (other public facility), ward (private facility), ward (other), ward (DJJ), diversion, converted to wardship, vop true, and vop admitted.

Table 1 Solano County Probation Department Risk Assessment Validation Sample Description						
	N	%	Subsequent Referral ³⁵		Subsequent Sustained Referral ³⁶	
			N	%	N	%
Total Sample	2,788	100.0%	1,097	39.3%	659	23.6%
Gender						
Female	764	27.4%	213	27.9%	126	16.5%
Male	2,024	72.6%	884	43.7%	533	26.3%
Race/Ethnicity						
African American	1,170	42.0%	499	42.6%	310	26.5%
Caucasian	701	25.1%	261	37.2%	147	21.0%
Hispanic/Mexican National	676	24.2%	278	41.1%	167	24.7%
Other/Unknown	241	8.6%	59	24.5%	35	14.5%
Age at probation						
<=10 years	5	0.2%	2	40.0%	0	0.0%
11 years	22	0.8%	8	36.4%	4	18.2%
12 years	100	3.6%	45	45.0%	20	20.0%
13 years	227	8.1%	85	37.4%	52	22.9%
14 years	397	14.2%	177	44.6%	121	30.5%
15 years	567	20.3%	265	46.7%	162	28.6%
16 years	666	23.9%	295	44.3%	169	25.4%
17 years	646	23.2%	203	31.4%	121	18.7%
18 years	145	5.2%	16	11.0%	9	6.2%
>= 19 years	13	0.5%	1	7.7%	1	7.7%
Index offense level						
Infraction	7	0.3%	3	42.9%	1	14.3%
Misdemeanor	1,385	49.7%	516	37.3%	289	20.9%
Felony	1,238	44.4%	518	41.8%	343	27.7%
Other	158	5.7%	60	38.0%	26	16.5%
Probation type						
Courtesy supervision	5	0.2%	1	20.0%	0	0.0%
Deferred entry of judgment (790 WI)	129	4.6%	66	51.2%	43	33.3%
Diversion	843	30.2%	263	31.2%	99	11.7%
Felony diversion	213	7.6%	51	23.9%	22	10.3%
Informal probation (654.2 WI)	102	3.7%	38	37.3%	25	24.5%

Table 1 Solano County Probation Department Risk Assessment Validation Sample Description						
	N	%	Subsequent Referral ³⁵		Subsequent Sustained Referral ³⁶	
			N	%	N	%
Total Sample	2,788	100.0%	1,097	39.3%	659	23.6%
Interstate compact	20	0.7%	6	30.0%	2	10.0%
Non-ward probation (725a W&I)	222	8.0%	76	34.2%	44	19.8%
Suspended action	201	7.2%	56	27.9%	19	9.5%
Transfer in	231	8.3%	97	42.0%	69	29.9%
Transfer/in of wardship	30	1.1%	11	36.7%	9	30.0%
Ward probation	792	28.4%	432	54.5%	327	41.3%

The sample consisted of 1,141 youth (880 boys and 261 girls) for whom a risk assessment had been completed.

Table 2						
Solano County Risk Assessment Validation Outcome Rates by Risk Level						
Risk Level	N	%	12-Month Outcomes			
			Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	1,141	100%	677	59.3%	538	47.2%
Low	170	14.9%	51	30.0%	34	20.0%
Medium	531	46.5%	299	56.3%	225	42.4%
High	440	38.6%	327	74.3%	279	63.4%

Graduated Sanctions Center Risk Assessment for Boys

NCCD selected a sample of new probation cases (May – December 2009) evaluated with a risk assessment. If the sampled youth had multiple initial assessments completed, NCCD selected the assessment completed closest to the start of the new probation. Outcome rates were calculated by using a standardized 12-month follow-up period from the date of the assessment. Referrals identified by the Solano County Probation Department as originating offenses for new probation episodes, and referrals starting within five days of the assessment, were not tallied for recidivism outcomes. The assessment must have been completed on or prior to February 16, 2011, to allow for the 12-month follow-up period. The sampled characteristics for boys with a graduated sanctions center (GSC) risk assessment are shown below.

Table 3 Solano County Probation Department Boys' GSC Risk Assessment Sample Description						
	N	%	Subsequent Referral ³⁷		Subsequent Sustained Referral ³⁸	
			N	%	N	%
Total Sample	880	100.0%	554	63.0%	446	50.7%
GSC						
2007	148	16.8%	81	54.7%	63	42.6%
2008	372	42.3%	254	68.3%	213	57.3%
2009	360	40.9%	219	60.8%	170	47.2%
Race/Ethnicity						
African American	394	44.8%	256	65.0%	211	53.6%
Caucasian	202	23.0%	117	57.9%	87	43.1%
Hispanic/Mexican National	240	27.3%	156	65.0%	128	53.3%
Other/Unknown	44	5.0%	25	56.8%	20	45.5%
Age at assessment*						
<=12 years	19	2.2%	15	78.9%	11	57.9%
13 years	48	5.5%	30	62.5%	26	54.2%
14 years	136	15.5%	89	65.4%	73	53.7%
15 years	187	21.3%	129	69.0%	109	58.3%
16 years	270	30.7%	190	70.4%	152	56.3%
17 years	220	25.0%	101	45.9%	75	34.1%

*Youth over 18 at the time of assessment were excluded from this sample.

³⁷ Any referral to probation services for a new criminal offense. The date of the referral will fall five days after the sampled assessment and within 12 months of the assessment.

³⁸ Any sustained referral to probation services for a new criminal offense. The date of the referral will fall five days after the sampled assessment and within 12 months of the assessment. Solano County Probation identified sustained charges to include any referral charge status equal to: transferred in from other county, adjudicated/sentenced, deferred entry of judgment, admitted true, found true, 725 (a), count sustained, ward (own/relative home), ward (non-secure county facility), ward (secure county facility w/emp), ward (other public facility), ward (private facility), ward (other), ward (DJJ), diversion, converted to wardship, vop true, and vop admitted.

Table 4 Solano County Probation Department Boys' GSC Risk Assessment Outcome Rates by Risk Level						
Sample Characteristic	N	%	12-Month Outcomes			
			Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	880	100.0%	554	63.0%	446	50.7%
GSC Risk Level						
Low	128	14.5%	38	29.7%	24	18.8%
Moderate	376	42.7%	234	62.2%	180	47.9%
High	376	42.7%	282	75.0%	242	64.4%

Table 5 Solano County Probation Department Boys' GSC Assessment Outcomes by Risk Level by Youth Race/Ethnicity						
Sample Characteristic	N	%	Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	880	100.0%	554	63.0%	446	50.7%
African American						
Low	44	11.2%	11	25.0%	6	13.6%
Moderate	175	44.4%	114	65.1%	93	53.1%
High	175	44.4%	131	74.9%	112	64.0%
Subgroup Total	394	100.0%	256	65.0%	211	53.6%
Caucasian						
Low	43	21.3%	16	37.2%	9	20.9%
Moderate	81	40.1%	45	55.6%	30	37.0%
High	78	38.6%	56	71.8%	48	61.5%
Subgroup Total	202	100.0%	117	57.9%	87	43.1%
Hispanic/Mexican National						
Low	32	13.3%	10	31.3%	8	25.0%
Moderate	104	43.3%	66	63.5%	53	51.0%
High	104	43.3%	80	76.9%	68	65.4%
Subgroup Total	240	100.0%	156	65.0%	128	53.3%

Table 5 Solano County Probation Department Boys' GSC Assessment Outcomes by Risk Level by Youth Race/Ethnicity						
Sample Characteristic	N	%	Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	880	100.0%	554	63.0%	446	50.7%
Other/Unknown						
Low	9	20.5%	1	11.1%	1	11.1%
Medium	16	36.4%	9	56.3%	5	31.3%
High	19	43.2%	15	78.9%	14	73.7%
Subgroup Total	44	100.0%	25	56.8%	20	45.5%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). A ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC. An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). There is no standard for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor

- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .679 for the referral outcome and .680 for the sustained referral outcome, for the boys' sample. These AUC scores were significantly different from .5 (indicated with *), indicating that predictive abilities were greater than chance.

Table 6 Solano County Probation Department Boys' GSC Risk Assessment Validation Area Under the Curve (AUC) (N = 880)				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic/ Mexican National Sample
New referral	.679*	.664*	.674*	.679*
New sustained referral	.680*	.653*	.699*	.670*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index of Risk

Dispersion Index of Risk (DIFR) scores were calculated for all boys and several subgroups for the current risk assessment and the revised assessment presented in a later section. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights "base rate distance" by subgroup size to calibrate the "potency" of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level. The index, however, measures distance from the mean without considering whether it is in the expected or logical direction; therefore, when outcome rates do not conform to the basic

expectation that “failure rates” will increase as risk levels increase, the test is inappropriate (Silver and Banks, 1998).

Table 7 DIFR Scores for Boys’ GSC Risk Assessment (N = 880)				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic/ Mexican National Sample
New referral	.69	.66	.55	.65
New sustained referral	.68	.73	.70	.56

Table 8										
GSC Risk Item Analysis-Boys										
Risk Item	N	%	Follow-Up Referral				Follow-Up Sustained Referral			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	880	100.0%	554	63.0%			446	50.7%		
School discipline					.199	.000			.169	.000
Enrolled, attending regularly, no suspensions; or graduated/received GED	118	13.4%	52	44.1%			39	33.1%		
Suspended one to two times; considered somewhat disruptive	252	28.6%	140	55.6%			115	45.6%		
Major truancy or dropped out; suspended three or more times; considered seriously disruptive	510	58.0%	362	71.0%			292	57.3%		
Peer relationships					.187	.000			.182	.002
Essentially not in legal trouble	136	15.5%	62	45.6%			45	33.1%		
Mixed	360	40.9%	214	59.4%			167	46.4%		
Mostly in legal trouble	251	28.5%	181	72.1%			159	63.3%		
Gang member/associate	133	15.1%	97	72.9%			75	56.4%		
Youth's substance use					.127	.000			.135	.000
No problems or experimentation only	327	37.2%	178	54.4%			137	41.9%		
Use sometimes interferes with functioning	221	25.1%	148	67.0%			118	53.4%		
Frequent/chronic use or abuse	332	37.7%	228	68.7%			191	57.5%		
Victim of child abuse or neglect (based on report to child welfare agency, substantiated or not)					.107	.001			.098	.002
Yes	301	34.2%	211	70.1%			173	57.5%		
No	579	65.8%	343	59.2%			273	47.2%		
Parent/sibling criminality					.096	.002			.088	.004
Parents/guardians or siblings incarcerated or on probation during the last three years	465	52.8%	313	67.3%			255	54.8%		

Table 8										
GSC Risk Item Analysis-Boys										
Risk Item	N	%	Follow-Up Referral				Follow-Up Sustained Referral			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	880	100.0%	554	63.0%			446	50.7%		
No parents/guardians or siblings incarcerated or on probation during the last three years	415	47.2%	241	58.1%			191	46.0%		
Age of earliest arrest or referral to juvenile court intake					.146	.000			.137	.000
13 or younger	404	45.9%	282	69.8%			233	57.7%		
14–16	445	50.6%	262	58.9%			204	45.8%		
17 or older	31	3.5%	10	32.3%			9	29.0%		
Number of arrests for criminal (non-status) offenses					.244	.000			.282	.000
None or one	181	20.6%	77	42.5%			52	28.7%		
Two or three	333	37.8%	202	60.7%			153	45.9%		
Four or more	366	41.6%	275	75.1%			241	65.8%		
Number of court referrals for violent/assaultive offenses					.148	.000			.199	.000
None	349	39.7%	189	54.2%			134	38.4%		
One or more	531	60.3%	365	68.7%			312	58.8%		
Total number of prior out-of-home placements					.046	.088			.077	.012
None	740	84.1%	461	62.3%			364	49.2%		
One	87	9.9%	54	62.1%			48	55.2%		
Two or more	53	6.0%	39	73.6%			34	64.2%		
Parental supervision					.173	.000			.158	.000
Little or no parental supervision/discipline	346	39.3%	251	72.5%			209	60.4%		
Parental supervision often ineffective/inconsistent	150	17.0%	95	63.3%			72	48.0%		
Parental supervision and discipline usually effective	384	43.6%	208	54.2%			165	43.0%		

Girls Link Risk Assessment for Girls

NCCD selected a sample of the new probation cases (May – December 2009) evaluated with the Girls Link assessment. If the sampled youth had multiple initial assessments completed, NCCD selected the assessment completed closest to the start of probation. Outcome rates were calculated by using a standardized 12-month follow-up period from the date of the assessment. Referrals identified by the Solano County Probation Department as originating offenses for new probation episodes, and referrals starting within five days of the assessment, were not tallied for recidivism outcomes. The assessment must have been completed on or prior to February 16, 2011, to allow for the 12-month follow-up period. The sampled characteristics for girls with an assessment are shown below.

Table 9 Solano County Probation Department Girls Link Risk Assessment Sample Description						
	N	%	Subsequent Referral ³⁹		Subsequent Sustained Referral ⁴⁰	
			N	%	N	%
Total Sample	261	100.0%	123	47.1%	92	35.2%
Girls Link risk assessment						
2007	37	14.2%	18	48.6%	14	37.8%
2008	111	42.5%	63	56.8%	47	42.3%
2009	113	43.3%	42	37.2%	31	27.4%
Race/Ethnicity						
African American	131	50.2%	66	50.4%	47	35.9%
Caucasian	48	18.4%	26	54.2%	21	43.8%
Hispanic/Mexican National	65	24.9%	28	43.1%	21	32.3%
Other/Unknown	17	6.5%	3	17.6%	3	17.6%
Age at assessment*						
<=12 years	2	0.8%	2	100.0%	2	100.0%
13 years	15	5.7%	8	53.3%	6	40.0%
14 years	44	16.9%	23	52.3%	17	38.6%
15 years	55	21.1%	28	50.9%	24	43.6%
16 years	73	28.0%	36	49.3%	25	34.2%
17 years	72	27.6%	26	36.1%	18	25.0%

*Youth older than 18 years at the time of assessment were excluded from this sample.

³⁹ Any referral to probation services for a new criminal offense. The date of the referral will fall five days after the sampled assessment and within 12 months of the assessment.

⁴⁰ Any sustained referral to probation services for a new criminal offense. The date of the referral will fall five days after the sampled JAIS assessment and within 12 months of the assessment. Solano County Probation identified sustained charges to include any referral charge status equal to: transferred in from other county, adjudicated/sentenced, deferred entry of judgment, admitted true, found true, 725 (a), count sustained, ward (own/relative home), ward (non-secure county facility), ward (secure county facility w/emp), ward (other public facility), ward (private facility), ward (other), ward (DJJ), diversion, converted to wardship, vop true, and vop admitted.

Table 10 Solano County Probation Department Girls Link Risk Assessment Outcome Rates by Risk Level						
Sample Characteristic	N	%	12-Month Outcomes			
			Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	261	100.0%	123	47.1%	92	35.2%
Girls Link risk level						
Low	42	16.1%	13	31.0%	10	23.8%
Moderate	155	59.4%	65	41.9%	45	29.0%
High	64	24.5%	45	70.3%	37	57.8%

Table 11 Solano County Probation Department Girls Link Risk Assessment Outcomes by Risk Level by Youth Race/Ethnicity						
Sample Characteristic	N	%	Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	261	100.0%	123	47.1%	92	35.2%
African American						
Low	17	13.0%	7	41.2%	5	29.4%
Moderate	86	65.6%	39	45.3%	24	27.9%
High	28	21.4%	20	71.4%	18	64.3%
Subgroup Total	131	100.0%	66	50.4%	47	35.9%
Caucasian						
Low	8	16.7%	4	50.0%	3	37.5%
Moderate	27	56.3%	14	51.9%	11	40.7%
High	13	27.1%	8	61.5%	7	53.8%
Subgroup Total	48	100.0%	26	54.2%	21	43.8%
Hispanic/Mexican National						
Low	11	16.9%	2	18.2%	2	18.2%
Moderate	33	50.8%	10	30.3%	8	24.2%
High	21	32.3%	16	76.2%	11	52.4%

Table 11 Solano County Probation Department Girls Link Risk Assessment Outcomes by Risk Level by Youth Race/Ethnicity						
Sample Characteristic	N	%	Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	261	100.0%	123	47.1%	92	35.2%
Subgroup Total	65	100.0%	28	43.1%	21	32.3%
Other/Unknown						
Low	6	35.3%	0	0.0%	0	0.0%
Medium	9	52.9%	2	22.2%	2	22.2%
High	2	11.8%	1	50.0%	1	50.0%
Subgroup Total	17	100.0%	3	17.6%	3	17.6%

Receiver Operating Characteristic Curves: Area Under the Curve

The risk scores derived from this study resulted in an AUC of .662 for the new referral outcome and .680 for the new sustained referral outcome for the girls' sample. These AUC scores were significantly different from .5 (indicated with *), indicating that predictive abilities were greater than chance.

Table 12 Solano County Probation Department Girls Link Risk Assessment Validation Area Under the Curve (AUC) (N = 261)				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic/ Mexican National Sample
New referral	.662*	.645*	.540	.752*
New sustained referral	.680*	.697*	.563	.701*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

The new referral rate for moderate-risk African American girls was lower than the outcome rate for low-risk girls in the same category. Because recidivism rates did not occur in the expected direction, the Dispersion Index for Risk (DIFR) test is not an appropriate measure for this group and is not presented in the table below.

Table 13 DIFR Scores for Girls Link Risk Assessment (N = 261)				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic/ Mexican National Sample
New referral	.57	.46	.18	1.04
New sustained referral	.34	*	.25	.64

*Outcome rates did not increase with each increase in risk level for these groups; therefore, a DIFR score was not calculated.

Table 14										
Girls Link Risk Item Analysis										
Risk Item	N	%	Follow-Up Referral				Follow-Up Sustained Referral			
			N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total sample	261	100.0%	123	47.1%			92	35.2%		
Number of schools in the past two years					.167	.003			.146	.009
One	45	17.2%	13	28.9%			9	20.0%		
Two or more, not enrolled/dropped out	216	82.8%	110	50.9%			83	38.4%		
Peer relationships					.230	.000			.168	.003
Essentially not in legal trouble	60	23.0%	19	31.7%			17	28.3%		
Mixed	117	44.8%	50	42.7%			33	28.2%		
Mostly in legal trouble	59	22.6%	39	66.1%			31	52.5%		
Gang member/associate	25	9.6%	15	60.0%			11	44.0%		
Youth's substance use					.169	.003			.224	.000
No problems or experimentation only	131	50.2%	51	38.9%			32	24.4%		
Use sometimes interferes with functioning	58	22.2%	30	51.7%			25	43.1%		
Frequent/chronic use or abuse	72	27.6%	42	58.3%			35	48.6%		
Age of earliest arrest or referral to juvenile court intake					.174	.002			.182	.002
12 or younger	51	19.5%	33	64.7%			27	52.9%		
13 or older	210	80.5%	90	42.9%			65	31.0%		
Number of arrests for criminal (non-status) offenses					.098	.057			.148	.008
None or one	73	28.0%	30	41.1%			19	26.0%		
Two or three	122	46.7%	57	46.7%			43	35.2%		
Four or more	66	25.3%	36	54.5%			30	45.5%		
Number of court referrals for drug offenses (include current)					.056	.182			.073	.119
None	222	85.1%	102	45.9%			75	33.8%		
One or more	39	14.9%	21	53.8%			17	43.6%		
Number of court referrals for violent/assaultive offenses					.135	.014			.158	.005
None	101	38.7%	39	38.6%			26	25.7%		
One or more	160	61.3%	84	52.5%			66	41.3%		
Total number of prior out-of-home placements					.099	.056			.100	.053
None	220	84.3%	99	45.0%			73	33.2%		
One or more	41	15.7%	24	58.5%			19	46.3%		

Revised Risk Assessment for Boys

NCCD used bivariate and multivariate analyses to identify data available on the JAIS assessment with the strongest statistical relationship to the outcomes. These analyses resulted in a revised risk assessment containing nine items. Cut-points were determined by examining the relationship of the overall risk score to the outcomes and grouping scores with similar weights. The revised assessment was developed on a sample of youth for whom a JAIS assessment was completed within 30 days of the start of the new probation case. This attempt resulted in a valid assessment that was not substantially better than the existing one.

**Solano County
Revised Risk Assessment– Boys**

	<u>Score</u>
Q15. School discipline	
a. Enrolled, attending regularly, no suspensions; or graduated/received GED	-1
b. Suspended one to two times; considered somewhat disruptive.....	1
c. Major truancy or dropped out; suspended three or more times; considered seriously disruptive	2

Q20. Peer relationships	
a. Essentially not in legal trouble	-1
b. Mixed	0
c. Mostly in legal trouble	2
d. Gang member/associate	3

Q60, 73–74 Youth’s substance abuse	
a. Not significant.....	0
b. Minor to highly significant.....	1
c. Drug/alcohol treatment	2

Q39. Victim of child abuse or neglect (based on report to child welfare agency, substantiated or not)	
a. Yes.....	1
b. No.....	0

Q48. Parent/sibling criminality	
a. Parents/guardians or siblings incarcerated or on probation during past three years	1
b. No parents/guardians or siblings incarcerated or on probation during past three years	0

Q53. Age of earliest arrest or referral to juvenile court intake	
a. 14 or younger.....	1
b. 15 or older.....	0

Q54. Number of arrests for criminal (non-status) offenses	
a. None or one.....	-1
b. Two or three	0
c. Four or more.....	2

Q55. Number of court referrals for violent/assaultive offenses	
a. None.....	0
b. One or more	2

Q67. Parental supervision	
a. Little or no parental supervision/discipline	2
b. Parental supervision often ineffective/inconsistent	1
c. Parental supervision and discipline usually effective.....	0

Total Score	=====

<u>Risk Score:</u>	<u>Risk Level:</u>
___ -3–1	Low
___ 2–7	Moderate
___ 8–16	High

Table 15 Solano County Probation Department Boys' Probation Revised Risk Assessment Outcome Rates by Risk Level						
Sample Characteristic	N	%	Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	332	100.0%	158	47.6%	114	34.3%
Revised risk level						
Low	60	18.1%	7	11.7%	3	5.0%
Moderate	156	47.0%	75	48.1%	50	32.1%
High	116	34.9%	76	65.5%	61	52.6%

Receiver Operating Characteristic Curves: Area Under the Curve

Table 16 Solano County Probation Department Boys' Probation Revised Risk Assessment Area Under the Curve (AUC) (N = 332)				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic/ Mexican National Sample
New referral	.685*	.609*	.690*	.704*
New sustained referral	.700*	.660*	.700*	.670*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Table 17 Solano County Probation Department Boys' Probation Revised Risk Assessment DIFR (N = 332)				
Outcome	Total Sample	African American Sample	Caucasian Sample	Hispanic/ Mexican National Sample
New referral	.93	.74	.95	.98
New sustained referral	1.07	1.63*	.87	.75

*Outcome rates for the low risk level were 0.0. DIFR was calculated with .01% for this group.

Revised Risk Assessment for Girls

NCCD used bivariate and multivariate analyses to identify the data available on the JAIS assessment with the strongest statistical relationship to the outcomes. These analyses resulted in a revised risk assessment containing nine items. Cut-points were determined by examining the relationship of the overall risk score to the outcomes and grouping scores with similar weights. The revised assessment was developed on a sample of youth for whom a JAIS assessment was completed within 30 days of probation start and tested on the overall sample.

**Solano County
Revised Risk Assessment – Girls**

	<u>Score</u>
Q16. School Discipline	
a. Enrolled, attending regularly, no suspensions, or graduated or GED.....	0
b. Suspended one to two times, considered somewhat disruptive.....	0
c. Major truancy or dropped out, suspended three or more times, considered seriously disruptive	1

Q21. Peer relationships (report highest score, do not add)	
a. Essentially not in legal trouble	0
b. Mixed.....	0
c. Mostly in legal trouble	1
d. Gang member/associate	1

Q23. Youth's substance use (report highest score, do not add)	
a. No problems or experimentation only.....	0
b. Use sometimes interferes with functioning	1
c. Frequent/chronic use or abuse.....	1

Q59. Age of earliest arrest or referral to juvenile court intake	
a. 13 or younger	1
b. 14 or older.....	0

Q60. Number of arrests for criminal (non-status) offenses (include current)	
a. None or one	-1
b. Two or three.....	0
c. Four or more	1

Q66. Time spent under prior probation/parole supervision	
a. None	0
b. Any prior probation/parole	1

Q62. Number of court referrals for violent/assaultive offenses	
a. None	0
b. One or more.....	1

Q65. Total number of prior out-of-home placements	
a. None	0
b. One or more.....	1

Q76. Parental supervision	
a. None, or minor significance	0
b. Somewhat to highly significant.....	1

Total Score	=====

<u>Risk Score:</u> ____ -1-1 ____ 2-4 ____ 5- 9	<u>Risk Level:</u> Low Moderate High
----------------------------------------------------------	-----------------------------------------------

Table 18 Solano County Probation Department Girls' Probation Revised Risk Assessment Outcome Rates by Risk Level						
Sample Characteristic	N	%	Subsequent Referral		Subsequent Sustained Referral	
			N	%	N	%
Total Sample	261	100.0%	123	47.1%	92	35.2%
Revised risk level						
Low	59	22.6%	14	23.7%	8	13.6%
Moderate	127	48.7%	56	44.1%	36	28.3%
High	75	28.7%	53	70.7%	48	64.0%

Receiver Operating Characteristic Curves: Area Under the Curve and Dispersion Index for Risk

AUC and DIFR for the sample are illustrated below (due to small sample size, results for each race/ethnicity category were not included.)

Table 19 Girls' Probation Revised Risk Assessment Area Under the Curve (AUC) and Dispersion Index for Risk (DIFR) (N = 261)		
Outcome	AUC	DIFR
New referral	.706*	.74
New sustained referral	.727*	.89

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

VIRGINIA DJJ YASI VALIDATION RESULTS

Sample Description

The Virginia Department of Juvenile Justice (DJJ) provided data for 6,330 youth between the ages of 8 and 18 who were placed on probation between July 1, 2008 and June 30, 2009.^{41, 42} DJJ also provided Youth Assessment and Scoring Instrument (YASI) data for assessments completed within 90 days of the probation start date. Of the 6,330 youth placed on probation, 1,919 had a YASI completed within 90 days of probation start.⁴³ NCCD selected these 1,919 youth with completed YASIs for the study sample. Some of the YASI data included pre-screen items only while others included all items from the YASI full-screen. Pre-screen risk assessment levels were provided for all 1,919 youth and were used to validate the YASI pre-screen risk level.

Note that Virginia also completes a YASI reassessment using the same form as the full YASI. During the period from which the sample was selected, the reassessment indicator was not reliable; therefore, it is not possible to tell whether any of the YASI assessments in the sample are reassessments, or if they are all initial YASI assessments. It is Virginia policy to complete the YASI at the same time as the social history investigation. In some Virginia localities, the social history is completed pre-disposition and in others, it is completed post-disposition. By selecting a YASI close to the probation start date (either before or after), it could be expected that most YASIs in the sample are initial YASIs for the index probation disposition.

⁴¹ There were 6,409 new probation starts during FY 2009; 79 of those starts were for youth who began more than one probation period during the fiscal year. For these youth, the first probation start was retained for analysis. The rearrest rate for the entire population of new probation cases was 36.7%, and the reconviction rate was 24.6%.

⁴² Adult data were available for analysis; therefore, the outcome period for youth who were 18 at the time of probation start is the same as for other youth in the study.

⁴³ Virginia DJJ provided the first YASI assessment completed within 90 days prior to or 90 days following probation start; 908 (47.3%) youth in the sample had a YASI completed prior to or on the day of probation start, and 1,011 (52.7%) included a YASI completed after probation start. YASI implementation began in 2008 and was completely implemented by 2011; during that period workers continued using the DJJ risk assessment until they were trained to use the YASI.

Outcomes included new arrests and new convictions (non-technical violations only) for a 12-month standardized follow-up period. DJJ calculated rearrest and reconviction so that the measures match the way the department counts recidivism. Therefore, the standardized follow-up period begins on the probation start date and only data for the first rearrest and the first reconviction during the follow-up period were provided. Sample characteristics and outcome rates are illustrated in Table 1.

Table 1						
Virginia Department of Juvenile Justice YASI Validation Sample Description						
Sample Characteristic	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
Gender						
Male	1,412	73.6%	579	41.0%	407	28.8%
Female	507	26.4%	143	28.2%	73	14.4%
Race/Ethnicity⁴⁴						
Caucasian	1,150	59.9%	381	33.1%	229	19.9%
African American	701	36.5%	311	44.4%	231	33.0%
Other/Unknown	68	3.5%	30	44.1%	20	29.4%
Age at Probation Start						
Under 13 years	49	2.6%	17	34.7%	6	12.2%
13 years	122	6.4%	48	39.3%	29	23.8%
14 years	238	12.4%	84	35.3%	56	23.5%
15 years	372	19.4%	146	39.2%	94	25.3%
16 years	539	28.1%	196	36.4%	120	22.3%
17 years	535	27.9%	207	38.7%	157	29.3%
18 years	64	3.3%	24	37.5%	18	28.1%

⁴⁴ There was a Hispanic identifier in the database. Values were missing for 46.6% of the sample; therefore, NCCD did not include the Hispanic identifier in the race/ethnicity categories.

Table 1 Virginia Department of Juvenile Justice YASI Validation Sample Description						
Sample Characteristic	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
Severity of Index Offense (most serious)						
Class 1 misdemeanor against persons	333	17.4%	127	38.1%	83	24.9%
Contempt of court/failure to appear	43	2.2%	17	39.5%	12	27.9%
Felonies against persons	273	14.2%	96	35.2%	70	25.6%
Felony weapons/felony narcotics distribution	78	4.1%	26	33.3%	16	20.5%
Other class 1 misdemeanor	459	23.9%	181	39.4%	116	25.3%
Other felonies	414	21.6%	169	40.8%	118	28.5%
Status offenses	175	9.1%	54	30.9%	34	19.4%
Other violations	144	7.5%	52	36.1%	31	21.5%

YASI PERFORMANCE

YASI Pre-Screen Risk Level

The YASI includes 10 domains: legal history, family history, school, community and peers, alcohol and drugs, mental health, aggression, attitudes, skills, and employment and free time. Some items from each domain contribute to the pre-screen risk score (the items contributing to the pre-screen risk score are described later in this document). Based on the sum of responses to each of the pre-screen items, the youth receives a legal risk score, a social risk score, a total pre-screen risk score, and a pre-screen protective score. Scores are then translated into a corresponding risk/protective level. The focus of this YASI validation is the total pre-screen risk level, which is examined in the following sections. The legal and social risk levels, as well as the pre-screen protective level and all of the full-screen risk and protective levels, will be examined (in less detail) later in the report.

Pre-screen overall risk level cut-points differ for males and females. Table 2 shows the overall pre-screen risk level cut-points for both groups.

Table 2 Virginia Department of Juvenile Justice YASI Validation Pre-Screen Overall Risk Level Cut Points		
Risk Level	Females	Males
None	0	0
Low	1–25	1–15
Moderate	26–52	16–38
High	53+	39+

Outcome Rates by Overall YASI Total Pre-Screen Risk Level

Table 3 shows outcome rates by total YASI pre-screen risk level. Note this risk level reflects the risk level calculated for each youth within 90 days of probation start.

Table 3 Virginia Department of Juvenile Justice YASI Validation Outcome Rates by Total YASI Pre-Screen Risk Level						
YASI Risk Level	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
Low	651	33.9%	140	21.5%	72	11.1%
Medium	841	43.8%	333	39.6%	230	27.3%
High	427	22.3%	249	58.3%	178	41.7%

Table 4						
Virginia Department of Juvenile Justice						
YASI Validation						
Outcome Rates by YASI Risk Level by Youth Race/Ethnicity						
Race/Ethnicity	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
Caucasian						
Low	451	39.2%	86	19.1%	37	8.2%
Medium	468	40.7%	177	37.8%	112	23.9%
High	231	20.1%	118	51.1%	80	34.6%
Subgroup Total	1,150	100.0%	381	33.1%	229	19.9%
African American						
Low	183	26.1%	48	26.2%	32	17.5%
Medium	339	48.4%	142	41.9%	108	31.9%
High	179	25.5%	121	67.6%	91	50.8%
Subgroup Total	701	100.0%	311	44.4%	231	33.0%
Other						
Low	17	25.0%	6	35.3%	3	17.6%
Medium	34	50.0%	14	41.2%	10	29.4%
High	17	25.0%	10	58.8%	7	41.2%
Subgroup Total	68	100.0%	30	44.1%	20	29.4%

As shown in Table 2, the risk level cut-points are different for males and females. The risk levels shown below were calculated using the cut-points applicable to each gender group.

Table 5						
Virginia Department of Juvenile Justice YASI Validation Outcome Rates by YASI Risk Level by Youth Gender						
Gender	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
Males						
Low	382	27.1%	92	24.1%	55	14.4%
Medium	655	46.4%	264	40.3%	185	28.2%
High	375	26.6%	223	59.5%	167	44.5%
Subgroup Total	1,412	100.0%	579	41.0%	407	28.8%
Females						
Low	269	53.1%	48	17.8%	17	6.3%
Medium	186	36.7%	69	37.1%	45	24.2%
High	52	10.3%	26	50.0%	11	21.2%
Subgroup Total	507	100.0%	143	28.2%	73	14.4%

Receiver Operating Characteristic Curves: Area Under the Curve

A Receiver Operating Characteristic (ROC) curve is “a plot of the true positive rate against the false positive rate for the different possible cut-points of a diagnostic test” (Tape, retrieved 2012). An ROC curve “shows the trade-off between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).” The area under the ROC curve, the AUC, is a measure of test accuracy.

Test accuracy depends on how well the test separates the study sample into those who do and do not experience a negative outcome—in this case, recidivate. Accuracy is measured by the AUC.

An area of 1 represents a perfect test (i.e., 100% accurate); an area of .5 represents a worthless test (only accurate 50% of the time, the same as chance). No standard exists for interpreting the strength of the AUC; however, some researchers employ the following point system, much like in traditional academics (Tape, retrieved 2012):

- .90–1 = excellent
- .80–.90 = good
- .70–.80 = fair
- .60–.70 = poor
- .50–.60 = fail

The risk scores derived from this study resulted in an AUC of .665 for the arrest outcome and .675 for the conviction outcome, for the total sample. These AUC scores were significantly different from .5 (indicated with *), indicating that predictive abilities were greater than chance.

Table 6 Virginia Department of Juvenile Justice YASI Validation Area Under the Curve (AUC)					
Outcome	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample
Sample Size	1,919	1,412	507	1,150	701
New arrest, non-technical violation	.665*	.663*	.673*	.655*	.677*
New conviction, non-technical violation	.675*	.667*	.712*	.679*	.660*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Dispersion Index for Risk

Dispersion Index for Risk (DIFR) scores were calculated for all youth and several subgroups for the current risk assessment and the revised assessment presented in a later section. The DIFR measures the potency of risk assessment systems by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights “base rate distance” by subgroup size to calibrate the “potency” of a classification system. In sum, the DIFR considers both the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and the size of the group classified to each level. The index, however, measures distance from the mean without considering whether it is in the expected or logical direction; therefore, when outcome rates do not conform to the basic expectations that “failure rates” will increase as risk levels increase, the test is inappropriate (Silver and Banks, 1998).

Table 7 Virginia Department of Juvenile Justice YASI Validation DIFR Scores for YASI						
Risk Assessment Version	Total Sample	Male Sample	Female Sample	Caucasian Sample	African American Sample	Other Race/ Ethnicity Sample
New arrest, non-technical violation	.61	.56	.58	.59	.64	.36
New conviction, non-technical violation	.68	.58	Could not calculate*	.74	.57	.42

*A DIFR score could not be calculated for this group because the outcome rates did not differ in the expected direction (i.e., the high-risk outcome rate was lower than the medium-risk outcome rate).

YASI Pre-Screen Item Analysis

Table 8 shows the correlation of each YASI pre-screen item that contributes to the pre-screen risk score with the arrest and conviction outcomes as well as outcome rates by item score and, when applicable, item response and sub-item response.

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Legal History										
1. Previous intake contacts for delinquent/criminal offenses (This item is included on the pre-screen, but does not contribute to the pre-screen risk score.)										
2. Age at first contact for delinquent/criminal offense					.091	.000			.049	.017
15+	932	48.6%	301	32.3%			205	22.0%		
13–14	654	34.1%	275	42.0%			184	28.1%		
< 13	333	17.4%	146	43.8%			91	27.3%		
3. Number of intake contacts					.228	.000			.229	.000
0–1	702	36.6%	179	25.5%			99	14.1%		
2–3	685	35.7%	259	37.8%			173	25.3%		
4+	532	27.7%	284	53.4%			208	39.1%		
4. Intake contacts for felony offenses					.043	.029			.073	.001
No	1,092	56.9%	391	35.8%			243	22.3%		
Yes	827	43.1%	331	40.0%			237	28.7%		
5. Weapon offenses					.017	.229			.009	.354
0–1	1,880	98.0%	705	37.5%			469	24.9%		
2–3	31	1.6%	14	45.2%			10	32.3%		
4+	8	0.4%	3	37.5%			1	12.5%		
6. Intake contacts for offenses against another person					.144	.000			.145	.000
0–1	1,615	84.2%	558	34.6%			360	22.3%		
2	168	8.8%	87	51.8%			62	36.9%		
3+	136	7.1%	77	56.6%			58	42.6%		
7. Intake contacts for felony offenses against another person					-.006	.391			.028	.109
No	1,621	84.5%	612	37.8%			397	24.5%		
Yes	298	15.5%	110	36.9%			83	27.9%		
8. Placements					.064	.002			.070	.001
0	1,667	86.9%	606	36.4%			396	23.8%		
1–3	237	12.4%	108	45.6%			78	32.9%		
4+	15	0.8%	8	53.3%			6	40.0%		

Table 8										
Virginia Department of Juvenile Justice YASI Validation YASI Item Analysis										
Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
9/10. Juvenile detention/DJJ custody					.199	.000			.207	.000
0	1,098	57.2%	329	30.0%			199	18.1%		
1–2	692	36.1%	313	45.2%			218	31.5%		
3+	129	6.7%	80	62.0%			63	48.8%		
11. Escapes					-.012	.301			.000	.500
0	1,915	99.8%	721	37.7%			479	25.0%		
1+	4	0.2%	1	25.0%			1	25.0%		
12. Failure to appear in court					.115	.000			.088	.000
0	1,795	93.5%	649	36.2%			431	24.0%		
1+	124	6.5%	73	58.9%			49	39.5%		
13. Number of petitions for violations of probation, parole, or failure on diversion					.136	.000			.165	.000
0	1,657	86.3%	581	35.1%			369	22.3%		
1–4	246	12.8%	130	52.8%			101	41.1%		
5+	16	0.8%	11	68.8%			10	62.5%		
Family History										
1a/1b. Number of times kicked out/locked out or runaways					.141	.000			.122	.000
0 times	1,545	80.5%	529	34.2%			345	22.3%		
1–6 times	365	19.0%	189	51.8%			134	36.7%		
7+ times	9	0.5%	4	44.4%			1	11.1%		
2. Has there ever been a court finding and/or founded DSS complaint of child neglect					.064	.002			.051	.013
No	1,701	88.6%	621	36.5%			412	24.2%		
Yes	218	11.4%	101	46.3%			68	31.2%		
3. Compliance with parental rules					.177	.000			.170	.000
Not applicable	22	1.1%	7	31.8%			4	18.2%		
Youth usually obeys and follows rules	919	47.9%	263	28.6%			167	18.2%		
Youth sometimes obeys or obeys some rules	560	29.2%	235	42.0%			151	27.0%		
Youth often disobeys rules	204	10.6%	102	50.0%			76	37.3%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Youth consistently disobeys and/or is hostile	201	10.5%	112	55.7%			80	39.8%		
No pro-social rules in place	13	0.7%	3	23.1%			2	15.4%		
4. Circumstances of family members who are living in the household					.072	.001			.048	.019
0 item points	1,044	54.4%	357	34.2%			230	22.0%		
1–2 item points	561	29.2%	224	39.9%			159	28.3%		
3 item points	100	5.2%	48	48.0%			34	34.0%		
4+ item points	214	11.2%	93	43.5%			57	26.6%		
Family sub-items that contribute to score										
Mother: alcohol/drug problems	154	8.0%	74	48.1%			42	27.3%		
Mother: mental health problems	202	10.5%	79	39.1%			54	26.7%		
Mother: delinquent/criminal record	234	12.2%	108	46.2%			70	29.9%		
Mother: delinquent/violent criminal record	27	1.4%	19	70.4%			14	51.9%		
Father: alcohol/drug problems	159	8.3%	66	41.5%			43	27.0%		
Father: mental health problems	42	2.2%	14	33.3%			6	14.3%		
Father: delinquent/criminal record	170	8.9%	77	45.3%			54	31.8%		
Father: delinquent/violent criminal record	40	2.1%	18	45.0%			12	30.0%		
Stepparent: alcohol/drug problems	35	1.8%	16	45.7%			10	28.6%		
Stepparent: mental health problems	8	0.4%	3	37.5%			2	25.0%		
Stepparent: delinquent/criminal record	51	2.7%	19	37.3%			15	29.4%		
Stepparent: delinquent/violent criminal record	13	0.7%	5	38.5%			2	15.4%		
Sibling: mental health problems	92	4.8%	37	40.2%			23	25.0%		
Sibling: delinquent/criminal record	304	15.8%	127	41.8%			87	28.6%		
Sibling: delinquent/violent criminal record	37	1.9%	18	48.6%			11	29.7%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Other: alcohol/drug problems	42	2.2%	19	45.2%			10	23.8%		
Other: mental health problems	16	0.8%	7	43.8%			6	37.5%		
Other: delinquent/criminal record	48	2.5%	20	41.7%			10	20.8%		
Other: delinquent/violent criminal record	5	0.3%	2	40.0%			1	20.0%		
School										
2. Youth's attendance in last three months of school					.088	.000			.092	.000
Not applicable	208	10.8%	91	43.8%			62	29.8%		
Attends regularly (at least 90% of time)	976	50.9%	313	32.1%			196	20.1%		
Some partial-day, unexcused absences	109	5.7%	53	48.6%			36	33.0%		
Some full-day unexcused	246	12.8%	97	39.4%			65	26.4%		
Five or more full-day, unexcused absences	380	19.8%	168	44.2%			121	31.8%		
3. Youth's conduct in last three months of school					.106	.000			.089	.000
Not applicable	219	11.4%	96	43.8%			70	32.0%		
Positive behavioral adjustment	298	15.5%	85	28.5%			50	16.8%		
No problems	472	24.6%	145	30.7%			93	19.7%		
Infractions reported	378	19.7%	148	39.2%			98	25.9%		
Intervention by school administration	366	19.1%	173	47.3%			118	32.2%		
Police reports filed by school	186	9.7%	75	40.3%			51	27.4%		
4. Youth's academic performance in last three months of school					.085	.000			.074	.001
Not applicable	219	11.4%	95	43.4%			68	31.1%		
B+ or above	195	10.2%	46	23.6%			31	15.9%		
C or better	618	32.2%	212	34.3%			135	21.8%		
C- or lower	260	13.5%	101	38.8%			61	23.5%		
Failing some classes	331	17.2%	132	39.9%			89	26.9%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Failing most classes	296	15.4%	136	45.9%			96	32.4%		
Community and Peers										
1. Associates with whom the youth spends his/her time					.160	.000			.158	.000
None of the below	598	31.2%	169	28.3%			105	17.6%		
1–3 peer item points	1,119	58.3%	442	39.5%			291	26.0%		
4–8 peer item points	172	9.0%	95	55.2%			70	40.7%		
9+ peer item points	30	1.6%	16	53.3%			14	46.7%		
Friends who have positive pro-social influence	1,144	59.6%	355	31.0%			225	19.7%		
No friends or companions, no consistent friends	216	11.3%	71	32.9%			43	19.9%		
Friends who have negative or delinquent influence	1,094	57.0%	480	43.9%			329	30.1%		
Associates or has been seen with gang members	185	9.6%	102	55.1%			79	42.7%		
Family gang member	23	1.2%	10	43.5%			5	21.7%		
Youth belongs to a gang	42	2.2%	23	54.8%			20	47.6%		
Alcohol and Drugs (each substance receives a total score, based on the sum of substance points)										
Alcohol					.074	.001			.059	.005
Total alcohol score of 0	1,105	57.6%	370	33.5%			248	22.4%		
Total alcohol score of 1–2	332	17.3%	151	45.5%			97	29.2%		
Total alcohol score of 3–6	193	10.1%	81	42.0%			48	24.9%		
Total alcohol score of 7+	289	15.1%	120	41.5%			87	30.1%		
Items contributing to total alcohol score										
Times used in last three months										
None	1,444	75.2%	511	35.4%			339	23.5%		
1–5	373	19.4%	165	44.2%			110	29.5%		
6+	102	5.3%	46	45.1%			31	30.4%		

Table 8										
Virginia Department of Juvenile Justice YASI Validation YASI Item Analysis										
Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Disrupts function										
No	1,715	89.4%	636	37.1%			418	24.4%		
Yes	204	10.6%	86	42.2%			62	30.4%		
Contributes to behavior										
No	1,609	83.8%	593	36.9%			388	24.1%		
Yes	310	16.2%	129	41.6%			92	29.7%		
Age at first use										
15+	1,355	70.6%	476	35.1%			314	23.2%		
14	218	11.4%	99	45.4%			67	30.7%		
11–13	299	15.6%	131	43.8%			91	30.4%		
1–10	47	2.4%	16	34.0%			8	17.0%		
Marijuana					.174	.001			.150	.000
Total marijuana score of 0	999	52.1%	297	29.7%			188	18.8%		
Total marijuana score of 1–2	254	13.2%	103	40.6%			72	28.3%		
Total marijuana score of 3–6	247	12.9%	117	47.4%			76	30.8%		
Total marijuana score of 7+	419	21.8%	205	48.9%			144	34.4%		
Items contributing to total marijuana score										
Times used in last three months										
0	1,259	65.6%	390	31.0%			249	19.8%		
1–5	386	20.1%	184	47.7%			129	33.4%		
6+	274	14.3%	148	54.0%			102	37.2%		
Disrupts function										
No	1,644	85.7%	593	36.1%			387	23.5%		
Yes	275	14.3%	129	46.9%			93	33.8%		
Contributes to behavior										
No	1,536	80.0%	541	35.2%			355	23.1%		
Yes	383	20.0%	181	47.3%			125	32.6%		
Age at first use										
15+	1,277	66.5%	424	33.2%			274	21.5%		
14	240	12.5%	106	44.2%			71	29.6%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
11–13	346	18.0%	168	48.6%			122	35.3%		
1–10	56	2.9%	24	42.9%			13	23.2%		
Cocaine/Crack					.073	.001			.084	.000
Total cocaine/crack score of 0	1,876	97.8%	696	37.1%			459	24.5%		
Total cocaine/crack score of 1–2	21	1.1%	11	52.4%			9	42.9%		
Total cocaine/crack score of 3–6	6	0.3%	5	83.3%			3	50.0%		
Total cocaine/crack score of 7+	16	0.8%	10	62.5%			9	56.3%		
Items contributing to total cocaine/crack score										
Times used in last three months										
0	1,904	99.2%	711	37.3%			470	24.7%		
1–5	14	0.7%	10	71.4%			9	64.3%		
6+	1	0.1%	1	100.0%			1	100.0%		
Disrupts function										
No	1,906	99.3%	713	37.4%			472	24.8%		
Yes	13	0.7%	9	69.2%			8	61.5%		
Contributes to behavior										
No	1,900	99.0%	710	37.4%			470	24.7%		
Yes	19	1.0%	12	63.2%			10	52.6%		
Age at first use										
15+	1,897	98.9%	710	37.4%			471	24.8%		
14	13	0.7%	8	61.5%			7	53.8%		
11–13	8	0.4%	3	37.5%			2	25.0%		
1–10	1	0.1%	1	100.0%			0	0.0%		
Ecstasy/Other Club Drugs					.026	.127			.020	.187
Total ecstasy score of 0	1,888	98.4%	708	37.5%			471	24.9%		
Total ecstasy score of 1–2	13	0.7%	5	38.5%			3	23.1%		
Total ecstasy score of 3–6	8	0.4%	3	37.5%			1	12.5%		
Total ecstasy score of 7+	10	0.5%	6	60.0%			5	50.0%		
Items contributing to overall ecstasy score										

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Times used in last three months										
0	1,908	99.4%	717	37.6%			476	24.9%		
1–5	8	0.4%	4	50.0%			3	37.5%		
6+	3	0.2%	1	33.3%			1	33.3%		
Disrupts function										
No	1,911	99.6%	717	37.5%			476	24.9%		
Yes	8	0.4%	5	62.5%			4	50.0%		
Contributes to behavior										
No	1,904	99.2%	714	37.5%			474	24.9%		
Yes	15	0.8%	8	53.3%			6	40.0%		
Age at first use										
15+	1,902	99.1%	716	37.6%			478	25.1%		
14	9	0.5%	3	33.3%			2	22.2%		
11–13	7	0.4%	2	28.6%			0	0.0%		
1–10	1	0.1%	1	100.0%			0	0.0%		
Heroin					.008	.360			.003	.443
Total heroin score of 0	1,912	99.6%	719	37.6%			478	25.0%		
Total heroin score of 1–2	3	0.2%	1	33.3%			1	33.3%		
Total heroin score of 3–6	1	0.1%	1	100.0%			0	0.0%		
Total heroin score of 7+	3	0.2%	1	33.3%			1	33.3%		
Items contributing to overall heroin score										
Times used in last three months										
0	1,917	99.9%	721	37.6%			479	25.0%		
1–5	1	0.1%	1	100.0%			1	100.0%		
6+	1	0.1%	0	0.0%			0	0.0%		
Disrupts function										
No	1,916	99.8%	721	37.6%			479	25.0%		
Yes	3	0.2%	1	33.3%			1	33.3%		
Contributes to behavior										

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
No	1,916	99.8%	721	37.6%			479	25.0%		
Yes	3	0.2%	1	33.3%			1	33.3%		
Age at first use										
15+	1,915	99.8%	720	37.6%			479	25.0%		
14	1	0.1%	0	0.0%			0	0.0%		
11–13	2	0.1%	1	50.0%			1	50.0%		
1–10	1	0.1%	1	100.0%			0	0.0%		
Hallucinogens (LSD, Acid)					.052	.011			.032	.082
Total hallucinogen score of 0	1,895	98.7%	707	37.3%			471	24.9%		
Total hallucinogen score of 1–2	11	0.6%	7	63.6%			4	36.4%		
Total hallucinogen score of 3–6	4	0.2%	2	50.0%			1	25.0%		
Total hallucinogen score of 7+	9	0.5%	6	66.7%			4	44.4%		
Items contributing to overall hallucinogen score										
Times used in last three months										
0	1,908	99.4%	715	37.5%			476	24.9%		
1–5	10	0.5%	6	60.0%			3	30.0%		
6+	1	0.1%	1	100.0%			1	100.0%		
Disrupts function										
No	1,909	99.5%	715	37.5%			475	24.9%		
Yes	10	0.5%	7	70.0%			5	50.0%		
Contributes to behavior										
No	1,908	99.4%	715	37.5%			476	24.9%		
Yes	11	0.6%	7	63.6%			4	36.4%		
Age at first use										
15+	1,908	99.4%	716	37.5%			477	25.0%		
14	7	0.4%	4	57.1%			2	28.6%		
11–13	4	0.2%	2	50.0%			1	25.0%		
1–10	0	0.0%	0	0.0%			0	0.0%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Inhalants/Huffing					-.001	.490			-.007	.387
Total inhalant score of 0	1,890	98.5%	711	37.6%			474	25.1%		
Total inhalant score of 1–2	16	0.8%	6	37.5%			3	18.8%		
Total inhalant score of 3–6	3	0.2%	2	66.7%			0	0.0%		
Total inhalant score of 7+	10	0.5%	3	30.0%			3	30.0%		
Items contributing to overall inhalant score										
Times used in last three months										
0	1,911	99.6%	719	37.6%			477	25.0%		
1–5	6	0.3%	2	33.3%			2	33.3%		
6+	2	0.1%	1	50.0%			1	50.0%		
Disrupts function										
No	1,911	99.6%	720	37.7%			478	25.0%		
Yes	8	0.4%	2	25.0%			2	25.0%		
Contributes to behavior										
No	1,908	99.4%	718	37.6%			477	25.0%		
Yes	11	0.6%	4	36.4%			3	27.3%		
Age at first use										
15+	1,897	98.9%	713	37.6%			475	25.0%		
14	5	0.3%	3	60.0%			3	60.0%		
11–13	15	0.8%	5	33.3%			2	13.3%		
1–10	2	0.1%	1	50.0%			0	0.0%		
Amphetamines (Speed)					.051	.013			.051	.013
Total amphetamine score of 0	1,898	98.9%	710	37.4%			472	24.9%		
Total amphetamine score of 1–2	6	0.3%	2	33.3%			0	0.0%		
Total amphetamine score of 3–6	3	0.2%	2	66.7%			1	33.3%		
Total amphetamine score of 7+	12	0.6%	8	66.7%			7	58.3%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Items contributing to overall amphetamine score										
Times used in last three months										
0	1,908	99.4%	715	37.5%			475	24.9%		
1–5	7	0.4%	4	57.1%			2	28.6%		
6+	4	0.2%	3	75.0%			3	75.0%		
Disrupts function										
No	1,908	99.4%	715	37.5%			474	24.8%		
Yes	11	0.6%	7	63.6%			6	54.5%		
Contributes to behavior										
No	1,906	99.3%	713	37.4%			473	24.8%		
Yes	13	0.7%	9	69.2%			7	53.8%		
Age at first use										
15+	1,907	99.4%	717	37.6%			476	25.0%		
14	6	0.3%	2	33.3%			1	16.7%		
11–13	6	0.3%	3	50.0%			3	50.0%		
1–10	0	0.0%	0	0.0%			0	0.0%		
Prescription drug misuse					.005	.408			.011	.312
Total prescription score of 0	1,756	91.5%	662	37.7%			442	25.2%		
Total prescription score of 1–2	59	3.1%	19	32.2%			8	13.6%		
Total prescription score of 3–6	39	2.0%	13	33.3%			8	20.5%		
Total prescription score of 7+	65	3.4%	28	43.1%			22	33.8%		
Items contributing to overall prescription score										
Times used in last three months										
0	1,821	94.9%	678	37.2%			451	24.8%		
1–5	66	3.4%	29	43.9%			17	25.8%		
6+	32	1.7%	15	46.9%			12	37.5%		
Disrupts function										
No	1,859	96.9%	695	37.4%			460	24.7%		
Yes	60	3.1%	27	45.0%			20	33.3%		
Contributes to behavior										
No	1,847	96.2%	692	37.5%			457	24.7%		
Yes	72	3.8%	30	41.7%			23	31.9%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Age at first use										
15+	1,838	95.8%	694	37.8%			460	25.0%		
14	43	2.2%	19	44.2%			15	34.9%		
11–13	35	1.8%	8	22.9%			5	14.3%		
1–10	3	0.2%	1	33.3%			0	0.0%		
Other drugs					.035	.064			.060	.004
Total other drug score of 0	1,869	97.4%	698	37.3%			460	24.6%		
Total other drug score of 1–2	15	0.8%	7	46.7%			5	33.3%		
Total other drug score of 3–6	18	0.9%	8	44.4%			7	38.9%		
Total other drug score of 7+	17	0.9%	9	52.9%			8	47.1%		
Items contributing to overall other drug score										
Times used in last three months										
0	1,881	98.0%	702	37.3%			463	24.6%		
1–5	14	0.7%	10	71.4%			9	64.3%		
6+	24	1.3%	10	41.7%			8	33.3%		
Disrupts function										
No	1,910	99.5%	715	37.4%			473	24.8%		
Yes	9	0.5%	7	77.8%			7	77.8%		
Contributes to behavior										
No	1,910	99.5%	717	37.5%			475	24.9%		
Yes	9	0.5%	5	55.6%			5	55.6%		
Age at first use										
15+	1,891	98.5%	711	37.6%			471	24.9%		
14	11	0.6%	5	45.5%			4	36.4%		
11–13	14	0.7%	5	35.7%			4	28.6%		
1–10	3	0.2%	1	33.3%			1	33.3%		
Mental Health										
1b. Mental health problems (maximum of two points for each mental health problem)										
Bipolar disorder					.027	.123			.004	.431
None apply	1,908	99.4%	716	37.5%			477	25.0%		
One or more of the below apply	11	0.6%	6	54.5%			3	27.3%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Diagnosed	11	0.6%	6	54.5%			3	27.3%		
Current treatment	4	0.2%	3	75.0%			1	25.0%		
Past treatment	5	0.3%	2	40.0%			1	20.0%		
Current medication	4	0.2%	3	75.0%			1	25.0%		
Past medication	3	0.2%	2	66.7%			1	33.3%		
Other mood/affective/depression disorders					.048	.019			.034	.066
None apply	1,777	92.6%	657	37.0%			437	24.6%		
One or more of the below apply	142	7.4%	65	45.8%			43	30.3%		
Diagnosed	140	7.3%	63	45.0%			41	29.3%		
Current treatment	84	4.4%	38	45.2%			21	25.0%		
Past treatment	70	3.6%	32	45.7%			23	32.9%		
Current medication	76	4.0%	34	44.7%			20	26.3%		
Past medication	69	3.6%	32	46.4%			22	31.9%		
Schizophrenia					.066	.002			.031	.089
None apply	1,624	84.6%	589	36.3%			397	24.4%		
One or more of the below apply	295	15.4%	133	45.1%			83	28.1%		
Diagnosed	289	15.1%	132	45.7%			83	28.7%		
Current treatment	184	9.6%	74	40.2%			40	21.7%		
Past treatment	143	7.5%	71	49.7%			49	34.3%		
Current medication	138	7.2%	59	42.8%			33	23.9%		
Past medication	119	6.2%	57	47.9%			38	31.9%		
Other psychoses					-.012	.301			-.026	.124
None apply	1,915	99.8%	721	37.7%			480	25.1%		
One or more of the below apply	4	0.2%	1	25.0%			0	0.0%		
Diagnosed	4	0.2%	1	25.0%			0	0.0%		
Current treatment	3	0.2%	0	0.0%			0	0.0%		
Past treatment	0	0.0%	0	0.0%			0	0.0%		
Current medication	3	0.2%	0	0.0%			0	0.0%		
Past medication	0	0.0%	0	0.0%			0	0.0%		
Thought/personality and adjustment disorders					.050	.014			.055	.008
None apply	1,833	95.5%	680	37.1%			449	24.5%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
One or more of the below apply	86	4.5%	42	48.8%			31	36.0%		
Diagnosed	84	4.4%	41	48.8%			30	35.7%		
Current treatment	59	3.1%	26	44.1%			18	30.5%		
Past treatment	37	1.9%	20	54.1%			13	35.1%		
Current medication	43	2.2%	17	39.5%			12	27.9%		
Past medication	32	1.7%	15	46.9%			10	31.3%		
Other mental health problem					.054	.009			.059	.005
None apply	1,740	90.7%	640	36.8%			421	24.2%		
One or more of the below apply	179	9.3%	82	45.8%			59	33.0%		
Diagnosed	173	9.0%	78	45.1%			57	32.9%		
Current treatment	74	3.9%	29	39.2%			22	29.7%		
Past treatment	93	4.8%	43	46.2%			29	31.2%		
Current medication	62	3.2%	29	46.8%			22	35.5%		
Past medication	83	4.3%	39	47.0%			27	32.5%		
2. Homicidal ideation					.042	.034			.021	.176
No indications	1,841	95.9%	685	37.2%			457	24.8%		
Indications	78	4.1%	37	47.4%			23	29.5%		
3. Suicidal ideation					.043	.031			.035	.064
No indications	1,685	87.8%	621	36.9%			412	24.5%		
Suicidal thoughts	167	8.7%	80	47.9%			52	31.1%		
Suicide attempt	67	3.5%	21	31.3%			16	23.9%		
4. Sexual aggression (included on pre-screen but does not contribute to score)										
5. History of physical or sexual abuse					.048	.018			.025	.139
No physical or sexual abuse	1,594	83.1%	583	36.6%			391	24.5%		
Physical or sexual abuse identified	325	16.9%	139	42.8%			89	27.4%		
Physical abuse: parent	172	9.0%	76	44.2%			49	28.5%		
Physical abuse: sibling	25	1.3%	8	32.0%			5	20.0%		
Physical abuse: other family	37	1.9%	18	48.6%			14	37.8%		

Table 8										
Virginia Department of Juvenile Justice YASI Validation YASI Item Analysis										
Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Physical abuse: outside family	48	2.5%	27	56.3%			20	41.7%		
Sexual abuse: parent	26	1.4%	9	34.6%			6	23.1%		
Sexual abuse: sibling	9	0.5%	2	22.2%			2	22.2%		
Sexual abuse: other family	43	2.2%	12	27.9%			5	11.6%		
Sexual abuse: outside family	75	3.9%	28	37.3%			16	21.3%		
6. Victimization					.029	.100			.026	.124
0 victimization points	1,532	79.8%	566	36.9%			376	24.5%		
1–6 victimization points	332	17.3%	132	39.8%			84	25.3%		
7+ victimization points	55	2.9%	24	43.6%			20	36.4%		
No indications	1,532	79.8%	566	36.9%			376	24.5%		
Sexual vulnerability/exploitation	99	5.2%	37	37.4%			24	24.2%		
Victim of bullying	156	8.1%	49	31.4%			31	19.9%		
Victim of physical assault	200	10.4%	94	47.0%			68	34.0%		
Victim of property theft or damage	79	4.1%	39	49.4%			29	36.7%		
Aggression										
1. Violence					.119	.000			.122	.000
1–3 violence points	1,284	66.9%	426	33.2%			268	20.9%		
4–9 violence points	423	22.0%	192	45.4%			137	32.4%		
10+ violence points	212	11.0%	104	49.1%			75	35.4%		
No reports of violence	866	45.1%	265	30.6%			154	17.8%		
Displaying a weapon	135	7.0%	63	46.7%			53	39.3%		
Use of a weapon (illegally)	62	3.2%	23	37.1%			18	29.0%		
Bullying/threatening people	393	20.5%	188	47.8%			139	35.4%		
Violent destruction of property	265	13.8%	126	47.5%			87	32.8%		
Assaultive behavior	852	44.4%	370	43.4%			262	30.8%		

Table 8

**Virginia Department of Juvenile Justice
YASI Validation
YASI Item Analysis**

Item	Sample Distribution		12-Month Outcomes							
			New Arrest (Non-Technical Only)				New Conviction (Non-Technical Only)			
	N	%	N	%	Corr.	P-Value	N	%	Corr.	P-Value
Total Sample	1,919	100.0%	722	37.6%			480	25.0%		
Assault causing serious injury	80	4.2%	33	41.3%			22	27.5%		
Deliberate fire starting	42	2.2%	25	59.5%			16	38.1%		
Animal cruelty	24	1.3%	17	70.8%			12	50.0%		
Attitudes										
1. Accepts responsibility for delinquent/criminal behavior					.134	.000			.127	.000
Voluntarily accepts full responsibility for behavior	554	28.9%	159	28.7%			94	17.0%		
Recognizes he/she must accept responsibility for behavior	550	28.7%	183	33.3%			118	21.5%		
Indicates some awareness of need to accept responsibility for behavior	370	19.3%	160	43.2%			112	30.3%		
Minimizes, denies, justifies, excuses, or blames others	412	21.5%	205	49.8%			146	35.4%		
Openly accepts or is proud of negative behavior	33	1.7%	15	45.5%			10	30.3%		
Skills										
1. Consequential thinking skills					.170	.000			.168	.000
Acts to obtain good and avoid bad consequences	307	16.0%	70	22.8%			31	10.1%		
Can identify specific consequences of his/her actions	584	30.4%	191	32.7%			128	21.9%		
Understands actions have good and bad consequences	785	40.9%	352	44.8%			240	30.6%		
Sometimes confused about consequences of actions	205	10.7%	89	43.4%			63	30.7%		
Does not understand actions have consequences	38	2.0%	20	52.6%			18	47.4%		

Revised Risk Assessments

NCCD wanted to determine if a revised assessment could be developed that would simplify scoring and would work well for both boys and girls. NCCD used bivariate and multivariate analysis to identify which prior history, index investigation, and current risk assessment items have the strongest statistical relationships to the outcomes. The initial analysis resulted in an alternate risk assessment that worked overall, but did not work well for both boys and girls. This may be due to the difference in base rates between the groups, or because the risk factors for boys are different than risk factors for girls. In spite of the small number of girls in the sample, NCCD designed an alternate risk assessment for boys as well as an alternate assessment for girls. The revised assessments use items that are currently on the YASI pre-screen as well as items from the full assessment. Note that some item values have been changed from the YASI to simplify scoring and because the revised values more closely represent the item's relationship to the outcomes.

REVISED RISK ASSESSMENT FOR BOYS

The YASI validation sample included 1,412 boys; of that sample, 1,106 had all full YASI items completed and were used to develop a revised assessment for boys, which is described below.

**Virginia Department of Juvenile Justice
Revised Risk Assessment for Boys**

		<u>Score</u>
1.	Number of prior intake contacts	
	a. None or one.....	-1
	b. Two or three	0
	c. Four or more.....	1
2.	Number of prior juvenile detentions	
	a. None or one.....	0
	b. Two or more	1
3.	Number of runaways	
	a. 0	0
	b. 1–5	1
	c. 6+	2
4.	Age at first intake contact	
	a. 15 or older.....	0
	b. Younger than 15	1
5.	Youth has used alcohol in the last three months	
	a. No.....	0
	b. Yes.....	1
6.	Number of times youth has used marijuana in the last three months	
	a. 0 times	0
	b. 1–5 times	1
	c. 6 or more times	2
7.	Youth has special education needs	
	a. None apply.....	0
	b. One or more apply (check and add for score)	
	<input type="checkbox"/> Behavioral disability	1
	<input type="checkbox"/> Disability not defined as learning, behavioral, mental retardation, or ADHD/ADD	1
8.	Youth's current school performance is worsening	
	a. No, is consistent, stable, or improving	0
	b. Yes.....	1
9.	Number of out-of-school suspensions served in last two years	
	a. None, one, or two	0
	b. Three or more	1
10.	Youth was fired or quit because he could not get along with employer or coworkers	
	a. No, or never employed	0
	b. Yes.....	1
11.	Physical violence between parent and youth	
	a. No.....	0
	b. Yes.....	1

	<u>Score</u>
12. Parental love, caring, and support (check one)	
a. Not applicable, or parents provide consistent love, caring, and support	0
b. Parents provide inconsistent love, caring, and support	1
c. Parents are indifferent, uncaring, uninterested, unwilling to help.....	1
d. Parents are hostile toward youth/youth is berated or belittled	1
12. Compliance with parental rules	
a. Usually follows rules	-1
b. Sometimes obeys, or obeys some rules	0
c. Often or consistently disobeys rules, or no rules are in place	1
13. Optimism (check one)	
a. Confident future will be bright	0
b. Looks forward to future with anticipation	0
c. Believes some things matter.....	1
d. Believes little matters because he or she has no future	2
e. Believes nothing matters, is fatalistic.....	2
15. Willingness to make amends	
a. Eagerly indicates plans or a desire to make amends	-1
b. Willing to cooperate with making amends.....	0
c. Non-committal toward making amends or unwilling to make amends	1
Total Score	=====

<u>Risk Score:</u>	<u>Risk Level:</u>
___ -3-0	Low
___ 1-5	Moderate
___ 6-19	High

Outcome Rates by Revised Boys' Risk Assessment Level

Table 9 shows outcome rates by the alternate, boys' assessment risk level.

Table 9						
Virginia Department of Juvenile Justice Outcome Rates by Revised Boys', Risk Level						
Revised Risk Level	N	%	12-Month Outcomes			
			Subsequent Arrest		Subsequent Adjudication	
			N	%	N	%
Total Male Sample	1,106	100.0%	466	42.1%	331	29.9%
Revised Risk Level						
Low	308	27.8%	59	19.2%	33	10.7%
Medium	528	47.7%	228	43.2%	160	30.3%
High	270	24.4%	179	66.3%	138	51.1%

Outcome Rates by Alternate Boys' Risk Assessment Level by Race/Ethnicity

Table 10						
Virginia Department of Juvenile Justice						
Outcome Rates by Revised Boys' Risk Level and Youth Race/Ethnicity						
Race/Ethnicity	N	%	12-Month Outcomes			
			Subsequent Arrest		Subsequent Adjudication	
			N	%	N	%
Total Male Sample	1,106	100.0%	466	42.1%	331	29.9%
White/Caucasian						
Low	192	31.1%	37	19.3%	18	9.4%
Medium	291	47.1%	119	40.9%	75	25.8%
High	135	21.8%	83	61.5%	62	45.9%
Subgroup Total	618	100.0%	239	38.7%	155	25.1%
Black/African American						
Low	105	23.3%	18	17.1%	14	13.3%
Medium	222	49.2%	102	45.9%	79	35.6%
High	124	27.5%	88	71.0%	70	56.5%
Subgroup Total	451	100.0%	208	46.1%	163	36.1%

Table 11	
Virginia Department of Juvenile Justice	
Area Under the Curve (AUC) for Revised Boys Risk Assessment	
(N = 1,106)	
Outcome	AUC
New Arrest, Non-Technical Violation	.710*
New Conviction, Non-Technical Violation	.711*

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 12			
DIFR Scores for Revised Boys Risk Assessment			
Outcome	Total Sample	Caucasian Sample	African American Sample
New Arrest	.77	.70	.88
New Conviction	.80	.78	.77

REVISED RISK ASSESSMENT FOR GIRLS

The overall Virginia sample included 507 girls; 333 of those girls had a full YASI completed. Although 333 is a small sample, NCCD completed bivariate and multivariate analyses for girls only to determine which items on the YASI pre- and full- screen assessments had the strongest relationships to the arrest and conviction outcomes. A sample size of 333 is relatively small for risk validation and may have impacted the revised assessment in several ways. First, although the revised assessment works well for the current sample, the small N size makes it difficult to determine whether the revised assessment presented below would work well for a different sample of girls. Additionally, the smaller sample size may have impacted the strength of the relationships between the items in both the correlations and the regression models, resulting in different items than a larger sample. Therefore, the revised assessment should be viewed as an example of a simplified risk assessment. Additionally, despite some overlap, the items on the assessment suggest the risk items for girls are different than risk items for boys in Virginia; separate assessments may improve the validity of the risk assessment.

Virginia Department of Juvenile Justice
Revised Risk Assessment for Girls

		<u>Score</u>
1.	Number of prior intake contacts	
	a. None or one.....	0
	b. Two or three	1
	c. Four or more.....	2
2.	Number of prior juvenile detentions	
	a. None.....	0
	b. One	1
	c. Two or more	2
3.	Age at first contact for delinquent/criminal offense	
	a. 15 or older.....	0
	b. 13 or 14.....	1
	c. Less than 13.....	2
4.	Most serious current offense is "felony other"	
	a. No.....	0
	b. Yes.....	1
5.	Youth drug use	
	a. Not applicable.....	0
	b. One or more of the following apply (check and add for score)	
	<input type="checkbox"/> Youth used marijuana in the past three months.....	1
	<input type="checkbox"/> Youth used cocaine in the past three months.....	1
6.	Youth relationship with mother/female caretaker and father/male caretaker	
	a. Youth feels close to one or the other.....	0
	b. Youth does not feel close to either caretaker	1
7.	Number of times youth has been employed	
	a. None or one time	0
	b. Two or more times	1
8.	Youth was fired or quit because of poor job performance	
	a. No or NA, never employed	0
	b. Yes.....	1
9.	Number of in-school suspensions served by youth in last two years	
	a. None, one, or two	0
	b. Three or more	1
10.	Youth usually goes along with delinquent peers	
	a. No.....	0
	b. Yes.....	1
11.	Youth was physically abused by someone outside of the family	
	a. No.....	0
	b. Yes.....	1

Total Score _____

<u>Risk Score:</u> ____ 0-2 ____ 3-5 ____ 6+	<u>Risk Level:</u> Low Moderate High
-------------------------------------------------------	-----------------------------------------------

Outcome Rates by Girls' Risk Assessment Level

Table 16 shows outcome rates by revised risk level.

Table 16						
Virginia Department of Juvenile Justice YASI Validation Outcome Rates by Revised Girls' Risk Level						
Revised Risk Level	Distribution		12-Month Outcomes			
			Subsequent Arrest		Subsequent Adjudication	
	N	%	N	%	N	%
Total Sample	333	100.0%	105	31.5%	58	17.4%
Revised risk level						
Low	119	35.7%	17	14.3%	7	5.9%
Medium	141	42.3%	41	29.1%	23	16.3%
High	73	21.9%	47	64.4%	28	38.4%

Outcome Rates by Revised Girls' Risk Assessment Level by Race/Ethnicity

Table 17						
Virginia Department of Juvenile Justice						
Outcome Rates by Revised Girls' Risk Level and Youth Race/Ethnicity						
Race/Ethnicity	Distribution		12-Month Outcomes			
			Subsequent Arrest		Subsequent Adjudication	
	N	%	N	%	N	%
Total Girl Sample	333	100.0%	105	31.5%	58	17.4%
White/Caucasian						
Low	69	36.1%	8	11.6%	2	2.9%
Medium	79	41.4%	25	31.6%	12	15.2%
High	43	22.5%	25	58.1%	13	30.2%
Subgroup Total	191	100.0%	58	30.4%	27	14.1%
Black/African American						
Low	42	33.9%	7	16.7%	4	9.5%
Medium	53	42.7%	13	24.5%	9	17.0%
High	29	23.4%	21	72.4%	15	51.7%
Subgroup Total	124	100.0%	41	33.1%	28	22.6%

Table 18	
Virginia Department of Juvenile Justice	
Area Under the Curve (AUC) for Revised Girls' Risk Assessment	
(N = 333)	
Outcome	AUC
New arrest, non-technical violation	.740*
New conviction, non-technical violation	.740*.

*AUC significantly different than .5 (asymptotic significance $\leq .05$; lower bound of confidence interval greater than .5).

Table 19			
Virginia Department of Juvenile Justice			
DIFR Scores for Revised Girls' Risk Assessment			
Outcome	Total Sample	Caucasian Sample	African American Sample
New arrest	.89	.91	1.0
New conviction	.89	1.12	.90

ADDITIONAL YASI RESULTS

YASI Pre-Screen Legal Risk, Social Risk, and Protective Levels

In addition to an overall pre-screen risk level, each youth also receives a legal risk level, a social risk level, and a pre-screen protective level. Virginia DJJ provided these additional risk and protective levels for analysis.

Table 20 shows 12-month outcomes by legal and social risk levels. As shown, the outcomes increase with each increase in the legal and social risk levels.

Table 20 Virginia Department of Juvenile Justice YASI Validation Outcome Rates by YASI Pre-Screen Legal and Social Risk Levels						
YASI Risk Level	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
Legal risk level						
None*	0	0.0%	NA	NA	NA	NA
Low	463	24.1%	104	22.5%	48	10.4%
Moderate	1,152	60.0%	438	38.0%	292	25.3%
High	304	15.8%	180	59.2%	140	46.1%
Social risk level						
None*	0	0.0%	NA	NA	NA	NA
Low	646	33.7%	171	26.5%	97	15.0%
Moderate	777	40.5%	278	35.8%	188	24.2%
High	496	25.8%	273	55.0%	195	39.3%

*No youth were classified as "none" for the legal or social risk levels; it appears all youth with a score of 0 were rolled into the low-risk category.

Table 21 shows the outcomes by pre-screen protective level. The protective level is based on positive responses to items on the YASI pre-screen. Therefore, it could be expected that youth with high protective levels would have lower recidivism rates than youth with lower protective levels. Based on the results, outcome rates decrease with each increase in the protective level.

Table 21						
Virginia Department of Juvenile Justice						
YASI Validation						
Outcome Rates by YASI Pre-Screen Protective Level						
YASI Risk Level	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,919	100.0%	722	37.6%	480	25.0%
None	0	0.0%	NA	NA	NA	NA
Low	557	29.0%	296	53.1%	209	37.5%
Moderate	825	43.0%	295	35.8%	205	24.8%
High	537	28.0%	131	24.4%	66	12.3%

Full YASI Assessment Results

In addition to the YASI pre-screen, which was examined in Appendix A, some youth have a full YASI assessment completed. The full screen includes more items, many of which act as a juvenile needs assessment.⁴⁵ Each full YASI item contributes to a static risk score, a dynamic risk score, a static protective score, or a dynamic protective score. Note that some items contribute to both a risk score and a protective score, although different item responses are responsible for contributing to the risk or protective score (e.g., negative item responses contribute to risk scores while positive item responses contribute to protective scores). After all of the full YASI items are completed, the risk and protective scores are used to determine each youth's dynamic and static risk levels, as well as their

⁴⁵ Note that the full YASI includes the YASI pre-screen items.

dynamic and static protective levels. Dynamic risk and protective level cut-points, for the most part, differ for males and females, while the static cut-points are the same.

As noted, the full YASI is completed for a subset of youth. Of the 1,919 youth in the full-screen risk sample, 1,439 (75.0%) had all full-screen items completed. Like the pre-screen risk levels, full YASI risk and protective levels were provided by Virginia DJJ for analysis. Full-screen risk levels by outcomes are shown in Table 22.

Table 22						
Virginia Department of Juvenile Justice YASI Validation Outcome Rates by Full YASI Risk Levels						
YASI Risk Level	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,439	100.0%	571	39.7%	389	27.0%
Static risk level						
Zero	16	1.1%	2	12.5%	1	6.3%
Low	369	25.6%	91	24.7%	51	13.8%
Moderate	290	20.2%	99	34.1%	67	23.1%
High	764	53.1%	379	49.6%	270	35.3%
Dynamic risk level						
None	16	1.1%	2	12.5%	1	6.3%
Low	361	25.1%	92	25.5%	53	14.7%
Low-moderate	226	15.7%	80	35.4%	56	24.8%
Moderate	329	22.9%	120	36.5%	79	24.0%
Moderate-high	259	18.0%	131	50.6%	88	34.0%
High	118	8.2%	66	55.9%	49	41.5%
Very high	130	9.0%	80	61.5%	63	48.5%

Full-screen static and dynamic protective levels by outcomes are shown in Table 23.

Table 23						
Virginia Department of Juvenile Justice						
YASI Validation						
Outcome Rates by Full YASI Protective Levels						
YASI Protective Level	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
Total Sample	1,439	100.0%	571	39.7%	389	27.0%
Static protective level						
Zero	401	27.9%	195	48.6%	146	36.4%
Low	248	17.2%	97	39.1%	65	26.2%
Moderate	519	36.1%	169	32.6%	105	20.2%
High	271	18.8%	110	40.6%	73	26.9%
Dynamic protective level						
None	16	1.1%	2	12.5%	1	6.3%
Low	51	3.5%	29	56.9%	23	45.1%
Low-moderate	146	10.1%	90	61.6%	63	43.2%
Moderate	258	17.9%	135	52.3%	95	36.8%
Moderate-high	373	25.9%	136	36.5%	94	25.2%
High	278	19.3%	102	36.7%	68	24.5%
Very high	317	22.0%	77	24.3%	45	14.2%

YASI Pre-Screen Result Comparison

YASIs Completed Prior to or After Probation Start

Table 24						
Virginia Department of Juvenile Justice YASI Validation Outcome Rates by YASI Pre-Screen Risk Level By Time Period of YASI Completion						
YASI Risk Level	N	%	12-Month Outcomes			
			New Arrest (Non-Technical Only)		New Conviction (Non-Technical Only)	
			N	%	N	%
YASI Completed Prior to Probation Start*						
Total Pre-Probation Start Sample	908	100.0%	383	42.2%	270	29.7%
Low	198	21.8%	51	25.8%	27	13.6%
Medium	435	47.9%	173	39.8%	129	29.7%
High	275	30.3%	159	57.8%	114	41.5%
YASI Completed After Probation Start						
Total Post-Probation Start Sample	1,011	100.0%	339	33.5%	210	20.8%
Low	453	44.8%	89	19.6%	45	9.9%
Medium	406	40.2%	160	39.4%	101	24.9%
High	152	15.0%	90	59.2%	64	42.1%

*Includes YASIs completed the same day as probation start.

Appendix C

Reliability Results by Site

AR YLS Inter Rater Reliability: Percent Agreement Analyses

N = 15 Workers; shaded cells indicate risk assessment items

Updated 9/7/2012

Risk Assessment Items	Number of	Agreement Amongst		Agreement with	
		Workers		Expert	
Part I: Assessment of Risk and Needs	Observations	N Agree	%	N Agree	%
Prior and Current Offenses/Dispositions					
a. Three or more prior convictions	145	127	87.6%	126	86.9%
b. Two or more failures to comply	145	122	84.1%	114	78.6%
c. Prior probation	145	126	86.9%	126	86.9%
d. Prior custody	145	121	83.4%	100	69.0%
e. Three or more current convictions	145	138	95.2%	126	86.9%
Family Circumstances/Parenting					
a. Inadequate supervision	145	102	70.3%	74	51.0%
b. Difficulty in controlling behavior	145	111	76.6%	94	64.8%
c. Inappropriate discipline	145	108	74.5%	103	71.0%
d. Inconsistent parenting	145	90	62.1%	77	53.1%
e. Poor relations (father-youth)	145	115	79.3%	107	73.8%
f. Poor relations (mother-youth)	145	111	76.6%	99	68.3%
Strength	145	122	84.1%	107	73.8%
Education/Employment					
a. Disruptive classroom behavior	145	115	79.3%	78	53.8%
b. Disruptive behavior on school property	145	98	67.6%	90	62.1%
c. Low achievement	145	109	75.2%	94	64.8%
d. Problems with peers	145	121	83.4%	108	74.5%
e. Problems with teachers	145	119	82.1%	101	69.7%
f. Truancy	145	123	84.8%	90	62.1%
g. Unemployed/not seeking employment	145	112	77.2%	109	75.2%
Strength	145	118	81.4%	71	49.0%
Peer Relations					
a. Some delinquent acquaintances	145	118	81.4%	101	69.7%
b. Some delinquent friends	145	121	83.4%	106	73.1%
c. No/few positive acquaintances	145	102	70.3%	61	42.1%
d. No/few positive friends	145	98	67.6%	61	42.1%
Strength	145	118	81.4%	118	81.4%
Substance Abuse					
a. Occasional drug use	145	117	80.7%	106	73.1%
b. Chronic drug use	145	131	90.3%	120	82.8%
c. Chronic alcohol use	145	130	89.7%	130	89.7%
d. Substance abuse interferes with life	145	123	84.8%	112	77.2%
e. Substance use linked to offense(s)	145	127	87.6%	127	87.6%
Strength	145	119	82.1%	115	79.3%

Leisure/Recreation

a. Limited organized activities	145	106	73.1%	77	53.1%
b. Could make better use of time	145	107	73.8%	88	60.7%
c. No personal interests	145	110	75.9%	107	73.8%
Strength	145	102	70.3%	65	44.8%

Personality/Behavior

a. Inflated self-esteem	145	142	97.9%	128	88.3%
b. Physically aggressive	145	116	80.0%	99	68.3%
c. Tantrums	145	108	74.5%	105	72.4%
d. Short attention span	145	124	85.5%	110	75.9%
e. Poor frustration tolerance	145	105	72.4%	97	66.9%
f. inadequate guilt feelings	145	134	92.4%	102	70.3%
g. Verbally aggressive, impudent	145	110	75.9%	89	61.4%
Strength	145	112	77.2%	105	72.4%

Attitudes/Orientation

a. Antisocial/procriminal attitudes	145	117	80.7%	83	57.2%
b. Not seeking help	145	115	79.3%	95	65.5%
c. Actively rejecting help	145	128	88.3%	96	66.2%
d. Defies authority	145	103	71.0%	94	64.8%
e. Callus, little concern for others	145	138	95.2%	138	95.2%
Strength	145	103	71.0%	82	56.6%

Family/Parents

Chronic history of offenses	145	114	78.6%	101	69.7%
Emotional distress/Psychiatric	145	124	85.5%	112	77.2%
Drug/Alcohol abuse	145	109	75.2%	104	71.7%
Marital Conflict	145	113	77.9%	108	74.5%
Financial/Accommodation Problems	145	134	92.4%	134	92.4%
Uncooperative Parents	145	143	98.6%	143	98.6%
Cultural/Ethnic Issues	145	144	99.3%	144	99.3%
Abusive father	145	139	95.9%	139	95.9%
Abusive mother	145	137	94.5%	134	92.4%
Significant Family Trauma	145	115	79.3%	111	76.6%
Other	145	116	80.0%	88	60.7%
None	145	111	76.6%	111	76.6%

Youth

Health problems	145	136	93.8%	136	93.8%
Physical disability	145	144	99.3%	144	99.3%
Low intelligence/Development delay	145	144	99.3%	132	91.0%
Learning disability	145	140	96.6%	132	91.0%
Underachievement	145	117	80.7%	94	64.8%
Poor problem-solving skills	145	99	68.3%	57	39.3%
Victim of physical/sexual abuse	145	114	78.6%	104	71.7%

Victim of neglect	145	139	95.9%	92	63.4%
Shy/withdrawn	145	141	97.2%	126	86.9%
Peers outside age range	145	140	96.6%	133	91.7%
Depressed	145	126	86.9%	83	57.2%
Low self-esteem	145	138	95.2%	124	85.5%
Inappropriate sexual activity	145	137	94.5%	140	96.6%
Racist/sexist attitudes	145	145	100.0%	145	100.0%
Poor social skills	145	118	81.4%	59	40.7%
Engages in Denial	145	139	95.9%	127	87.6%
Suicide attempts	145	126	86.9%	124	85.5%
Diagnosis of psychosis	145	142	97.9%	142	97.9%
Third party threat	145	144	99.3%	144	99.3%
History of sexual/physical assault	145	124	85.5%	94	64.8%
History of assault on authority figures	145	134	92.4%	123	84.8%
History of weapon use	145	140	96.6%	140	96.6%
History of fire setting	145	133	91.7%	133	91.7%
History of escapes	145	140	96.6%	140	96.6%
Protection issues	145	145	100.0%	130	89.7%
Adverse living conditions	145	142	97.9%	115	79.3%
Other	145	126	86.9%	78	53.8%
None	145	106	73.1%	101	69.7%

Risk Level

Worker's Assessment of Risk Level	145	100	69.0%	88	60.7%
Actual Risk Level	145	109	75.2%	99	68.3%

INTRA-CLASS CORRELATION (09/04/2012)

Risk Score	0.667
Risk Level	0.543

KAPPA (9/7/2012)

Subjects	10
Raters	13
Kappa	0.329
z	12.4
p-value	0

AZ AOC Risk Assessment Inter Rater Reliability: Percent Agreement Analyses

N = 45 Workers; shaded cells indicate risk assessment items

Updated: 9/7/2012

Risk Assessment Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Current offense is status offense	448	377	84.2%	256	57.1%
Juvenile's relationship with his/her family involves frequent/intense conflict or is alienated/assaultive (known or suspected)	448	351	78.3%	311	69.4%
Ever been assaultive?	448	351	78.3%	317	70.8%
Used or suspected of using drugs within the past year?	448	434	96.9%	434	96.9%
Ever truant or extensive absenteeism from school?	448	389	86.8%	362	80.8%
Currently enrolled in public, private, home school regularly?	448	424	94.6%	424	94.6%
Has behavioral problems/mental health issues?	448	331	73.9%	277	61.8%
Friends involved or suspected to be involved in delinquency?	448	386	86.2%	386	86.2%
Runaway, runaway attempts, known or suspected?	448	400	89.3%	338	75.4%
Four or more prior complaints	448	428	95.5%	428	95.5%
Number of prior offenses*	448	250	55.8%	194	43.3%
Scored risk level	448	367	81.9%	354	79.0%
Probation officer's opinion of reoffending within one year	448	302	67.4%	300	67.0%

Juvenile Justice History Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Documented contact with juvenile justice system	448	424	94.6%	424	94.6%
Previous Adjudications	448	399	89.1%	396	88.4%

Family and Living Arrangements Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Family is important	448	346	77.2%	150	33.5%
Consistently applied consequences	448	309	69.0%	237	52.9%
Follow caregivers rules	448	324	72.3%	313	69.9%
Follows through with consequences	448	299	66.7%	286	63.8%
Contact with biological or adoptive parent	448	416	92.9%	416	92.9%
Relationships with adults	448	360	80.4%	259	57.8%
Family supports change	448	367	81.9%	333	74.3%
Family engagement	448	345	77.0%	291	65.0%
Family participation in treatment	448	346	77.2%	343	76.6%
Family stability	448	326	72.8%	304	67.9%
Neglect/Abuse history	448	335	74.8%	326	72.8%

Peer and Social Support Network Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Friends fight	448	368	82.1%	316	70.5%
Friends arrested	448	356	79.5%	328	73.2%
Friends/Family are associated with gang activity	448	423	94.4%	423	94.4%
Arrested with friends	448	366	81.7%	246	54.9%
Friends have been suspended/expelled from school	448	343	76.6%	321	71.7%
Friends are important	448	371	82.8%	137	30.6%
Pro-social peers	448	346	77.2%	334	74.6%
Manage antisocial peers effectively	448	347	77.5%	317	70.8%

Pro-social leisure activities	448	323	72.1%	276	61.6%
Motivation to make new friends	448	307	68.5%	264	58.9%

Education and Employment Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Suspension from school - ever	448	417	93.1%	363	81.0%
Suspended from school - last 6 months	448	354	79.0%	354	79.0%
Ever expelled	448	426	95.1%	426	95.1%
Positive relationship with school personnel/employer	448	368	82.1%	354	79.0%
Motivation for education	448	398	88.8%	398	88.8%
Motivation for employment	448	376	83.9%	361	80.6%
Obtained H.S. Diploma/GED/Advanced degree	448	307	68.5%	304	67.9%
Previous employment experience	448	345	77.0%	303	67.6%
Individualized education plan	448	343	76.6%	311	69.4%
Parents supportive of education	448	369	82.4%	341	76.1%
Parents supportive of employment	448	357	79.7%	357	79.7%

Pro-social Skills Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Can identify triggers/high risk situations	448	308	68.8%	238	53.1%
Weights pro/cons of a situation	448	301	67.2%	279	62.3%
Pro-social decision making	448	334	74.6%	255	56.9%
Ability to manage own behavior	448	324	72.3%	273	60.9%
Motivated to learn new skills	448	388	86.6%	338	75.4%
Age appropriate social skills	448	358	79.9%	266	59.4%
Availability of pro-social models	448	325	72.5%	304	67.9%

Substance abuse, mental health, and personality Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Age of drug onset	448	424	94.6%	424	94.6%
Used drugs recently	448	382	85.3%	364	81.3%
Used alcohol recently	448	415	92.6%	392	87.5%
Likely to quit	448	398	88.8%	359	80.1%
Inflated self-esteem	448	360	80.4%	265	59.2%
Mental health issues	448	393	87.7%	380	84.8%
Motivation to stop using	448	410	91.5%	410	91.5%
History of substance use	448	386	86.2%	361	80.6%
Sober support network	448	360	80.4%	355	79.2%
Motivated for treatment	448	382	85.3%	382	85.3%
Attitude towards psychotropic medications	448	360	80.4%	355	79.2%
Stable mental health issues	448	384	85.7%	384	85.7%
Anger management	448	314	70.1%	275	61.4%

Values, Beliefs, and Attitudes Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Pro-criminal statements	448	381	85.0%	370	82.6%
Future criminal behavior	448	412	92.0%	331	73.9%
Blames others	448	349	77.9%	342	76.3%
Supportive of gang activity	448	384	85.7%	333	74.3%
Self-efficacy	448	413	92.2%	160	35.7%
Motivation to change	448	404	90.2%	305	68.1%
Takes responsibility for offense	448	357	79.7%	323	72.1%
Supportive of pro-social lifestyle	448	380	84.8%	317	70.8%

INTRA-CLASS CORRELATION (09/04/2012)

Risk Score	0.848
Risk Level	0.719

KAPPA (9/7/2012)

Subjects	10
Raters	43
Kappa	0.56
z	66.2
p-value	0

*Note that this item is auto-calculated in practice.

Note that AZ AOC implemented a new needs assessment during the study. Reliability test was conducted following needs assessment training. Some participants may not have used the assessment in practice at the time of the test.

N = 5 Workers; shaded cells indicate risk assessment items

Updated 9/7/2012

Risk Assessment Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Age at First Referral	45	42	93.3%	42	93.3%
Referral Count	45	19	42.2%	3	8.1%*
Belief in control over Anti-Social Behavior	45	28	62.2%	18	40.0%
Manipulation	45	28	62.2%	9	20.0%
Empathy	45	22	48.9%	10	22.2%
Respect for Authority	45	25	55.6%	19	42.2%
Attitudes towards responsible law abiding figures	45	26	57.8%	17	37.8%
Level of Conflict with the family	45	34	75.6%	29	64.4%
No conflict	45	40	88.9%	39	86.7%
Some conflict that is well managed	45	36	80.0%	25	55.6%
Verbal intimidation, yelling, heated arguments	45	37	82.2%	32	71.1%
Threats of physical violence	45	38	84.4%	33	73.3%
Physical violence between parents	45	43	95.6%	43	95.6%
Physical violence between parents and children	45	42	93.3%	36	80.0%
Physical violence between siblings	45	37	82.2%	31	68.9%
Juvenile's Attitude Towards Improving Education	45	27	60.0%	17	37.8%
Interest & Involvement in Structured Community Activities	45	25	55.6%	22	48.9%
Community/cultural group	45	33	73.3%	32	71.1%
Athletics	45	32	71.1%	31	68.9%
Religious group/church	45	34	75.6%	34	75.6%
Volunteer organization	45	37	82.2%	37	82.2%
Interest & Involvement in Unstructured Community Activities	45	26	57.8%	14	31.1%
Juvenile's Attitude towards changing use of free time	45	25	55.6%	16	35.6%
Alcohol Use of Persons with whom youth was raised	45	39	86.7%	38	84.4%
Biological mother	45	43	95.6%	43	95.6%
Biological father	45	40	88.9%	40	88.9%
Non-biological mother	45	42	93.3%	42	93.3%
Non-biological father	45	44	97.8%	44	97.8%
Sibling(s)	45	41	91.1%	40	88.9%
Grandparent(s)	45	44	97.8%	44	97.8%
Other relative(s)	45	44	97.8%	41	91.1%
Long-term parental partner(s)	45	45	100.0%	45	100.0%
Short-term parental partner(s)	45	45	100.0%	45	100.0%
Foster/group home	45	44	97.8%	44	97.8%
Male caretaker	45	45	100.0%	45	100.0%
Female caretaker	45	44	97.8%	44	97.8%
Person significant to family	45	38	84.4%	38	84.4%
None	45	39	86.7%	38	84.4%
Drug Use of Persons with whom youth was raised	45	37	82.2%	36	80.0%
Biological mother	45	45	100.0%	45	100.0%
Biological father	45	42	93.3%	40	88.9%
Non-biological mother	45	45	100.0%	45	100.0%
Non-biological father	45	45	100.0%	45	100.0%
Sibling(s)	45	42	93.3%	42	93.3%
Grandparent(s)	45	44	97.8%	44	97.8%
Other relative(s)	45	45	100.0%	40	88.9%
Long-term parental partner(s)	45	45	100.0%	45	100.0%
Short-term parental partner(s)	45	45	100.0%	45	100.0%
Foster/group home	45	44	97.8%	44	97.8%
Male caretaker	45	45	100.0%	45	100.0%
Female caretaker	45	44	97.8%	44	97.8%
Person significant to family	45	41	91.1%	41	91.1%

None	45	37	82.2%	36	80.0%
Incarceration of Persons with whom youth was raised	45	37	82.2%	37	82.2%
Biological mother - Currently	45	45	100.0%	45	100.0%
Biological mother - In the past	45	44	97.8%	44	97.8%
Biological father - Currently	45	43	95.6%	43	95.6%
Biological father - In the past	45	41	91.1%	35	77.8%
Non-biological mother - Currently	45	45	100.0%	45	100.0%
Non-biological mother - In the past	45	44	97.8%	41	91.1%
Non-biological father - Currently	45	45	100.0%	45	100.0%
Non-biological father - In the past	45	44	97.8%	44	97.8%
Sibling(s) - Currently	45	42	93.3%	42	93.3%
Sibling(s) - In the past	45	38	84.4%	38	84.4%
Grandparent(s) - Currently	45	45	100.0%	45	100.0%
Grandparent(s) - In the past	45	45	100.0%	45	100.0%
Other relative(s) - Currently	45	45	100.0%	45	100.0%
Other relative(s) - In the past	45	44	97.8%	39	86.7%
Long-term parental partner(s) - Currently	45	45	100.0%	45	100.0%
Long-term parental partner(s) - In the past	45	45	100.0%	45	100.0%
Short-term parental partner(s) - Currently	45	45	100.0%	45	100.0%
Short-term parental partner(s) - In the past	45	45	100.0%	42	93.3%
Foster/group home - Currently	45	44	97.8%	44	97.8%
Foster/group home - In the past	45	44	97.8%	44	97.8%
Male caretaker - Currently	45	45	100.0%	45	100.0%
Male caretaker - In the past	45	45	100.0%	45	100.0%
Female caretaker - Currently	45	45	100.0%	45	100.0%
Female caretaker - In the past	45	45	100.0%	45	100.0%
Person significant to family - Currently	45	44	97.8%	44	97.8%
Person significant to family - In the past	45	41	91.1%	41	91.1%
Resistance to Anti-social Peer Influence	45	29	64.4%	17	37.8%
Gender of Youth	45	45	100.0%	45	100.0%
Commitment Offense	45	38	84.4%	26	57.8%
Person Offense	45	43	95.6%	37	82.2%
Drug Offense	45	44	97.8%	44	97.8%
Other Offense	45	41	91.1%	34	75.6%

Scored Risk Level	45	34	75.6%	25	55.6%
-------------------	----	----	-------	----	-------

Other Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Youth's Employment History	45	34	75.6%	28	62.2%
Youth Is/Has Been a Victim of Neglect	45	40	88.9%	39	86.7%
Youth Is/Was Physically Abused by Someone Outside of the Family	45	41	91.1%	40	88.9%
Youth History of Running Away/Being Kicked Out	45	39	86.7%	32	71.1%
Educational Assessment Results	45	42	93.3%	41	91.1%
Youth Assessed as Alcohol Dependent	45	43	95.6%	43	95.6%
Youth's Primary Emotion(s) When Committing Crimes	45	36	80.0%	36	80.0%
Youth History of Violent Behavior (with or without adjudication) - Applicable	45	36	80.0%	30	66.7%
Threatening/Harassing people	45	36	80.0%	32	71.1%
Violent and willful destruction of property with intent to destroy	45	38	84.4%	30	66.7%
Displaying of Weapon	45	44	97.8%	44	97.8%
Youth History of CPS-involved Out-of-home and Shelter Placements Exceeding 30 days (exclude ADJC commitments)	45	41	91.1%	37	82.2%

*Agreement with expert based on 37 observations. Expert did not complete this item on 8 of the 10 cases, so a secondary expert rater's scores were used.

INTRA-CLASS CORRELATION (09/04/2012)

Risk Score	0.752
Risk Level	0.658

KAPPA (9/7/2012)

Subjects	10
Raters	2
Kappa	0.444
z	1.77
p-value	0.0765

Florida DJJ Risk Assessment Inter Rater Reliability: Percent Agreement Analyses

Note: Shaded cells indicate item contributes to risk score/level.

N = 51 Workers; shaded cells indicate risk assessment items

updated 9/7/2012

updated 9/7/2012	Agreement Amongst Workers			Agreement with Expert	
	Number of Observations	N Agree	%	N Agree	%
Domain 1: Record of Referrals Resulting in Diversion, Adjudication Withheld, Adjudication, or Deferred Prosecution					
1. Age at first offense	509	422	82.9%	372	73.1%
2. Misdemeanor referrals	509	446	87.6%	446	87.6%
3. Felony referrals	509	452	88.8%	447	87.8%
4. Weapon referrals	509	502	98.6%	502	98.6%
5. Against-person misdemeanor referrals	509	442	86.8%	442	86.8%
6. Against-person felony referrals	509	491	96.5%	491	96.5%
7. Sexual misconduct misdemeanor referrals	509	508	99.8%	508	99.8%
8. Felony sex offense referrals	509	508	99.8%	508	99.8%
9. Confinements in secure detention where youth was held for at least 48	509	445	87.4%	408	80.2%
10. Commitment orders where youth served at least one day confined under residential commitment	509	441	86.6%	437	85.9%
11. Escapes	509	504	99.0%	504	99.0%
12. Pick up orders for failure to appear in court or absconding supervision	509	485	95.3%	485	95.3%
Domain 2: Social History					
1. Youth's gender	509	496	97.4%	447	87.8%
2a. Youth's current school enrollment status, regardless of attendance	509	481	94.5%	481	94.5%
2b. Youth's conduct in the most recent term	509	269	52.8%	220	43.2%
2c. Youth's attendance in the most recent term	509	316	62.1%	252	49.5%
2d. Youth's academic performance in the most recent school term	509	305	59.9%	275	54.0%
3a. History of anti-social friends/companions					
Never had consistent friends or companions	509	505	99.2%	505	99.2%
Had pro-social friends	509	390	76.6%	377	74.1%
Had anti-social friends	509	435	85.5%	435	85.5%
Been a gang member/associate	509	423	83.1%	398	78.2%
3b. Current friends/companions youth actually spends time with					
No consistent friends or companions	509	506	99.4%	506	99.4%
Pro-social friends	509	416	81.7%	395	77.6%
Anti-social friends	509	418	82.1%	417	81.9%
Gang member/associate	509	421	82.7%	395	77.6%
4. History of court-ordered of DCF voluntary out-of-home and shelter care placements exceeding 30 days	509	424	83.3%	398	78.2%
5. History of running away or getting kicked out of home	509	378	74.3%	377	74.1%
6a. History of jail/imprisonment of persons who were ever involved in the household for at least 3 months					
No jail/imprisonment history in family	509	391	76.8%	377	74.1%
Mother/female caretaker	509	476	93.5%	476	93.5%
Father/male caretaker	509	443	87.0%	389	76.4%
Older sibling	509	425	83.5%	414	81.3%
Younger sibling	509	502	98.6%	459	90.2%
Other member	509	486	95.5%	353	69.4%
6b. History of jail/imprisonment of persons who are currently involved with					
No jail/imprisonment history in family	509	405	79.6%	361	70.9%
Mother/female caretaker	509	483	94.9%	470	92.3%
Father/male caretaker	509	475	93.3%	475	93.3%
Older sibling	509	422	82.9%	377	74.1%
Younger sibling	509	504	99.0%	504	99.0%
Other member	509	492	96.7%	441	86.6%
6c. Problem history of parents who are currently involved with the household					
No problem history of parents in the household	509	437	85.9%	437	85.9%
Parental alcohol problem history	509	439	86.2%	420	82.5%
Parental drug problem history	509	482	94.7%	457	89.8%

Parental physical health problem history	509	453	89.0%	453	89.0%
Parental mental health problem history	509	460	90.4%	451	88.6%
Parental employment problem history	509	497	97.6%	497	97.6%
7. Current parental authority and control	509	328	64.4%	287	56.4%
8a. Youth's history of alcohol use					
No past use of alcohol	509	468	91.9%	468	91.9%
Past use of alcohol	509	471	92.5%	471	92.5%
Alcohol caused family conflict	509	482	94.7%	473	92.9%
Alcohol disrupted education	509	457	89.8%	393	77.2%
Alcohol caused health problems	509	505	99.2%	505	99.2%
Alcohol interfered with keeping pro-social friends	509	473	92.9%	473	92.9%
Alcohol contributed to criminal behavior	509	476	93.5%	449	88.2%
Youth needed increasing amounts of alcohol to achieve same level of	509	506	99.4%	506	99.4%
Youth experienced withdrawal problems	509	509	100.0%	509	100.0%
8b. Youth's history of drug use					
No past drug use	509	497	97.6%	497	97.6%
Past use of drugs	509	496	97.4%	496	97.4%
Drugs caused family conflict	509	474	93.1%	459	90.2%
Drugs disrupted education	509	420	82.5%	406	79.8%
Drugs caused health problems	509	503	98.8%	503	98.8%
Drugs interfered with keeping pro-social friends	509	454	89.2%	454	89.2%
Drugs contributed to criminal behavior	509	428	84.1%	408	80.2%
Youth needed increasing amounts of drugs to achieve same level of	509	492	96.7%	492	96.7%
Youth experienced withdrawal problems	509	507	99.6%	507	99.6%
8c. Youth's current alcohol use					
Not currently using alcohol	509	447	87.8%	444	87.2%
Currently using alcohol	509	447	87.8%	444	87.2%
Alcohol disrupts education	509	497	97.6%	497	97.6%
Alcohol causes family conflict	509	497	97.6%	497	97.6%
Alcohol interferes with keeping pro-social friends	509	493	96.9%	493	96.9%
Alcohol causes health problems	509	507	99.6%	507	99.6%
Alcohol contributes to criminal behavior	509	489	96.1%	474	93.1%
Youth needs increasing amounts of alcohol to achieve same level of	509	508	99.8%	508	99.8%
Youth experiences withdrawal symptoms	509	509	100.0%	509	100.0%
8d. Youth's current drug use					
Not currently using drugs	509	419	82.3%	383	75.2%
Currently using drugs	509	419	82.3%	383	75.2%
Drugs disrupt education	509	463	91.0%	463	91.0%
Drugs causes family conflict	509	496	97.4%	496	97.4%
Drugs interferes with keeping pro-social friends	509	480	94.3%	480	94.3%
Drugs causes health problems	509	508	99.8%	508	99.8%
Drugs contributes to criminal behavior	509	466	91.6%	457	89.8%
Youth needs increasing amounts of drugs to achieve same level of	509	502	98.6%	502	98.6%
Youth experiences withdrawal symptoms	509	507	99.6%	507	99.6%
9a. History of violence/physical abuse					
Not a victim of violence/physical abuse	509	438	86.1%	404	79.4%
Victim of violence/physical abuse at home	509	420	82.5%	403	79.2%
Victim of violence/physical abuse in a foster/group home	509	504	99.0%	504	99.0%
Victimized by family member	509	392	77.0%	387	76.0%
Victimized by someone outside the family	509	463	91.0%	442	86.8%
Attacked with a weapon	509	491	96.5%	491	96.5%
9b. History of witnessing violence					
Has not witness violence	509	407	80.0%	349	68.6%
Has witness violence at home	509	416	81.7%	325	63.9%
Has witnessed violence in a foster/group home	509	486	95.5%	486	95.5%
Has witnessed violence in the community	509	378	74.3%	304	59.7%
Family member killed as result of violence	509	493	96.9%	493	96.9%
9c. History of sexual abuse/rape					
Not a victim of sexual abuse/rape	509	476	93.5%	476	93.5%
Sexually abused/raped by family member	509	503	98.8%	503	98.8%
Sexually abused/raped by someone outside the family	509	471	92.5%	471	92.5%
10. History of being a victim of neglect	509	477	93.7%	477	93.7%

11. History of mental health problems	509	402	79.0%	399	78.4%
---------------------------------------	-----	-----	-------	-----	-------

Domain 3: Mental Health

1. History of suicidal ideation					
Has never had serious thoughts about suicide	509	470	92.3%	470	92.3%
Has had serious thoughts about suicide	509	427	83.9%	426	83.7%
Has made a plan to commit suicide	509	484	95.1%	484	95.1%
Has attempted to commit suicide	509	481	94.5%	481	94.5%
Feels life is not worth living-no hope for future	509	507	99.6%	507	99.6%
Knows someone well who has committed suicide	509	494	97.1%	469	92.1%
Engages in self-mutilating behavior	509	465	91.4%	451	88.6%
2. History of anger or irritability	509	271	53.2%	141	27.7%
3. History of depression or anxiety	509	330	64.8%	248	48.7%
4. History of somatic complaints	509	493	96.9%	493	96.9%
5. History of thought disturbance	509	506	99.4%	506	99.4%
6. History of traumatic experience	509	351	69.0%	306	60.1%

Domain 4: Attitude/Behavior Indicators

1. Attitude toward responsible law abiding behavior	509	356	69.9%	311	61.1%
2. Accepts responsibility for anti-social behavior	509	377	74.1%	284	55.8%
3. Belief in yelling and verbal aggression to resolve a disagreement or conflict	509	318	62.5%	225	44.2%
4. Belief in fighting and physical aggression to resolve a disagreement or conflict	509	237	46.6%	154	30.3%
Risk Level	509	390	76.6%	348	68.4%

INTRA-CLASS CORRELATION (09/04/2012)

Risk Level	0.825
------------	-------

KAPPA (9/7/2012)

Subjects	10
Raters	50
Kappa	0.504
z	88.7
p-value	0

GA CRN Inter-rater Reliability Percent Agreement Analyses

N = 50 Workers; shaded cells indicate risk assessment items

Updated: 9/7/2012

S2a. CRIMINAL OPPORTUNITY

	Number of Observations	Agreement Amongst Workers N Agree	%	Agreement with Expert N Agree	%
1. Unstructured/Unsupervised - Outside the Home					
a. Goes out with friends	499	202	40.5%	148	29.7%
b. Goes to mall/other local youth hangout	499	181	36.3%	134	26.9%
c. Goes to parties/dates	499	187	37.5%	131	26.3%
d. Goes to movies	499	219	43.9%	124	24.8%
e. Rides around with friends	499	198	39.7%	117	23.4%
2. Unstructured/Unsupervised - At Home					
a. Parties at home (without adults)	499	284	56.9%	270	54.1%
b. Is alone after school	499	237	47.5%	176	35.3%
<i>Interviewer Rating:</i>					
Youth has opportunity for criminal activities.	499	231	46.3%	178	35.7%

S2b. PRO-SOCIAL ACTIVITIES

	Observations	N Agree	%	N Agree	% Agreement
a. Studies/reads at home, library	499	225	45.1%	200	40.1%
b. Participates in sports/athletics	499	276	55.3%	170	34.1%
c. Participates in church activities	499	260	52.1%	195	39.1%
d. Has hobbies, creative activities (arts, clubs, drama, music, etc.)	499	160	32.1%	104	20.8%
e. Participates in school activities (adult present)	499	259	51.9%	218	43.7%
<i>Interviewer Rating:</i>					
Youth engages in pro-social activities.	499	197	39.5%	172	34.5%

S1. CRIMINAL ASSOCIATES

	Observations	N Agree	%	N Agree	% Agreement
a. Have dropped out	499	264	52.9%	204	40.9%
b. Drink	499	321	64.3%	264	52.9%
c. Sell drugs	499	266	53.3%	210	42.1%
d. Use drugs	499	317	63.5%	298	59.7%
e. Are gang affiliated	499	243	48.7%	250	50.1%
f. Have been arrested	499	283	56.7%	188	37.7%
<i>Interviewer Rating:</i>					
Youth associates with criminal friends and peers.	499	273	54.7%	229	45.9%

S5. REMORSE/GUILT

	Observations	N Agree	%	N Agree	% Agreement
a. Blames victim	499	275	55.1%	242	48.5%
b. Blames others or situation	499	249	49.9%	228	45.7%
c. Seems proud	499	289	57.9%	280	56.1%
d. Seems indifferent to situation	499	238	47.7%	183	36.7%
e. Shows sorrow/regret	499	199	39.9%	171	34.3%
<i>Interviewer Rating:</i>					
Youth demonstrates a lack of remorse or guilt.	499	202	40.5%	188	37.7%

S3. IMPULSIVITY RISK TAKING

	Observations	N Agree	%	N Agree	% Agreement
a. Sees self as impulsive/reckless	499	176	35.3%	145	29.1%
b. Makes quick decisions	499	205	41.1%	180	36.1%
c. Others think youth is wild/reckless	499	181	36.3%	124	24.8%
d. Gets in trouble for reckless behavior	499	209	41.9%	187	37.5%
e. Enjoys taking risks	499	184	36.9%	120	24.0%
<i>Interviewer Rating:</i>					
Youth is impulsive and takes risks.	499	219	43.9%	172	34.5%

S4. EMPATHY/DISREGARD FOR OTHERS	Observations	N Agree	%	N Agree	% Agreement
a. When youth sees others cry, he/she feels sad	499	181	36.3%	109	21.8%
b. If youth lies, he/she feels guilty	499	174	34.9%	107	21.4%
c. If youth breaks a promise to someone, he/she feels guilty	499	179	35.9%	88	17.6%
d. Youth cries at movies	499	222	44.5%	94	18.8%
<i>Interviewer Rating:</i>					
Youth shows empathy.	499	198	39.7%	117	23.4%

S6. MANIPULATIVE/DOMINANCE	Observations	N Agree	%	N Agree	% Agreement
a. Youth good at getting own way	499	176	35.3%	99	19.8%
b. Good at talking his/her way out of problems	499	169	33.9%	75	15.0%
c. Threatens/controls others	499	198	39.7%	156	31.3%
d. Easily lies to teachers to avoid trouble	499	176	35.3%	78	15.6%
e. Easily lies and gets away with it	499	172	34.5%	71	14.2%
<i>Interviewer Rating:</i>					
Youth is manipulative and/or dominates others.	499	196	39.3%	109	21.8%

S7. AGGRESSION/TEMPER	Observations	N Agree	%	N Agree	% Agreement
a. Has a quick temper	499	231	46.3%	204	40.9%
b. Finds it hard to talk things over if angry	499	208	41.7%	160	32.1%
c. Has lots of fights	499	214	42.9%	189	37.9%
d. Generally stays calm in arguments	499	199	39.9%	146	29.3%
e. Mostly backs down in arguments	499	213	42.7%	149	29.9%
<i>Interviewer Rating:</i>					
Demonstrates excessive aggression-temper-anger.	499	200	40.1%	162	32.5%

S8. TOLERANT ATTITUDES TOWARDS VIOLENCE	Observations	N Agree	%	N Agree	% Agreement
a. Yell to win an argument	499	198	39.7%	171	34.3%
b. Hit a kid who insulted you	499	184	36.9%	140	28.1%
c. Hit a kid who insults your family/friends	499	190	38.1%	149	29.9%
d. Punch a kid if you're mad	499	187	37.5%	135	27.1%
e. Hit a kid to teach them a lesson	499	185	37.1%	145	29.1%
<i>Interviewer Rating:</i>					
Youth tolerates violence when in conflict with others.	499	186	37.3%	81	16.2%

SUBSTANCE USE: Used common substances in the past 3 months, including tobacco ar	499	419	84.0%	401	80.4%
-----------------------------------------------------------------------------------------	-----	-----	-------	-----	-------

S11a. SUBSTANCE USE: COMMON SUBSTANCES	Observations	N Agree	%	N Agree	% Agreement
a. Tobacco (cigarettes, chew, snuff, plug, dipping/chewing tobacco)	499	456	91.4%	436	87.4%
b. Age at 1st tobacco use					
c. Alcohol (beer, wine, liquor)	499	419	84.0%	390	78.2%
d. Age at 1st alcohol use					
e. Marijuana	499	359	71.9%	327	65.5%
f. Age at 1st marijuana use					
<i>Interviewer Rating:</i>					
Youth has problems with substance abuse related to common drugs.	499	303	60.7%	298	59.7%

SUBSTANCE USE: Used hard drugs in the past 3 months				415	83.2%
------------------------------------------------------------	--	--	--	-----	-------

S11b. SUBSTANCE USE: HARD DRUGS	Observations	N Agree	%	N Agree	% Agreement
g. LSD (and other psychedelic drugs)	499	474	95.0%	474	95.0%
h. Amphetamines (stay awake pills, speed, uppers, bennies, dexies, ecstasy, meth)	499	466	93.4%	466	93.4%
i. Other drugs without a doctor's order (steroids, barbiturates, tranquilizers, Quaaludes,	499	477	95.6%	477	95.6%
j. Cocaine (or crack)	499	488	97.8%	488	97.8%
k. Opiates (Heroin, smack, horse, skag, opium or morphine)	499	487	97.6%	487	97.6%
l. Inhalants (Sniff glue, uses whiteout, aerosol spray cans, other gases or sprays to get hi	499	486	97.4%	486	97.4%

m. ever injected?	499	428	85.8%	426	85.4%
<i>Interviewer Rating:</i>					
Youth has problems with substance abuse related to hard drugs.	499	348	69.7%	348	69.7%

S12. SUBSTANCE ABUSE AND DELINQUENCY	Observations	N Agree	%	N Agree	% Agreement
a. Got in trouble with police when drunk/high	499	335	67.1%	310	62.1%
b. Got in trouble because of poor judgment (due to alcohol/drug use)	499	323	64.7%	255	51.1%
c. Had arguments/fights when drinking/high	499	326	65.3%	312	62.5%
d. Had violent feelings when using drugs/alcohol	499	323	64.7%	309	61.9%
<i>Interviewer Rating:</i>					
Delinquency is associated with substance abuse.	499	308	61.7%	292	58.5%

S13. PROMISCUITY	Observations	N Agree	%	N Agree	% Agreement
a. "Hangs out" with opposite sex/dates	499	277	55.5%	211	42.3%
b. Had more than 3 partners in past year	499	247	49.5%	221	44.3%
c. Appears unconcerned about STD's	499	218	43.7%	198	39.7%
d. Appears unconcerned about birth control	499	212	42.5%	182	36.5%
f. Has kids, or has fathered kids	499	424	85.0%	419	84.0%
<i>Interviewer Rating:</i>					
Youth is sexually promiscuous.	499	190	38.1%	125	25.1%

S14. ACADEMIC PROBLEMS	Observations	N Agree	%	N Agree	% Agreement
a. Usual grades (if variable, look at last 6-12 months)	499	364	72.9%	342	68.5%
c. Last completed grade level:	499	403	80.8%	408	81.8%
d. Ever repeated a grade?	499	420	84.2%	396	79.4%
<i>Interviewer Rating:</i>					
Youth has had academic problems.	499	235	47.1%	208	41.7%

S15. GOALS/ASPIRATIONS	Observations	N Agree	%	N Agree	% Agreement
a. Plans to finish high school/GED	499	468	93.8%	468	93.8%
b. Wants good grades	499	455	91.2%	429	86.0%
c. Hopes to go to college/postsecondary training	499	452	90.6%	452	90.6%
d. Thinks education is important for his/her future	499	452	90.6%	452	90.6%
<i>Interviewer Rating:</i>					
Youth has educational goals and aspirations.	499	314	62.9%	314	62.9%

S16. ATTENTION PROBLEMS AT SCHOOL	Observations	N Agree	%	N Agree	% Agreement
a. Has had trouble paying attention	499	198	39.7%	168	33.7%
b. Teachers have harassed youth frequently for not paying attention	499	193	38.7%	154	30.9%
c. Youth's energy too high to sit quietly	499	191	38.3%	147	29.5%
d. Has been easily bored	499	193	38.7%	169	33.9%
<i>Interviewer Rating:</i>					
Youth has had attention problems at school.	499	197	39.5%	167	33.5%

S17. BEHAVIOR AT SCHOOL	Observations	N Agree	%	N Agree	% Agreement
a. Had conflicts with teachers	499	297	59.5%	259	51.9%
b. Skipped classes/had truancy issues	499	301	60.3%	280	56.1%
c. Argued/fought with students	499	228	45.7%	191	38.3%
d. Was youth ever expelled?	499	447	89.6%	447	89.6%
If yes, age at first expulsion					
<i>Interviewer Rating:</i>					
Youth has had behavior problems at school.	499	277	55.5%	270	54.1%

S18. FAMILY DISRUPTION/DISORGANIZATION	Observations	N Agree	%	N Agree	% Agreement
a. Separated from either birth parent (any reason except by death) before turning 16	499	425	85.2%	384	77.0%
Youth's age at first separation from either parent					

b. Raised by single parent	499	397	79.6%	352	70.5%
c. Had multiple caretakers	499	391	78.4%	389	78.0%
d. Had history of out-of-home placement	499	434	87.0%	432	86.6%
e. Had siblings placed out-of-home	499	393	78.8%	393	78.8%
<i>Interviewer Rating:</i>					
Youth had serious disruption/instability in family life.	499	256	51.3%	233	46.7%

S21. FAMILY CRIMINALITY/DRUGS

	Observations	N Agree	%	N Agree	% Agreement
a. Ever arrested?					
Mother	499	447	89.6%	447	89.6%
Father	499	380	76.2%	356	71.3%
Siblings	499	399	80.0%	364	72.9%
b. Ever in jail or prison?					
Mother	499	442	88.6%	425	85.2%
Father	499	378	75.8%	354	70.9%
Siblings	499	381	76.4%	368	73.7%
c. Ever have alcohol problems?					
Mother	499	433	86.8%	433	86.8%
Father	499	391	78.4%	344	68.9%
Siblings	499	340	68.1%	310	62.1%
d. Ever have drug problems?					
Mother	499	441	88.4%	441	88.4%
Father	499	386	77.4%	338	67.7%
Siblings	499	348	69.7%	327	65.5%
e. Ever have mental health/psychological problems?					
Mother	499	409	82.0%	390	78.2%
Father	499	361	72.3%	326	65.3%
Siblings	499	366	73.3%	318	63.7%
<i>Interviewer Rating:</i>					
Youth's family has had criminality, drug, or alcohol problems.	499	252	50.5%	244	48.9%

S23. DISCIPLINE CONSISTENT/RATIONAL: Parents or caretakers generally...

	Observations	N Agree	%	N Agree	% Agreement
a. Had clear rules	499	234	46.9%	229	45.9%
b. Used fair punishment	499	248	49.7%	235	47.1%
c. Explained their reason for punishing youth	499	230	46.1%	212	42.5%
d. Rewarded/praised youth when he/she did something good	499	225	45.1%	205	41.1%
<i>Interviewer Rating:</i>					
In general, parental discipline was consistent and rational.	499	231	46.3%	217	43.5%

S24. POSITIVE PARENTAL SUPERVISION: Parents or caretakers generally...

	Observations	N Agree	%	N Agree	% Agreement
a. Know who youth's friends are	499	237	47.5%	236	47.3%
b. Ask where youth has gone and what youth has been doing	499	219	43.9%	177	35.5%
c. Check on what time youth comes home	499	208	41.7%	184	36.9%
d. Have rules about chores	499	208	41.7%	181	36.3%
<i>Interviewer Rating:</i>					
Caretakers exercise positive supervision.	499	233	46.7%	179	35.9%

S25. PARENTAL/CARETAKER NEGLECT

	Observations	N Agree	%	N Agree	% Agreement
a. Youth felt parents or caretakers neglected him/her	499	267	53.5%	257	51.5%
b. Parents or caretakers mostly ignored youth	499	274	54.9%	268	53.7%
c. Failed to provide adequate food/clothing	499	294	58.9%	283	56.7%
d. Showed no interest in youth's school work	499	276	55.3%	268	53.7%
<i>Interviewer Rating:</i>					
Youth experienced neglect while growing up.	499	256	51.3%	238	47.7%

S26a. PHYSICAL ABUSE

	Observations	N Agree	%	N Agree	% Agreement
--	--------------	---------	---	---------	-------------

a. Youth was hit or hurt by parents or caretaker	499	324	64.9%	323	64.7%
b. Youth was frightened of being hit/hurt by parent or caretaker	499	302	60.5%	278	55.7%
c. Parents or caretakers were violent when drunk/high	499	305	61.1%	296	59.3%
d. Youth removed from home due to physical abuse	499	366	73.3%	366	73.3%
<i>Interviewer Rating:</i>					
Youth experienced physical abuse.	499	316	63.3%	309	61.9%

S26b. SEXUAL ABUSE	Observations	N Agree	%	N Agree	% Agreement
a. Youth sexually abused	499	375	75.2%	375	75.2%
b. Sexually abused by family member	499	389	78.0%	373	74.7%
c. Sexually abused by another adult	499	377	75.6%	377	75.6%
d. Removed from home or treated for sexual abuse	499	395	79.2%	395	79.2%
<i>Interviewer Rating:</i>					
Youth experienced sexual abuse.	499	364	72.9%	364	72.9%

S27. PARENTAL CONFLICT/VIOLENCE: One or both parents or caretakers	Observations	N Agree	%	N Agree	% Agreement
a. Fought/yelled/screamed at each other	499	236	47.3%	232	46.5%
b. Hurt/attacked each other	499	247	49.5%	244	48.9%
c. Threatened to harm each other	499	231	46.3%	213	42.7%
d. Were always ready to "blow up" at each other	499	232	46.5%	218	43.7%
<i>Interviewer Rating:</i>					
Youth witnessed parental conflict and/or violence while growing up.	499	242	48.5%	229	45.9%

S28. LACK OF NEIGHBORHOOD SAFETY	Observations	N Agree	%	N Agree	% Agreement
a. People were selling drugs	499	235	47.1%	216	43.3%
b. Youth often heard gunfire/saw people use guns	499	247	49.5%	219	43.9%
c. People carried weapons	499	245	49.1%	215	43.1%
d. Youth sometimes felt he/she needed weapon for protection	499	258	51.7%	219	43.9%
e. Friends/family were assaulted	499	235	47.1%	219	43.9%
<i>Interviewer Rating:</i>					
Youth grew up in an unsafe neighborhood.	499	231	46.3%	190	38.1%

S30. YOUTH REBELLION	Observations	N Agree	%	N Agree	% Agreement
a. Fought with parents or caretakers over discipline/curfew rules	499	187	37.5%	142	28.5%
b. Defied parents or caretakers to their faces	499	182	36.5%	161	32.3%
c. Criticized parents or caretakers	499	178	35.7%	132	26.5%
d. Intimidated/threatened family members	499	195	39.1%	179	35.9%
e. Number of times runaway	499	317	63.5%		
<i>Interviewer Rating:</i>					
Youth has been rebellious over last 2 years.	499	240	48.1%	221	44.3%

Risk Level	499	459	92.0%	459	92.0%
-------------------	-----	-----	-------	-----	-------

INTRA-CLASS CORRELATION (09/04/2012)

Risk Score	0.925
Risk Level	0.884

KAPPA (9/7/2012)

Subjects	10
Raters	49
Kappa	0.799
z	108
p-value	0

Nebraska OJS Risk Assessment Inter Rater Reliability: Percent Agreement Analyses

N = 45 Workers; shaded cells indicate risk assessment items

updated 9/7/2012

Risk Assessment Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Part I: Assessment of Risk and Needs					
Prior and Current Offenses/Dispositions					
a. Three or more prior convictions	447	414	92.6%	387	86.6%
b. Two or more failures to comply	447	406	90.8%	406	90.8%
c. Prior probation	447	371	83.0%	263	58.8%
d. Prior custody	447	361	80.8%	361	80.8%
e. Three or more current convictions	447	403	90.2%	349	78.1%
Family Circumstances/Parenting					
a. Inadequate supervision	447	325	72.7%	312	69.8%
b. Difficulty in controlling behavior	447	322	72.0%	287	64.2%
c. Inappropriate discipline	447	378	84.6%	351	78.5%
d. Inconsistent parenting	447	301	67.3%	286	64.0%
e. Poor relations (father-youth)	447	354	79.2%	319	71.4%
f. Poor relations (mother-youth)	447	359	80.3%	297	66.4%
Strength	447	284	63.5%	222	49.7%
Education/Employment					
a. Disruptive classroom behavior	447	362	81.0%	361	80.8%
b. Disruptive behavior on school property	447	292	65.3%	256	57.3%
c. Low achievement	447	340	76.1%	331	74.0%
d. Problems with peers	447	328	73.4%	315	70.5%
e. Problems with teachers	447	386	86.4%	385	86.1%
f. Truancy	447	369	82.6%	369	82.6%
g. Unemployed/not seeking employment	447	354	79.2%	354	79.2%
Strength	447	325	72.7%	265	59.3%
Peer Relations					
a. Some delinquent acquaintances	447	392	87.7%	379	84.8%
b. Some delinquent friends	447	392	87.7%	387	86.6%
c. No/few positive acquaintances	447	348	77.9%	335	74.9%
d. No/few positive friends	447	349	78.1%	319	71.4%
Strength	447	319	71.4%	257	57.5%
Substance Abuse					
a. Occasional drug use	447	397	88.8%	366	81.9%
b. Chronic drug use	447	410	91.7%	375	83.9%
c. Chronic alcohol use	447	425	95.1%	409	91.5%
d. Substance abuse interferes with life	447	398	89.0%	387	86.6%
e. Substance use linked to offense(s)	447	399	89.3%	378	84.6%
Strength	447	345	77.2%	316	70.7%
Leisure/Recreation					
a. Limited organized activities	447	347	77.6%	272	60.9%
b. Could make better use of time	447	350	78.3%	230	51.5%

c. No personal interests	447	379	84.8%	379	84.8%
Strength	447	293	65.5%	234	52.3%

Personality/Behavior

a. Inflated self-esteem	447	394	88.1%	394	88.1%
b. Physically aggressive	447	327	73.2%	305	68.2%
c. Tantrums	447	312	69.8%	261	58.4%
d. Short attention span	447	369	82.6%	369	82.6%
e. Poor frustration tolerance	447	334	74.7%	299	66.9%
f. inadequate guilt feelings	447	379	84.8%	364	81.4%
g. Verbally aggressive, impudent	447	345	77.2%	345	77.2%
Strength	447	302	67.6%	268	60.0%

Attitudes/Orientation

a. Antisocial/procriminal attitudes	447	360	80.5%	313	70.0%
b. Not seeking help	447	370	82.8%	370	82.8%
c. Actively rejecting help	447	430	96.2%	430	96.2%
d. Defies authority	447	316	70.7%	306	68.5%
e. Callus, little concern for others	447	409	91.5%	409	91.5%
Strength	447	303	67.8%	270	60.4%

PART III: ASSESSMENT OF OTHER NEEDS AND SPECIAL CONSIDERATIONS

Family/Parents

Chronic history of offenses	447	362	81.0%	362	81.0%
Emotional distress/Psychiatric	447	380	85.0%	370	82.8%
Drug/Alcohol abuse	447	358	80.1%	358	80.1%
Marital Conflict	447	322	72.0%	274	61.3%
Financial/Accommodation Problems	447	362	81.0%	315	70.5%
Uncooperative Parents	447	415	92.8%	415	92.8%
Cultural/Ethnic Issues	447	434	97.1%	434	97.1%
Abusive father	447	417	93.3%	410	91.7%
Abusive mother	447	424	94.9%	424	94.9%
Significant Family Trauma	447	291	65.1%	261	58.4%
Other	447	316	70.7%	233	52.1%

Youth

Health problems	447	411	91.9%	380	85.0%
Physical disability	447	445	99.6%	445	99.6%
Low intelligence/Development delay	447	442	98.9%	442	98.9%
Learning disability	447	400	89.5%	375	83.9%
Underachievement	447	333	74.5%	328	73.4%
Poor problem-solving skills	447	302	67.6%	264	59.1%
Victim of physical/sexual abuse	447	360	80.5%	360	80.5%
Victim of neglect	447	422	94.4%	422	94.4%
Shy/withdrawn	447	431	96.4%	431	96.4%
Peers outside age range	447	428	95.7%	428	95.7%
Depressed	447	368	82.3%	346	77.4%
Low self-esteem	447	405	90.6%	405	90.6%
Inappropriate sexual activity	447	435	97.3%	435	97.3%
Racist/sexist attitudes	447	447	100.0%	447	100.0%

Poor social skills	447	401	89.7%	401	89.7%
Engages in Denial	447	425	95.1%	425	95.1%
Suicide attempts	447	413	92.4%	357	79.9%
Diagnosis of psychosis	447	436	97.5%	436	97.5%
Third party threat	447	445	99.6%	440	98.4%
History of sexual/physical assault	447	386	86.4%	364	81.4%
History of assault on authority figures	447	400	89.5%	396	88.6%
History of weapon use	447	427	95.5%	417	93.3%
History of fire setting	447	383	85.7%	360	80.5%
History of escapes	447	412	92.2%	412	92.2%
Protection issues	447	441	98.7%	441	98.7%
Adverse living conditions	447	423	94.6%	423	94.6%
Other	447	333	74.5%	228	51.0%

PART IV: WORKER ASSESSMENT OF JUVENILE'S GENERAL RISK/NEED LEVEL

447	282	63.1%	282	63.1%
-----	-----	-------	-----	-------

RISK LEVELS

Prior and Current Offenses/Dispositions Risk Level	447	362	81.0%	308	68.9%
Family Circumstances/Parenting Risk Level	447	284	63.5%	270	60.4%
Education/Employment Risk Level	447	302	67.6%	249	55.7%
Peer Relations Risk Level	447	300	67.1%	261	58.4%
Substance Abuse Risk Level	447	395	88.4%	369	82.6%
Leisure/Recreation Risk Level	447	310	69.4%	176	39.4%
Personality/Behavior Risk Level	447	331	74.0%	331	74.0%
Attitudes/Orientation Risk Level	447	305	68.2%	282	63.1%
Overall Total Risk Level	447	346	77.4%	328	73.4%

INTRA-CLASS CORRELATION (06/28/2012)

Risk Score	0.734
Risk Level	0.611

KAPPA (9/7/2012)

Subjects	10
Raters	42
Kappa	0.399
z	51
p-value	0

Nebraska Probation Risk Assessment Inter-Rater Reliability Percent Agreement Analysis

N = 26 Workers; shaded cells indicate risk assessment items updated 9/7/2012

Risk Assessment Items	Number of Observations	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
Part I: Assessment of Risk and Needs					
Prior and Current Offenses/Dispositions					
a. Three or more prior convictions	260	244	93.8%	244	93.8%
b. Two or more failures to comply	260	255	98.1%	255	98.1%
c. Prior probation	260	216	83.1%	206	79.2%
d. Prior custody	260	238	91.5%	216	83.1%
e. Three or more current convictions	260	240	92.3%	214	82.3%
Family Circumstances/Parenting					
a. Inadequate supervision	260	194	74.6%	190	73.1%
b. Difficulty in controlling behavior	260	193	74.2%	175	67.3%
c. Inappropriate discipline	260	201	77.3%	183	70.4%
d. Inconsistent parenting	260	172	66.2%	162	62.3%
e. Poor relations (father-youth)	260	209	80.4%	171	65.8%
f. Poor relations (mother-youth)	260	214	82.3%	208	80.0%
Strength	260	195	75.0%	85	32.7%
Education/Employment					
a. Disruptive classroom behavior	260	219	84.2%	191	73.5%
b. Disruptive behavior on school property	260	185	71.2%	131	50.4%
c. Low achievement	260	209	80.4%	165	63.5%
d. Problems with peers	260	213	81.9%	213	81.9%
e. Problems with teachers	260	227	87.3%	205	78.8%
f. Truancy	260	222	85.4%	214	82.3%
g. Unemployed/not seeking employment	260	228	87.7%	228	87.7%
Strength	260	212	81.5%	76	29.2%
Peer Relations					
a. Some delinquent acquaintances	260	248	95.4%	222	85.4%
b. Some delinquent friends	260	231	88.8%	197	75.8%
c. No/few positive acquaintances	260	208	80.0%	194	74.6%
d. No/few positive friends	260	210	80.8%	190	73.1%
Strength	260	222	85.4%	110	42.3%
Substance Abuse					
a. Occasional drug use	260	252	96.9%	252	96.9%
b. Chronic drug use	260	239	91.9%	213	81.9%
c. Chronic alcohol use	260	245	94.2%	241	92.7%
d. Substance abuse interferes with life	260	238	91.5%	220	84.6%
e. Substance use linked to offense(s)	260	237	91.2%	227	87.3%
Strength	260	228	87.7%	180	69.2%
Leisure/Recreation					
a. Limited organized activities	260	210	80.8%	178	68.5%
b. Could make better use of time	260	205	78.8%	173	66.5%
c. No personal interests	260	240	92.3%	240	92.3%

Strength 260 203 78.1% 95 36.5%

Personality/Behavior

a. Inflated self-esteem	260	230	88.5%	230	88.5%
b. Physically aggressive	260	198	76.2%	164	63.1%
c. Tantrums	260	187	71.9%	167	64.2%
d. Short attention span	260	231	88.8%	231	88.8%
e. Poor frustration tolerance	260	210	80.8%	202	77.7%
f. inadequate guilt feelings	260	212	81.5%	208	80.0%
g. Verbally aggressive, impudent	260	216	83.1%	176	67.7%
Strength	260	202	77.7%	126	48.5%

Attitudes/Orientation

a. Antisocial/procriminal attitudes	260	210	80.8%	202	77.7%
b. Not seeking help	260	233	89.6%	233	89.6%
c. Actively rejecting help	260	250	96.2%	250	96.2%
d. Defies authority	260	198	76.2%	198	76.2%
e. Callus, little concern for others	260	239	91.9%	239	91.9%
Strength	260	192	73.8%	134	51.5%

PART III: ASSESSMENT OF OTHER NEEDS AND SPECIAL CONSIDERATIONS

Family/Parents

Chronic history of offenses	260	223	85.8%	211	81.2%
Emotional distress/Psychiatric	260	234	90.0%	234	90.0%
Drug/Alcohol abuse	260	238	91.5%	238	91.5%
Marital Conflict	260	204	78.5%	198	76.2%
Financial/Accommodation Problems	260	207	79.6%	167	64.2%
Uncooperative Parents	260	248	95.4%	248	95.4%
Cultural/Ethnic Issues	260	259	99.6%	259	99.6%
Abusive father	260	251	96.5%	251	96.5%
Abusive mother	260	251	96.5%	251	96.5%
Significant Family Trauma	260	171	65.8%	145	55.8%
Other	260	192	73.8%	172	66.2%

Youth

Health problems	260	240	92.3%	224	86.2%
Physical disability	260	260	100.0%	260	100.0%
Low intelligence/Development delay	260	257	98.8%	257	98.8%
Learning disability	260	242	93.1%	226	86.9%
Underachievement	260	194	74.6%	184	70.8%
Poor problem-solving skills	260	163	62.7%	147	56.5%
Victim of physical/sexual abuse	260	204	78.5%	200	76.9%
Victim of neglect	260	252	96.9%	252	96.9%
Shy/withdrawn	260	257	98.8%	257	98.8%
Peers outside age range	260	246	94.6%	246	94.6%
Depressed	260	222	85.4%	162	62.3%
Low self-esteem	260	248	95.4%	224	86.2%
Inappropriate sexual activity	260	236	90.8%	220	84.6%
Racist/sexist attitudes	260	259	99.6%	259	99.6%
Poor social skills	260	252	96.9%	252	96.9%
Engages in Denial	260	241	92.7%	241	92.7%

Suicide attempts	260	240	92.3%	240	92.3%
Diagnosis of psychosis	260	252	96.9%	240	92.3%
Third party threat	260	260	100.0%	260	100.0%
History of sexual/physical assault	260	210	80.8%	192	73.8%
History of assault on authority figures	260	244	93.8%	212	81.5%
History of weapon use	260	248	95.4%	248	95.4%
History of fire setting	260	213	81.9%	191	73.5%
History of escapes	260	259	99.6%	259	99.6%
Protection issues	260	257	98.8%	257	98.8%
Adverse living conditions	260	243	93.5%	243	93.5%
Other	260	186	71.5%	124	47.7%

PART IV: WORKER ASSESSMENT OF JUVENILE'S GENERAL RISK/NEED LEVEL

260 152 58.5% 115 44.2%

RISK LEVELS

Prior and Current Offenses/Dispositions Risk Level	260	220	84.6%	194	74.6%
Family Circumstances/Parenting Risk Level	260	167	64.2%	142	54.6%
Education/Employment Risk Level	260	195	75.0%	146	56.2%
Peer Relations Risk Level	260	197	75.8%	145	55.8%
Substance Abuse Risk Level	260	241	92.7%	218	83.8%
Leisure/Recreation Risk Level	260	179	68.8%	141	54.2%
Personality/Behavior Risk Level	260	216	83.1%	190	73.1%
Attitudes/Orientation Risk Level	260	198	76.2%	198	76.2%
Overall Total Risk Level	260	206	79.2%	101	38.8%

INTRA-CLASS CORRELATION (06/28/2012)

Risk Score	0.804
Risk Level	0.622

KAPPA (9/7/2012)

Subjects	10
Raters	26
Kappa	0.418
z	32.8
p-value	0

OR JCP Inter Rater Reliability: Percent Agreement Analyses

N = 51 Workers; shaded cells indicate risk assessment items

Updated 9/7/2012

Updated 9/7/2012

		Agreement Amongst Workers		Agreement Exper
	Number of Observations	N Agree	%	N Agree
School Issues				
PF2.1: Significant school attachment/commitment	467	372	79.7%	345
R2.2: Academic failure	467	330	70.7%	315
R2.3: Chronic truancy	467	369	79.0%	339
R2.4: School drop-out	467	449	96.1%	449
R2.5: Suspension(s) or expulsion(s) during past 6 months.	467	329	70.4%	321
C2.6: Suspensions(s) or expulsion(s) from school during past month.	467	374	80.1%	333
PF2.7: Family actively involved in helping youth succeed in school	467	336	71.9%	334
R2.8: Diagnosed learning disability or concrete evidence of cognitive difficulties	467	398	85.2%	398
Peer Relationships and Other Relationships				
PF3.1: Friends disapprove of unlawful behavior	467	340	72.8%	323
R3.2: Friends engage in unlawful or serious acting-out behavior	467	400	85.7%	400
R3.3: Has friends who have been suspended or expelled or dropped out of school	467	289	61.9%	252
PF3.4: Has friends who are academic achievers	467	320	68.5%	277
T3.5: Substance abusing friends	467	365	78.2%	363
PF3.6: There is an adult in youth's life (other than parent) she/he can talk to	467	387	82.9%	387
PF3.7: Lives in a low crime and/or stable, supportive neighborhood	467	353	75.6%	327
Behavior Issues				
R4.1: Chronic aggressive, disruptive behavior at school starting before age 13	467	362	77.5%	318
C4.2: Aggressive, disruptive behavior at school during the past month	467	377	80.7%	327
R4.3: Three or more referrals for criminal offenses	467	436	93.4%	436
R4.4: Referred for a criminal offense at age 13 or younger	467	441	94.4%	441
PF4.5 Involved in constructive extra-curricular activities	467	320	68.5%	258
R4.6: Chronic runaway history	467	423	90.6%	423
C4.7: Recent runaway	467	372	79.7%	345
R4.8: Behavior hurts others or puts them in danger	467	353	75.6%	248
R4.9: In past month, youth's behavior has hurt others or put them in danger	467	388	83.1%	388
R4.10: Behavior hurts youth or puts her/him in danger	467	379	81.2%	291
C4.11: In past month, youth's behavior has hurt or put her/him in danger	467	354	75.8%	319
R4.12: A pattern of impulsivity combined with aggressive behavior toward others.	467	337	72.2%	270
R4.13: Harms or injures animals.	467	264	56.5%	224
R4.14: Preoccupation with or use of weapons.	467	373	79.9%	373
R4.15: Youth has history of setting fires.	467	298	63.8%	265
Family Functioning				
PF5.1: Communicates effectively with family members	467	295	63.2%	255
R5.2: Poor family supervision and control	467	296	63.4%	272
R5.3: Serious family conflicts	467	301	64.5%	226
R5.4: History of reported child abuse/neglect or domestic violence	467	414	88.7%	393
R5.6: Criminal family member	467	351	75.2%	351
R5.7: Substance abusing family or household member(s) (Family member(s) or someone in youth's household	467	370	79.2%	337
R5.8: Family trauma/disruption during past 12 months (youth's family has experienced separation/divorce;...	467	304	65.1%	273
R5.9: Family trauma/disruption since last review. (Reassessment Only)	467	244	52.2%	241
PF5.10: Has close, positive, supportive relationship with at least one family member	467	407	87.2%	375
Substance Use				
R6.1: Substance use beyond experimental use (uses alcohol and/or other drugs regularly).	467	413	88.4%	404
R6.2: Current substance use is causing problems in youth's life	467	393	84.2%	384
R6.3: Substance use began at age 13 or younger	467	399	85.4%	399
R6.4: Youth has been high or drunk at school at any time in the past.	467	412	88.2%	412
Attitudes, Values, & Beliefs				
R7.1: Anti-social thinking, attitudes, values, beliefs	467	369	79.0%	334
T7.2: Youth lacks empathy, remorse, sympathy, or feelings for his/her victim(s).	467	314	67.2%	302
T7.3: Youth accepts responsibility for behavior.	467	352	75.4%	340
T7.4: Youth inaccurately interprets actions and/or intentions of others as hostile.	467	338	72.4%	314
T7.5: Youth talks about the future in a positive way with plans or aspirations of a better life	467	450	96.4%	450
T7.6: Youth preoccupied with delinquent or antisocial behavior.	467	378	80.9%	353
Mental Health Indicators				
8.1: Actively suicidal or prior suicide attempts.	467	441	94.4%	441
8.2: Depressed or withdrawn.	467	328	70.2%	282
8.3: Difficulty sleeping or eating problems.	467	257	55.0%	235
8.4: Hallucinating, delusional, or out of touch with reality (while not on drugs or alcohol).	467	348	74.5%	348
8.5: Social isolation: youth is on the fringe of her/his peer group with few or no close friends.	467	410	87.8%	410

Risk Level				
Risk Level	467	360	77.1%	290
INTRA-CLASS CORRELATION (06/28/2012)				
Risk Score	0.772			
Risk Level	0.68			
KAPPA (9/7/2012)				
Subjects	10			
Raters	44			
Kappa	0.459			
z	61.5			
p-value	0			

Solano JAIS - GIRLS Inter Rater Reliability: Percent Agreement Analyses (updated 9/7/2012)

N = 27 Workers; shaded cells indicate risk assessment items

Risk Assessment	Number of Observations	Agreement Amongst Workers			Agreement with Expert	
		N Agree	%		N Agree	%
Number of schools in the past two years	108	107	99.1%		107	99.1%
Peer relationships	108	101	93.5%		101	93.5%
Youth's substance use	108	98	90.7%		91	84.3%
Age of earliest arrest or referral to juvenile court intake	108	108	100.0%		108	100.0%
Number of arrests for criminal (non-status) offenses	108	90	83.3%		76	70.4%
Number of arrests for drug offenses (include current)	108	99	91.7%		90	83.3%
Number of court referrals for violent/assaultive offenses	108	100	92.6%		100	92.6%
Total number of prior out-of-home placements	108	94	87.0%		68	63.0%
General Information						
How did you get involved in your most recent offense?	108	108	100.0%		108	100.0%
Could you tell me more about the circumstances that led up to this offense?	108	99	91.7%		99	91.7%
Have you been in trouble before?	108	77	71.3%		52	48.1%
In these offenses, have you ever been armed or hurt someone?	108	98	90.7%		81	75.0%
How did you decide to commit these offenses?	108	90	83.3%		70	64.8%
Were you with someone when you got in trouble?	108	95	88.0%		95	88.0%
Were you drinking or on drugs when you got in trouble?	108	94	87.0%		94	87.0%
Have you ever been arrested for offenses against your family, like stealing or running aw	108	77	71.3%		77	71.3%
School Adjustment						
Do you have any problems with schoolwork?	108	82	75.9%		61	56.5%
Did youth receive special education for learning deficiencies?	108	84	77.8%		78	72.2%
Did youth ever receive special help for emotional or behavioral problems in school?	108	101	93.5%		101	93.5%
Do (did) you go to class regularly?	108	96	88.9%		96	88.9%
Generally, do (did) you get your homework done?	108	101	93.5%		101	93.5%
How do (did) you generally get along with your teachers and principals?	108	108	100.0%		108	100.0%
Do (did) you have any other problems in school?	108	93	86.1%		93	86.1%
Current school status	108	106	98.1%		106	98.1%
How far do you plan to go in school?	108	105	97.2%		105	97.2%
Do (did) you like school?	108	106	98.1%		106	98.1%
Interpersonal Relationships						
Do you like to hang out with a group, or one or two friends at a time?	108	103	95.4%		103	95.4%
How much do your friends drink?	108	95	88.0%		95	88.0%
How do your parents feel about your friends?	108	90	83.3%		68	63.0%
When you're with your friends, who generally decides what to do?	108	96	88.9%		96	88.9%
Do you have a closest friend?	108	103	95.4%		103	95.4%
Significant/special partner: partner is similar in age to youth	108	98	90.7%		75	69.4%
Significant/special partner: partner is significantly older	108	106	98.1%		81	75.0%
Significant/special partner: feels emotionally threatened in relationship	108	94	87.0%		94	87.0%
Significant/special partner: feels physically threatened in relationship	108	98	90.7%		98	90.7%
Significant/special partner: no partner	108	102	94.4%		85	78.7%
Significant/special partner: same-sex relationships	108	101	93.5%		101	93.5%
Significant/special partner: bisexual relationships	108	97	89.8%		92	85.2%
Significant/special partner: none of the above	108	104	96.3%		85	78.7%
Have you had sexual relationships with anyone other than your significant partners?	108	93	86.1%		93	86.1%
Feelings						
What kind of things get you feeling depressed?	108	92	85.2%		82	75.9%
Have you ever tattooed or cut on yourself?	108	108	100.0%		108	100.0%
Have you ever thought seriously about killing yourself?	108	102	94.4%		102	94.4%
What do you do when you're feeling angry with people?	108	86	79.6%		81	75.0%
Can you describe your personality?	108	92	85.2%		92	85.2%
In general, do you tend to trust or mistrust people?	108	105	97.2%		105	97.2%
Family Attitudes						
Are you living at home? How many houses/apartments have you lived in?	108	107	99.1%		107	99.1%

Can you describe your living environment now?	108	104	96.3%	104	96.3%
How do (did) you get along with your mother?	108	92	85.2%	92	85.2%
Since about age 12, if you did something wrong, how did your mother handle it?	108	105	97.2%	105	97.2%
How do (did) you get along with your father?	108	89	82.4%	89	82.4%
Since about age 12, if you did something wrong, how did your father handle it?	108	94	87.0%	94	87.0%
Can you describe your father's personality?	108	73	67.6%	72	66.7%
Were you ever abused by your parents	108	99	91.7%	99	91.7%
Were your parents ever reported to the child welfare system for physically or sexually at	108	106	98.1%	106	98.1%
Have you ever been abused by anyone else?	108	101	93.5%	101	93.5%
Traumatic event: none	108	108	100.0%	108	100.0%
Traumatic event: rape	108	108	100.0%	108	100.0%
Traumatic event: sexual abuse	108	106	98.1%	106	98.1%
Traumatic event: physical abuse	108	107	99.1%	107	99.1%
Traumatic event: death	108	108	100.0%	108	100.0%
Traumatic event: witnessing violence	108	101	93.5%	101	93.5%
Traumatic event: divorce	108	108	100.0%	108	100.0%
Traumatic event: serious accident	108	99	91.7%	99	91.7%
Traumatic event: other major disruption	108	97	89.8%	97	89.8%
Traumatic event: not disclosed	108	107	99.1%	107	99.1%
How would your parents have described you when you were younger (prior to age 10)?	108	100	92.6%	100	92.6%
How would you describe yourself during that time (prior to age 10)?	108	101	93.5%	101	93.5%
Would you describe your early childhood (prior to age 10) as happy or unhappy?	108	102	94.4%	87	80.6%
Are you satisfied with your early childhood?	108	99	91.7%	99	91.7%
Did any parent have a history of being on welfare?	108	105	97.2%	105	97.2%
Did any parent have a history of criminal behavior?	108	108	100.0%	108	100.0%
Did any parent have a history of probation, jail, or prison?	108	107	99.1%	107	99.1%
Did any parent have a history of psychiatric hospitalization?	108	101	93.5%	101	93.5%
Did any parent have a history of suicide attempts?	108	103	95.4%	103	95.4%
Did any parent have a history of drinking and drug problems?	108	107	99.1%	107	99.1%
Did any parent have a history of other chronic problems?	108	101	93.5%	101	93.5%
Did any parent have a history of none of the above?	108	106	98.1%	106	98.1%
Have siblings (including step- and half-siblings) ever been arrested?	108	103	95.4%	103	95.4%
Has any sibling or parent ever been placed on probation or in a correctional institution w	108	108	100.0%	108	100.0%
Does youth have any children?	108	104	96.3%	85	78.7%
How do you feel about being a mom?	108	97	89.8%	97	89.8%

Plans and Problems

Aside from trouble with the law, what is the biggest problem in your life right now?	108	93	86.1%	93	86.1%
What goals do you have for the future?	108	103	95.4%	103	95.4%
Are there any places/programs or people that can help you when you leave here?	108	94	87.0%	94	87.0%
How will being on supervision (institution or field) affect your life?	108	85	78.7%	45	41.7%

Objective History

Number of arrests for status offenses	108	95	88.0%	95	88.0%
Number of placements in correctional institutions	108	94	87.0%	94	87.0%
Time spent under prior probation/parole supervision	108	86	79.6%	86	79.6%
Medical history: drug/alcohol treatment	108	108	100.0%	108	100.0%
Medical history: serious head injuries	108	108	100.0%	108	100.0%
Medical history: psychological/psychiatric treatment	108	105	97.2%	105	97.2%
Medical history: pregnancy	108	107	99.1%	107	99.1%
Medical history: major current illness	108	101	93.5%	101	93.5%
Medical history: prior major illness (recovered)	108	108	100.0%	108	100.0%
Medical history: sexual offender treatment program	108	108	100.0%	108	100.0%
Medical history: none of the above	108	104	96.3%	104	96.3%
What generally happens when you are feeling sick or have a health problem?	108	83	76.9%	73	67.6%

Behavioral Observations

Appearance and hygiene	108	94	87.0%	94	87.0%
Comprehension	108	93	86.1%	93	86.1%
Affect	108	93	86.1%	93	86.1%
Self-disclosure	108	73	67.6%	68	63.0%

Interviewer Impressions

Social inadequacy	108	52	48.1%	40	37.0%
School inadequacy	108	55	50.9%	24	22.2%
Basic living needs	108	67	62.0%	42	38.9%
Parental supervision	108	36	33.3%	20	18.5%
Criminal orientation	108	63	58.3%	58	53.7%
Emotional factors	108	91	84.3%	66	61.1%
Family history problems	108	75	69.4%	54	50.0%
Abuse/neglect and trauma	108	55	50.9%	36	33.3%
Physical safety	108	35	32.4%	15	13.9%
Relationships	108	45	41.7%	27	25.0%
Isolated-situational or temporary circumstances	108	55	50.9%	17	15.7%
Interpersonal manipulation	108	78	72.2%	55	50.9%
Alcohol abuse	108	100	92.6%	73	67.6%
Other drug abuse	108	86	79.6%	86	79.6%
Vocational skills	108	84	77.8%	84	77.8%
Risk Level	108	91	84.3%	90	83.3%

INTRA-CLASS CORRELATION (06/26/2012)

Risk Score	0.891
Risk Level	0.744

KAPPA (9/7/2012)

Subjects	4
Raters	27
Kappa	0.65
z	32.4
p-value	0

Solano JAIS - BOYS Inter Rater Reliability: Percent Agreement Analyses

N = 27 Workers; shaded cells indicate risk assessment items
updated 9/7/2012

Risk Assessment	Number of	Agreement Amongst Workers		Agreement with Expert	
	Observations	N Agree	%	N Agree	%
School discipline	162	125	77.2%	124	76.5%
Peer relationships	162	113	69.8%	97	59.9%
Youth's substance use	162	147	90.7%	105	64.8%
Victim of child abuse or neglect (based on report to child welfare agency, substantiated or not)	162	154	95.1%	154	95.1%
Parent/sibling criminality	162	159	98.1%	159	98.1%
Age of earliest arrest or referral to juvenile court intake	162	161	99.4%	161	99.4%
Number of arrests for criminal (non-status) offenses	162	150	92.6%	143	88.3%
Number of court referrals for violent/assaultive offenses	162	152	93.8%	152	93.8%
Total number of prior out-of-home placements	162	151	93.2%	140	86.4%
Parental supervision	162	91	56.2%	74	45.7%
General Information					
How did you get involved in your most recent offense?	162	138	85.2%	125	77.2%
Could you tell me more about the circumstances that led up to this offense?	162	115	71.0%	115	71.0%
Have you been in trouble before?	162	136	84.0%	136	84.0%
In these offenses, have you ever been armed or hurt someone?	162	149	92.0%	149	92.0%
How did you decide to commit these offenses?	162	127	78.4%	104	64.2%
Were you with someone when you got in trouble?	162	117	72.2%	77	47.5%
Were you drinking or on drugs when you got in trouble?	162	137	84.6%	128	79.0%
Have you ever been arrested for offenses against your family, like stealing or running away?	162	134	82.7%	117	72.2%
School Adjustment					
Do you have any problems with schoolwork?	162	109	67.3%	91	56.2%
Did youth receive special education for learning deficiencies?	162	151	93.2%	138	85.2%
Did youth ever receive special help for emotional or behavioral problems in school?	162	157	96.9%	157	96.9%
Do (did) you go to class regularly?	162	113	69.8%	102	63.0%
Generally, do (did) you get your homework done?	162	159	98.1%	159	98.1%
How do (did) you generally get along with your teachers and principals?	162	146	90.1%	119	73.5%
Current school status	162	161	99.4%	161	99.4%
How far do you plan to go in school?	162	153	94.4%	153	94.4%
Do (did) you like school?	162	152	93.8%	125	77.2%
Interpersonal Relationships					
Do you like to hang out with a group, or one or two friends at a time?	162	140	86.4%	140	86.4%
How much do your friends drink?	162	152	93.8%	138	85.2%
How do your parents feel about your friends?	162	125	77.2%	116	71.6%
When you're with your friends, who generally decides what to do?	162	156	96.3%	135	83.3%
Do you have a closest friend?	162	139	85.8%	117	72.2%
Feelings					
What kind of things get you feeling depressed?	162	142	87.7%	116	71.6%
Have you ever tattooed or cut on yourself?	162	158	97.5%	158	97.5%
Have you ever thought seriously about killing yourself?	162	159	98.1%	159	98.1%
What do you do when you're feeling angry with people?	162	130	80.2%	72	44.4%
Can you describe your personality?	162	133	82.1%	133	82.1%
In general, do you tend to trust or mistrust people?	162	155	95.7%	155	95.7%
Family Attitudes					
Are you living at home? How many different houses or apartments have you lived in?	162	156	96.3%	156	96.3%
How did you get along with your mother?	162	147	90.7%	115	71.0%
Since about age 12, if you did something wrong, how did your mother handle it?	162	157	96.9%	157	96.9%
How did you get along with your father?	162	132	81.5%	132	81.5%
Since about age 12, if you did something wrong, how did your father handle it?	162	154	95.1%	154	95.1%
Can you describe your father's personality?	162	100	61.7%	100	61.7%
Were you ever abused by your parents	162	144	88.9%	144	88.9%
Have you ever been abused by anyone else?	162	152	93.8%	152	93.8%
Traumatic event: none	162	162	100.0%	162	100.0%
Traumatic event: rape	162	162	100.0%	162	100.0%
Traumatic event: sexual abuse	162	161	99.4%	161	99.4%
Traumatic event: physical abuse	162	159	98.1%	159	98.1%
Traumatic event: death	162	160	98.8%	160	98.8%
Traumatic event: witnessing violence	162	158	97.5%	158	97.5%
Traumatic event: divorce	162	146	90.1%	143	88.3%
Traumatic event: serious accident	162	160	98.8%	160	98.8%
Traumatic event: other major disruption	162	149	92.0%	142	87.7%
Traumatic event: not disclosed	162	158	97.5%	158	97.5%
How would your parents have described you when you were younger (prior to age 10)?	162	129	79.6%	76	46.9%

How would you describe yourself during that time (prior to age 10)?	162	149	92.0%	149	92.0%
Would you describe your early childhood (prior to age 10) as happy or unhappy?	162	123	75.9%	94	58.0%
Are you satisfied with your early childhood?	162	146	90.1%	145	89.5%
Did any parent have a history of being on welfare?	162	157	96.9%	132	81.5%
Did any parent have a history of criminal behavior?	162	149	92.0%	140	86.4%
Did any parent have a history of probation, jail, or prison?	162	154	95.1%	141	87.0%
Did any parent have a history of psychiatric hospitalization?	162	162	100.0%	162	100.0%
Did any parent have a history of suicide attempts?	162	162	100.0%	162	100.0%
Did any parent have a history of drinking and drug problems?	162	158	97.5%	135	83.3%
Did any parent have a history of other chronic problems?	162	158	97.5%	135	83.3%
Did any parent have a history of none of the above?	162	160	98.8%	135	83.3%
Have siblings (including step- and half-siblings) ever been arrested?	162	153	94.4%	153	94.4%
Does youth have any children?	162	162	100.0%	162	100.0%

Plans and Problems

Aside from trouble with the law, what is the biggest problem in your life right now?	162	146	90.1%	146	90.1%
What goals do you have for the future?	162	153	94.4%	130	80.2%
How will being on supervision (institution or field) affect your life?	162	111	68.5%	87	53.7%

Objective History

Number of arrests for status offenses	162	133	82.1%	129	79.6%
Number of placements in correctional institutions	162	154	95.1%	154	95.1%
Time spend under prior probation/parole supervision	162	131	80.9%	117	72.2%
Medical history: drug/alcohol treatment	162	162	100.0%	162	100.0%
Medical history: serious head injuries	162	139	85.8%	134	82.7%
Medical history: psychological/psychiatric treatment	162	154	95.1%	154	95.1%
Medical history: major current illness	162	160	98.8%	135	83.3%
Medical history: prior major illness (recovered)	162	155	95.7%	142	87.7%
Medical history: sexual offender treatment program	162	162	100.0%	162	100.0%
Medical history: none of the above	162	133	82.1%	123	75.9%

Behavioral Observations

Appearance and hygiene	162	158	97.5%	107	66.0%
Comprehension	162	142	87.7%	70	43.2%
Affect	162	139	85.8%	139	85.8%
Self-disclosure	162	123	75.9%	98	60.5%

Interviewer Impressions

Social inadequacy	162	84	51.9%	77	47.5%
School inadequacy	162	70	43.2%	65	40.1%
Criminal orientation	162	87	53.7%	71	43.8%
Emotional factors	162	92	56.8%	30	18.5%
Family history problems	162	81	50.0%	60	37.0%
Isolated-situational or temporary circumstances	162	92	56.8%	72	44.4%
Interpersonal manipulation	162	113	69.8%	89	54.9%
Alcohol abuse	162	108	66.7%	71	43.8%
Other drug abuse	162	104	64.2%	56	34.6%
Vocational skills	162	113	69.8%	86	53.1%

Risk Level	162	149	92.0%	149	92.0%
-------------------	-----	-----	-------	-----	-------

INTRA-CLASS CORRELATION (6/26/2012)

Risk Score	0.923
Risk Level	0.897

KAPPA (9/7/2012)

Subjects	6
Raters	27
Kappa	0.782
z	48.4
p-value	0

Virginia DJJ Risk Assessment Inter Rater Reliability: Percent Agreement Analyses (updated 9/15/2012)

Note: Shaded cells indicate included in risk scoring; shaded cells indicate risk assessment items

N = 69 Workers

NT=Not tested

Assessment Items	Number of Observatio	Agreement Amongst Workers		Agreement with Expert	
		N Agree	%	N Agree	%
SECTION 1: LEGAL HISTORY					
1. Previous intake contacts for delinquent/criminal offenses	685	609	88.9%	609	88.9%
2. Age at first contact for delinquent/criminal offense	685	601	87.7%	601	87.7%
3. Number of intake contacts	685	416	60.7%	401	58.5%
4. Intake contacts for felony offenses	685	639	93.3%	639	93.3%
5. Weapon offenses	685	682	99.6%	682	99.6%
6. Intake contacts for offenses against another person	685	604	88.2%	595	86.9%
7. Intake contacts for felony offenses against another person	685	671	98.0%	671	98.0%
8. Placements	685	582	85.0%	582	85.0%
9. Juvenile detention	685	646	94.3%	646	94.3%
10. DJJ custody	685	621	90.7%	621	90.7%
11. Escapes	685	685	100.0%	685	100.0%
12. Failure-to-appear in court	685	674	98.4%	674	98.4%
13. Number of petitions for violations of probation, parole, or failure on diversion	685	632	92.3%	585	85.4%
Technical violation	685	616	89.9%	616	89.9%
New offense	685	597	87.2%	607	88.6%
Absconder	685	587	85.7%	581	84.8%
SECTION 2: FAMILY					
1. Runaways or times kicked out of home					
Times kicked out/locked out	685	641	93.6%	641	93.6%
Number of runaways	685	525	76.6%	482	70.4%
2. Has there ever been a court finding and/or founded DSS complaint of child neglect	685	628	91.7%	624	91.1%
3. Compliance with parental rules	685	395	57.7%	370	54.0%
4. Circumstances of family members who are living in the household					
Mother not applicable	685	640	93.4%	573	83.6%
Mother no problems	685	622	90.8%	543	79.3%
Mother alcohol/drug problems	685	646	94.3%	646	94.3%
Mother mental health problems	685	634	92.6%	624	91.1%
Mother delinquent/criminal record	685	656	95.8%	656	95.8%
Mother delinquent/violent criminal record	685	677	98.8%	677	98.8%
Father not applicable	685	632	92.3%	565	82.5%
Father no problems	685	661	96.5%	594	86.7%
Father alcohol/drug problems	685	645	94.2%	645	94.2%
Father mental health problems	685	681	99.4%	681	99.4%
Father delinquent/criminal record	685	626	91.4%	626	91.4%
Father delinquent/violent criminal record	685	662	96.6%	662	96.6%
Step-parent not applicable	685	651	95.0%	651	95.0%
Step-parent no problems	685	668	97.5%	668	97.5%
Step-parent alcohol/drug problems	685	685	100.0%	685	100.0%
Step-parent mental health problems	685	685	100.0%	685	100.0%
Step-parent delinquent/criminal record	685	682	99.6%	682	99.6%
Step-parent delinquent/violent criminal record	685	685	100.0%	685	100.0%
Sibling not applicable	685	603	88.0%	542	79.1%
Sibling no problems	685	616	89.9%	589	86.0%
Sibling alcohol/drug problems	685	648	94.6%	631	92.1%
Sibling mental health problems	685	682	99.6%	682	99.6%
Sibling delinquent/criminal record	685	601	87.7%	601	87.7%
Sibling delinquent/violent criminal record	685	680	99.3%	680	99.3%
Other not applicable	685	574	83.8%	574	83.8%
Other no problems	685	613	89.5%	606	88.5%
Other alcohol/drug problems	685	679	99.1%	679	99.1%
Other mental health problems	685	685	100.0%	685	100.0%
Other delinquent/criminal record	685	675	98.5%	675	98.5%
Other delinquent/violent criminal record	685	684	99.9%	684	99.9%
SECTION 3: SCHOOL					
1. Youth's current school enrollment status, regardless of attendance	685	650	94.9%	650	94.9%
2. Youth's attendance in the last 3 months of school	685	453	66.1%	418	61.0%

3. Youth's conduct in the last 3 months of school	685	344	50.2%	201	29.3%
4. Youth's academic performance in the last 3 months of school	685	430	62.8%	411	60.0%

SECTION 4: COMMUNITY AND PEERS

1. Associates the youth spends his/her time with					
Friends who have a positive pro-social influence	685	520	75.9%	498	72.7%
No friends or companions, no consistent friends	685	680	99.3%	680	99.3%
Friends who have a negative delinquent influence	685	607	88.6%	592	86.4%
Associates or has been seen with gang members	685	634	92.6%	611	89.2%
Family gang members	685	682	99.6%	682	99.6%
Youth is a gang member	685	667	97.4%	667	97.4%
None of the above	685	683	99.7%	683	99.7%

SECTION 5: ALCOHOL AND DRUGS

1. Alcohol and drug use					
Yes, alcohol/drug use	685	674	98.4%	674	98.4%
Alcohol					
Ever used alcohol	685	648	94.6%	648	94.6%
Times used alcohol in last 3 months	685	607	88.6%	607	88.6%
Alcohol disrupts function	685	604	88.2%	604	88.2%
Alcohol contributes to behavior	685	624	91.1%	558	81.5%
Age at 1st alcohol use	685	565	82.5%	484	70.7%
Attempts to cut back on alcohol	685	564	82.3%	549	80.1%
Marijuana					
Ever used marijuana	685	652	95.2%	652	95.2%
Times used marijuana in last 3 months	685	542	79.1%	508	74.2%
Marijuana disrupts function	685	572	83.5%	548	80.0%
Marijuana contributes to behavior	685	573	83.6%	531	77.5%
Age at 1st marijuana use	685	601	87.7%	520	75.9%
Attempts to cut back on marijuana	685	565	82.5%	537	78.4%
Cocaine/crack					
Ever used cocaine/crack	685	680	99.3%	681	99.4%
Times used cocaine/crack in last 3 months	685	683	99.7%	683	99.7%
Cocaine/crack disrupts function	685	684	99.9%	684	99.9%
Cocaine/crack contributes to behavior	685	684	99.9%	684	99.9%
Age at 1st cocaine/crack use	685	667	97.4%	479	69.9%
Attempts to cut back on cocaine/crack	685	682	99.6%	682	99.6%
Ecstasy or other club drugs					
Ever used ecstasy	685	666	97.2%	666	97.2%
Times used ecstasy in last 3 months	685	656	95.8%	646	94.3%
Ecstasy disrupts function	685	672	98.1%	672	98.1%
Ecstasy contributes to behavior	685	681	99.4%	612	89.3%
Age at 1st ecstasy use	685	654	95.5%	447	65.3%
Attempts to cut back on ecstasy	685	667	97.4%	635	92.7%
Heroin					
Ever used heroin	685	684	99.9%	684	99.9%
Times used heroin in last 3 months	685	685	100.0%	685	100.0%
Heroin disrupts function	685	685	100.0%	685	100.0%
Heroin contributes to behavior	685	685	100.0%	685	100.0%
Age at 1st heroin use	685	667	97.4%	481	70.2%
Attempts to cut back on heroin	685	685	100.0%	685	100.0%
Hallucinogens (LSD, acid)					
Ever used hallucinogens	685	675	98.5%	675	98.5%
Times used hallucinogens in last 3 months	685	656	95.8%	656	95.8%
Hallucinogens disrupt function	685	667	97.4%	667	97.4%
Hallucinogens contribute to behavior	685	679	99.1%	679	99.1%
Age at 1st hallucinogens use	685	675	98.5%	489	71.4%
Attempts to cut back on hallucinogens	685	662	96.6%	640	93.4%
Inhalants/huffing					
Ever used inhalants	685	684	99.9%	684	99.9%
Times used inhalants in last 3 months	685	685	100.0%	685	100.0%
Inhalants disrupt function	685	685	100.0%	685	100.0%
Inhalants contribute to behavior	685	685	100.0%	685	100.0%
Age at 1st inhalants use	685	668	97.5%	482	70.4%
Attempts to cut back on inhalants	685	685	100.0%	685	100.0%

Amphetamines					
Ever used amphetamines	685	683	99.7%	683	99.7%
Times used amphetamines in last 3 months	685	685	100.0%	685	100.0%
Amphetamines disrupt function	685	685	100.0%	685	100.0%
Amphetamines contribute to behavior	685	685	100.0%	685	100.0%
Age at 1st amphetamines use	685	668	97.5%	482	70.4%
Attempts to cut back on amphetamines	685	685	100.0%	685	100.0%
Prescription Drug Misuse					
Ever used prescription drugs	685	654	95.5%	654	95.5%
Times used prescription drugs in last 3 months	685	673	98.2%	673	98.2%
Prescription drugs disrupt function	685	672	98.1%	672	98.1%
Prescription drugs contribute to behavior	685	674	98.4%	674	98.4%
Age at 1st prescription drugs use	685	642	93.7%	430	62.8%
Attempts to cut back on prescription drugs	685	670	97.8%	670	97.8%
Other Substance					
Ever used other substance	NT	NT	NT	NT	NT
Times used other substance in last 3 months	NT	NT	NT	NT	NT
Other substance disrupts function	NT	NT	NT	NT	NT
Other substance contributes to behavior	NT	NT	NT	NT	NT
Age at 1st other substance use	NT	NT	NT	NT	NT
Attempts to cut back on other substance	NT	NT	NT	NT	NT

SECTION 6: MENTAL HEALTH

1. Mental health problems					
No mental health problems	685	598	87.3%	585	85.4%
Has mental health problems	685	598	87.3%	587	85.7%
Bi-polar					
Diagnosed	685	671	98.0%	624	91.1%
Current treatment	685	666	97.2%	631	92.1%
Past treatment	685	662	96.6%	662	96.6%
Current medication	685	659	96.2%	638	93.1%
Past medication	685	668	97.5%	668	97.5%
Other Mood/Affective/Depression Disorder					
Diagnosed	685	598	87.3%	555	81.0%
Current treatment	685	645	94.2%	645	94.2%
Past treatment	685	609	88.9%	599	87.4%
Current medication	685	633	92.4%	606	88.5%
Past medication	685	616	89.9%	614	89.6%
Schizophrenia					
Diagnosed	685	685	100.0%	685	100.0%
Current treatment	685	684	99.9%	684	99.9%
Past treatment	685	685	100.0%	685	100.0%
Current medication	685	684	99.9%	684	99.9%
Past medication	685	685	100.0%	685	100.0%
Other Psychoses					
Diagnosed	685	679	99.1%	679	99.1%
Current treatment	685	678	99.0%	678	99.0%
Past treatment	685	681	99.4%	681	99.4%
Current medication	685	678	99.0%	678	99.0%
Past medication	685	682	99.6%	682	99.6%
Thought/Personality and Adjustment Disorders					
Diagnosed	685	663	96.8%	638	93.1%
Current treatment	685	657	95.9%	644	94.0%
Past treatment	685	664	96.9%	664	96.9%
Current medication	685	652	95.2%	641	93.6%
Past medication	685	672	98.1%	672	98.1%
Other Mental Health Problem					
Diagnosed	NT	NT	NT	NT	NT
Current treatment	NT	NT	NT	NT	NT
Past treatment	NT	NT	NT	NT	NT
Current medication	NT	NT	NT	NT	NT
Past medication	NT	NT	NT	NT	NT
2. Homicidal ideation	685	666	97.2%	613	89.5%
3. Suicidal ideation	685	646	94.3%	593	86.6%
4. Sexual aggression	685	680	99.3%	680	99.3%

5. History of physical or sexual abuse					
Parent none	685	632	92.3%	593	86.6%
Parent physical abuse	685	648	94.6%	605	88.3%
Parent sexual abuse	685	683	99.7%	683	99.7%
Sibling none	685	620	90.5%	620	90.5%
Sibling physical abuse	685	639	93.3%	639	93.3%
Sibling sexual abuse	685	683	99.7%	683	99.7%
Other family none	685	607	88.6%	566	82.6%
Other family physical abuse	685	628	91.7%	575	83.9%
Other family sexual abuse	685	680	99.3%	680	99.3%
Outside family none	685	607	88.6%	578	84.4%
Outside family physical abuse	685	636	92.8%	636	92.8%
Outside family sexual abuse	685	645	94.2%	604	88.2%
6. Victimization					
No indications	685	503	73.4%	404	59.0%
Sexual vulnerability/exploitation	685	621	90.7%	621	90.7%
Victim of bullying	685	673	98.2%	614	89.6%
Victim of physical assault	685	493	72.0%	460	67.2%
Victim of property theft/vandalization	685	684	99.9%	684	99.9%

SECTION 7: ATTITUDES

1. Violence					
No reports of violence	685	552	80.6%	478	69.8%
Displaying a weapon	685	621	90.7%	613	89.5%
Use of a weapon	685	661	96.5%	661	96.5%
Bullying/threatening people	685	570	83.2%	502	73.3%
Violent destruction of property	685	624	91.1%	587	85.7%
Assaultive behavior	685	537	78.4%	433	63.2%
Assault causing injury	685	586	85.5%	530	77.4%
Deliberate fire starting	685	580	84.7%	545	79.6%
Animal cruelty	685	685	100.0%	675	98.5%

SECTION 8: ATTITUDES

1. Accepts responsibility for delinquent/criminal behavior	685	347	50.7%	230	33.6%
------------------------------------------------------------	-----	-----	-------	-----	-------

SECTION 9: SKILLS

1. Consequential thinking skills	685	317	46.3%	175	25.5%
----------------------------------	-----	-----	-------	-----	-------

RISK LEVEL	685	580	84.7%	544	79.4%
-------------------	-----	-----	-------	-----	-------

INTRA-CLASS CORRELATION (6/26/2012)

Risk Score	0.887
Risk Level	0.772

KAPPA (9/7/2012)

Subjects	10
Raters	64
Kappa	0.614
z	119
p-value	0

Appendix D

Expert Scorer Qualifications

**FIRE Risk/Needs Assessment in Juvenile Justice
Inter-Rater Reliability Study
Expert Scorer Qualifications**

C: September 25, 2012

Arizona Administrative Office of the Courts (AOC) Risk Assessment

The expert scorer for the Arizona risk and needs assessment has more than 26 years of experience in the juvenile justice field. She is a former juvenile probation officer and has been with AOC for nearly 20 years as a program specialist, lead business analyst, program manager, and information and research manager. She is currently the probation automation manager. She provided assistance during the development of the risk assessment and led the team responsible for statewide training and implementation. She also managed the trainer program and supervises the train-the-trainer efforts for the new needs assessment implemented in Arizona in 2011.

Arizona Department of Juvenile Correction (DJC) Dynamic Risk Instrument (DRI)

The expert scorer for the DRI is a senior researcher with DJC. She is a former juvenile justice field staff member who worked with juvenile drug courts and gang intervention programs in Arizona and in the state of Washington. She currently conducts research related to DRI and its use in the field. She has bachelor's and master's degrees in criminology/criminal justice and has been with DJC for about two years.

Arkansas Department of Youth Services (DYS) Youth Level of Service (YLS)

The expert scorer for the YLS is a DYS services manager who has 16 years of juvenile justice experience—eight with the Arkansas DYS. She was trained on the YLS assessment in 2006 and has participated in refresher trainings twice per year. Since 2006, the scorer has completed numerous YLS assessments on a variety of juveniles committed to DYS. In 2011, she was trained as a YLS trainer and began providing routine trainings to juvenile justice staff on how to complete the assessment.

Florida Department of Juvenile Justice (DJJ) Positive Achievement Change Tool

The expert scorer for the PACT is a statewide PACT coordinator for the Florida DJJ probation office. She has 10 years of experience in juvenile justice, ranging from field staff work as a juvenile probation officer to other DJJ positions including data integrity officer. She was part of the initial PACT implementation team and among one of the first individuals qualified to train other staff.

Georgia Department of Juvenile Justice (DJJ) Comprehensive Risk and Needs (CRN)

Five experts from various regions in the state scored the CRN. The first expert has been with DJJ for nearly 25 years and is a former court services worker who was responsible for specialized caseload of committed youth. She is also a former juvenile program manager (chief) who supervised probation/parole specialists for several counties. Ten years ago, she was named the first specialist

responsible for the assessment and classification of youth in her district. She has been using the CRN since its inception. The second expert is an assessment and classification specialist and has been with the department for more than a decade. She routinely uses the CRN to screen youth and make placement recommendations. She is a former juvenile probation and parole officer and has been using the CRN since it was first adopted by the agency. The third expert has more than 18 years of juvenile justice experience and has been with DJJ for 10 years. She is a former residential treatment specialist and, for the past three years, has been an assessment and classification specialist. She has nine years of experience using the CRN. The fourth expert has been an assessment and classification specialist with DJJ for nearly five years. Prior to that, she spent eight years as a juvenile probation and parole specialist. She has routinely conducted CRNs for the past nine years. The fifth expert is a former juvenile probation and parole specialist who is currently an assessment and classification specialist with DJJ. She has been using the CRN since its inception and has completed hundreds of CRN over the past decade. Each expert scored two of the 10 cases in the study.

Nebraska Office of Juvenile Services (OJS) Youth Level of Service (YLS)

Four experts scored the YLS. One expert is a program specialist with more than 30 years of experience with the State of Nebraska and more than 40 years of experience in the juvenile justice field. She has been a certified YLS trainer since 2006 and provided training to field workers and supervisors when the YLS was first implemented in the state. She currently provides ongoing support to staff on completing the YLS. The other three experts are from the University of Nebraska-Lincoln. One expert is the juvenile training coordinator at the University of Nebraska-Lincoln, Center on Children, Families, and the Law, where he has spent more than a decade providing training to child- and youth-serving organizations; he has more than 17 years of experience in the juvenile justice field and has been a certified YLS trainer since 2008. Another expert from the university has five years of experience in the juvenile justice field and has been a certified YLS trainer since 2011. She is a former juvenile services officer who routinely used YLS in the field. She also conducts YLS training for OJS and contracted staff. The final expert is a field training specialist with 11 years of experience in the juvenile justice field, and four years with the center. She has been a certified YLS trainer since 2011 and is a former juvenile services worker who routinely used the assessment in the field for two years. She conducts YLS training for OJS and contracted staff. The four experts individually scored each case, then met as a group to review responses, discuss differences, and develop one answer key for each case.

Nebraska Office of Probation Administration (YLS)

Three experts scored the YLS, including a program specialist with 22 years of juvenile justice experience who has been a YLS trainer since 2008. She has been employed with Nebraska probation since 2000 and has extensive experience completing the YLS with juvenile probationers. A senior probation officer who specializes in working with Nebraska's highest risk juveniles was the second expert. She has been employed as a probation officer since 2002 and was selected as a YLS trainer in 2011. The final expert is a resource supervisor who has been with the Nebraska probation system since 2009. She holds a master's degree in criminal justice and has 10 years of community-based and residential juvenile service experience. She has also been a YLS trainer since 2011. The experts scored cases individually and then compared answers to produce one answer key for each of the cases.

Oregon (state and counties) Juvenile Crime Prevention (JCP)

Three experts scored the JCP. The experts include a county probation director with 16 years of experience in juvenile justice and six years of experience in the mental health field. She was an initial member of a task group that developed the juvenile case planning process utilizing the JCP for the county and has been involved administratively with the development of the JCP for the past 13 years. She currently ensures that the county's juvenile justice system continues to use a risk-driven model for case planning and management. The second expert is a detention manager who has worked for a county juvenile justice system for 18 years—11 in his current position. He has previous experience as a juvenile justice information system trainer and serves as a consultant, evaluating juvenile justice system programs. The final expert is a county juvenile probation officer with 12 years' experience working with gang-affected youth as well as youth with mental health issues. She has received extensive training on the JCP assessment, motivational interviewing techniques, and developing case plans using the JCP. The experts scored each case individually and then met as a group to review and discuss their answers in order to create a single answer key.

Solano County, CA, JAIS

Two experts scored the JAIS. One is the executive director of a private, youth-serving agency in Georgia and former NCCD employee. He has spent nearly 20 years in the juvenile justice/child welfare field and has more than five years of experience training JAIS in jurisdictions throughout the United States. The second expert has been with NCCD for more than 10 years and is a specialist in administering the JAIS to girls in the juvenile justice system. She was trained on JAIS in 2005 and has since assessed more than 150 youth, provided training and consultation, and engaged in research utilizing JAIS. She holds a master's degree in public administration, specializing in juvenile justice policy. One JAIS expert scored six cases and the other scored four cases.

Virginia Department of Juvenile Justice (DJJ) Youth Assessment and Screening Instrument (YASI)

The expert scorer for the Virginia DJJ is a program manager with more than 20 years of juvenile and criminal justice experience. In addition to working as a program manager, she has worked as a correctional counselor, intake officer, probation officer, parole officer, management analyst senior, program monitor, and probation supervisor. She was part of the YASI Implementation team and co-facilitated numerous statewide trainings. She provides technical assistance and coaching to managers and line staff in both community-based and correctional settings.

Appendix E

Staff Perceptions

Juvenile justice staff who participated in the reliability study were asked their opinions about the risk assessment instrument design, how often they agree with the risk level assigned by the risk assessment instrument, and whether they believe the risk assessment instrument is effective. In addition, staff were asked to provide feedback on the training they received since the assessment instrument was implemented.

Because staff who participated in the reliability studies were selected in various ways, caution should be exercised in interpreting these results. In some sites, selection was random. In other sites, all staff participated. In one site, staff volunteered for the study. In another, only a few staff members were responsible for completing the entire assessment and only those workers participated. Thus, knowledge of and, perhaps, support for the risk assessment instrument varied considerably.

For nearly all risk assessment instruments, most staff indicated that the system flowed logically, definitions and instructions were clear, and the system was easy to use. The exception was the DRI used in Arizona, though this may be in part because the DRI is embedded in a larger assessment of youth skills, behavior, and issues; staff who participated in the survey were not routinely responsible for conducting the risk assessment.

Staff were less likely to indicate that the risk assessment instruments were culturally and gender responsive. Most staff in Arkansas, for example, indicated that the YLS/CMI was not gender responsive; staff in Florida expressed similar opinions about the PACT; and staff in Oregon expressed similar misgivings about the gender responsiveness of the JCP.

Overall, staff from Nebraska tended to like the YLS/CMI, and Solano County staff liked the risk assessment embedded in JAIS. The least-liked systems were the two used in Arizona and the YASI used in Virginia (Table E1). Note that Arizona AOC staff had recently been trained to use a new needs assessment. Some responses may reflect opinions related to the new needs assessment.

Table E1 Staff Survey Results Staff Opinions* on Risk/Needs Assessment Design										
Site	Risk/ Needs System	N	Flows Logically	Definitions Are Clear	Instructions Are Clear	Easy to Use	Helps With Case Plan	Culturally Responsive	Gender Responsive	Like Assessment
Arkansas	YLS/CMI	18	88.9%	88.9%	94.4%	94.4%	77.8%	66.7%	44.4%	61.1%
AZ AOC	AZ Risk Assessment	46	71.7%	54.3%	60.8%	69.5%	50.0%	58.6%	58.7%	52.1%
AZ DJC	DRI	6	33.4%	16.7%	33.3%	33.4%	33.4%	33.3%	33.3%	33.4%
Florida	PACT	51	78.4%	54.9%	70.6%	94.2%	72.5%	56.9%	41.2%	60.8%
Georgia	CRN	54	81.5%	77.8%	88.9%	85.2%	77.8%	59.3%	61.2%	66.7%
NE OJS Commitment	YLS/CMI	48	95.8%	83.3%	93.7%	85.5%	91.7%	77.1%	70.9%	79.1%
NE Probation	YLS/CMI	28	96.5%	89.3%	96.5%	100.0%	92.9%	75.0%	57.1%	82.1%
Oregon	JCP	49	95.6%	56.5%	87.0%	91.3%	71.7%	54.4%	41.3%	67.4%
Solano County	JSC/Girls Link	27	85.2%	59.3%	70.4%	85.2%	92.6%	55.6%	77.8%	70.4%
Virginia	YASI	76	79.0%	63.1%	75.0%	73.7%	61.9%	65.8%	59.2%	52.6%

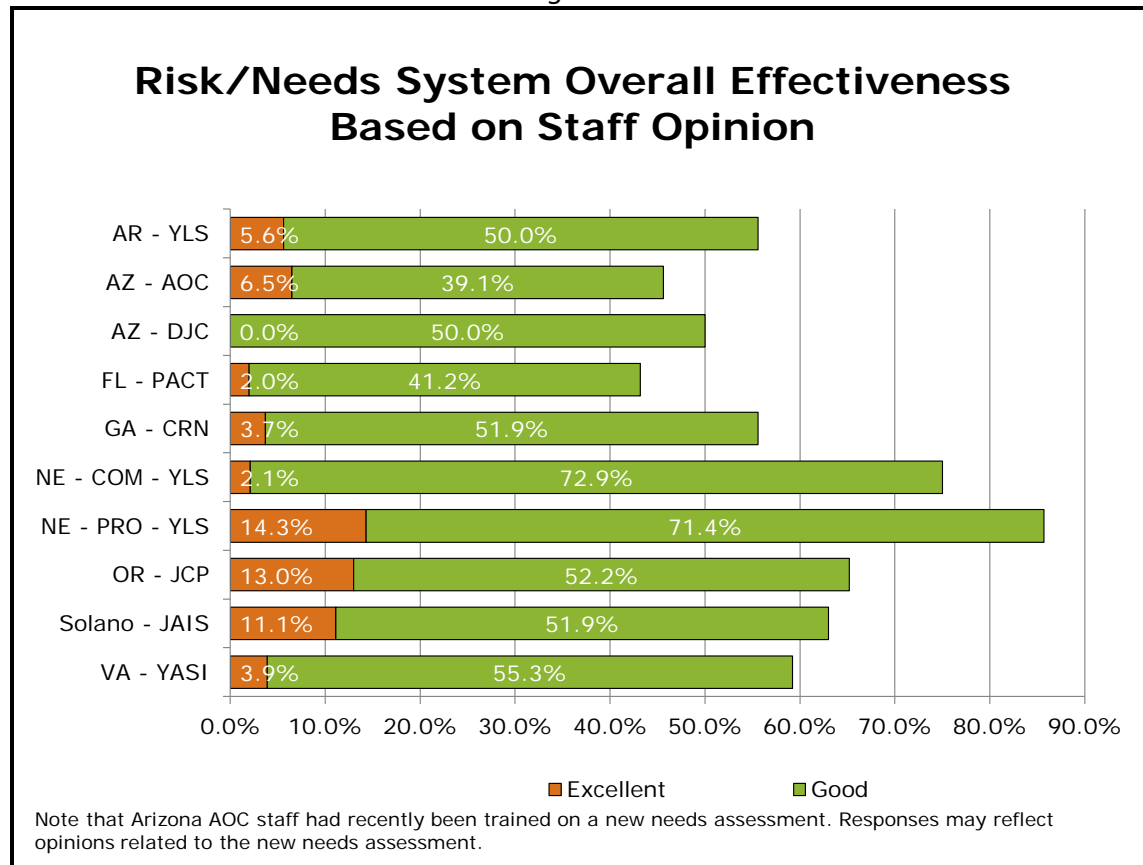
*Table reflects percent of staff that agreed or strongly agreed.

Staff opinions about risk classifications based on assessment results indicated that staff most often agreed with the risk level from the YLS/CMI, the JCP system used in Oregon, and the JSC and Girls Link risk assessments used in Solano County. Staff expressed the most reservations about risk levels from the two Arizona systems and the PACT (Table E2).

Table E2 Staff Survey Results Staff Opinions About Risk Classification					
Site	Risk/Needs System	N	I agree most or all of the time with		
			Risk Level	Risk Level for Boys	Risk Level for Girls
Arkansas	YLS/CMI	18	72.2%	72.2%	66.7%
AZ AOC	AZ Risk Assessment	46	52.2%	50.0%	50.0%
AZ DJC	DRI	6	16.7%	16.7%	16.7%
Florida	PACT	51	58.8%	60.8%	54.9%
Georgia	CRN	54	68.6%	63.0%	57.5%
NE OJS Commitment	YLS/CMI	48	87.5%	83.4%	77.1%
NE Probation	YLS/CMI	28	96.5%	96.5%	89.3%
Oregon	JCP	49	91.3%	84.8%	82.6%
Solano	County JSC/Girls Link	27	85.2%	88.9%	85.2%
Virginia	YASI	76	81.5%	82.9%	75.0%

Staff expressed the most positive opinions about the overall effectiveness of the YLS/CMI used in Nebraska, the JCP used in Oregon, and the risk assessments embedded in JAIS and used in Solano County. The least satisfaction was with the PACT and the two systems used in Arizona (Figure E1).

Figure E1



Most staff attended formal training during the first year of assessment system implementation or employment. Training lasted from one to eight days and, for the most part, was rated favorably. Staff in most sites were offered refresher training and were positive about their experiences, though many staff in Arizona and Nebraska OJS and nearly half of the staff in Oregon were not offered the formal opportunity to refresh their skills (Table E3).

Table E3							
Staff Survey Results							
Training							
Site	Risk/Needs System	N	Attended Training	# Days Training in First Year	% Rated Training as Good or Excellent	Offered Refresher	% Rated Refresher as Good or Excellent
Arizona	YLS/CMI	18	18 (100.0%)	2.7	72.2%	61.1%	90.0%
AZ AOC	AZ Risk Assessment	46	36 (78.3%)	2.5	80.6%	27.8%	100.0%
AZ DJC	DRI	6	3 (50.0%)	1.0	100.0%	33.3%	100.0%
Florida	PACT	51	50 (98.0%)	5.5	74.0%	88.0%	81.8%
Georgia	CRN	54	50 (92.6%)	8.0	64.0%	60.0%	82.1%
NE OJS Commitment	YLS/CMI	48	46 (95.8%)	4.0	73.9%	39.1%	84.6%
NE Probation	YLS/CMI	28	28 (100.0%)	3.5	78.6%	57.1%	90.9%
Oregon	JCP	46	37 (80.4%)	1.0	59.5%	48.6%	66.7%
Solano County	JSC/Girls Link	27	24 (88.9%)	3.0	83.3%	91.7%	80.9%
Virginia	YASI	76	72 (94.7%)	3.1	76.4%	65.3%	77.7%

Most staff in Virginia (YASI) were trained by an outside vendor, as were about half of the staff in Arkansas (YLS) and Florida (PACT). Internal staff provided training to staff in six of the 10 sites, and all sites relied in part on on-the-job and/or peer trainings (Table E4).

Table E4							
Staff Survey Results Initial Training Provider							
Site	Risk/Needs System	N	Outside Vendor	Internal Training Staff	Onsite/On the Job	Peer Training	Other
Arkansas	YLS/CMI	18	50.0%	44.4%	16.7%	11.1%	5.6%
AZ AOC	AZ Risk Assessment	36	11.1%	63.9%	5.6%	16.7%	2.8%
AZ DJC	DRI	3	0.0%	33.3%	33.3%	0.0%	0.0%
Florida	PACT	49	50.0%	54.0%	28.0%	14.0%	0.0%
Georgia	CRN	50	2.0%	80.0%	50.0%	16.0%	0.0%
NE OJS Commitment	YLS/CMI	46	19.6%	65.2%	21.7%	15.2%	0.0%
NE Probation	YLS/CMI	28	17.9%	82.1%	10.7%	10.7%	0.0%
Oregon	JCP	39	27.0%	35.1%	48.6%	29.7%	0.0%
Solano County	JSC/Girls Link	24	16.7%	62.5%	4.2%	25.0%	0.0%
Virginia	YASI	72	79.2%	34.7%	18.1%	8.3%	0.0%

Note: Site could identify more than one training method. N size reflects the number of individuals offered training.

Refresher training was provided by outside vendors for half of the staff in Arkansas (YLS/CMI) and nearly half of the staff in Virginia (YASI). Most sites tended to use internal staff for refresher training (Table E5).

Table E5							
Staff Survey Results Refresher Training Provider							
Site	Risk/Needs System	N	Outside Vendor	Internal Training Staff	Onsite/On the Job	Peer Training	Other
Arkansas	YLS/CMI	10	50.0%	60.0%	20.0%	0.0%	0.0%
AZ AOC	AZ Risk Assessment	4	0.0%	100.0%	0.0%	0.0%	0.0%
AZ DJC	DRI	1	0.0%	100.0%	0.0%	0.0%	0.0%
Florida	PACT	44	11.4%	81.8%	15.9%	11.4%	2.3%
Georgia	CRN	28	0.0%	78.6%	25.0%	17.9%	0.0%
NE Commitment	YLS/CMI	13	7.7%	76.9%	15.4%	15.4%	0.0%
NE Probation	YLS/CMI	11	0.0%	100.0%	0.0%	0.0%	0.0%
Oregon	JCP	18	33.3%	44.4%	5.6%	5.6%	16.7%
Solano County	JSC/Girls Link	21	0.0%	71.4%	4.8%	28.6%	0.0%
Virginia	YASI	36	47.2%	61.1%	13.9%	8.3%	0.0%

Note: Site could identify more than one training method. N size reflects the number of individuals who were offered AND attended refresher training.

Appendix F

Administrator Advice

In September 2012, NCCD interviewed administrators in each site. Administrators were asked about their experience implementing the risk/needs assessment system. The majority of administrators agreed that the biggest initial challenge was staff resistance to using a risk assessment instrument; staff were concerned about an objective measurement instrument replacing staff instinct and experiences in determining a youth's needs. Challenges also existed regarding the need for continual refresher training; staff, budget, and geographical constraints; and the lack of appropriate treatment and services. In some sites, agency trainers were concerned about the certification process and how it affected their job security.

Administrators also shared the following "lessons learned":

- Do not underestimate the time and effort needed to automate the instrument and train staff.
- Share the values behind the use of the instrument not only with staff, but also with important stakeholders such as the court.
- Routinely monitor reliability and validity.
- Use a separate instrument for girls and boys.
- Remain current on instrument revisions and updates.
- Hold regular refresher trainings.
- Develop a quality assurance process.
- An "in-house" system allows the agency more control over data collection and reporting.
- Collect data and share results with staff and stakeholders.
- Value inter-agency agreements to increase standardization.