# Long-Term Validation of the Youth Assessment and Screening Instrument (YASI) in New York State Juvenile Probation

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CHAPTER

# 1 Introduction

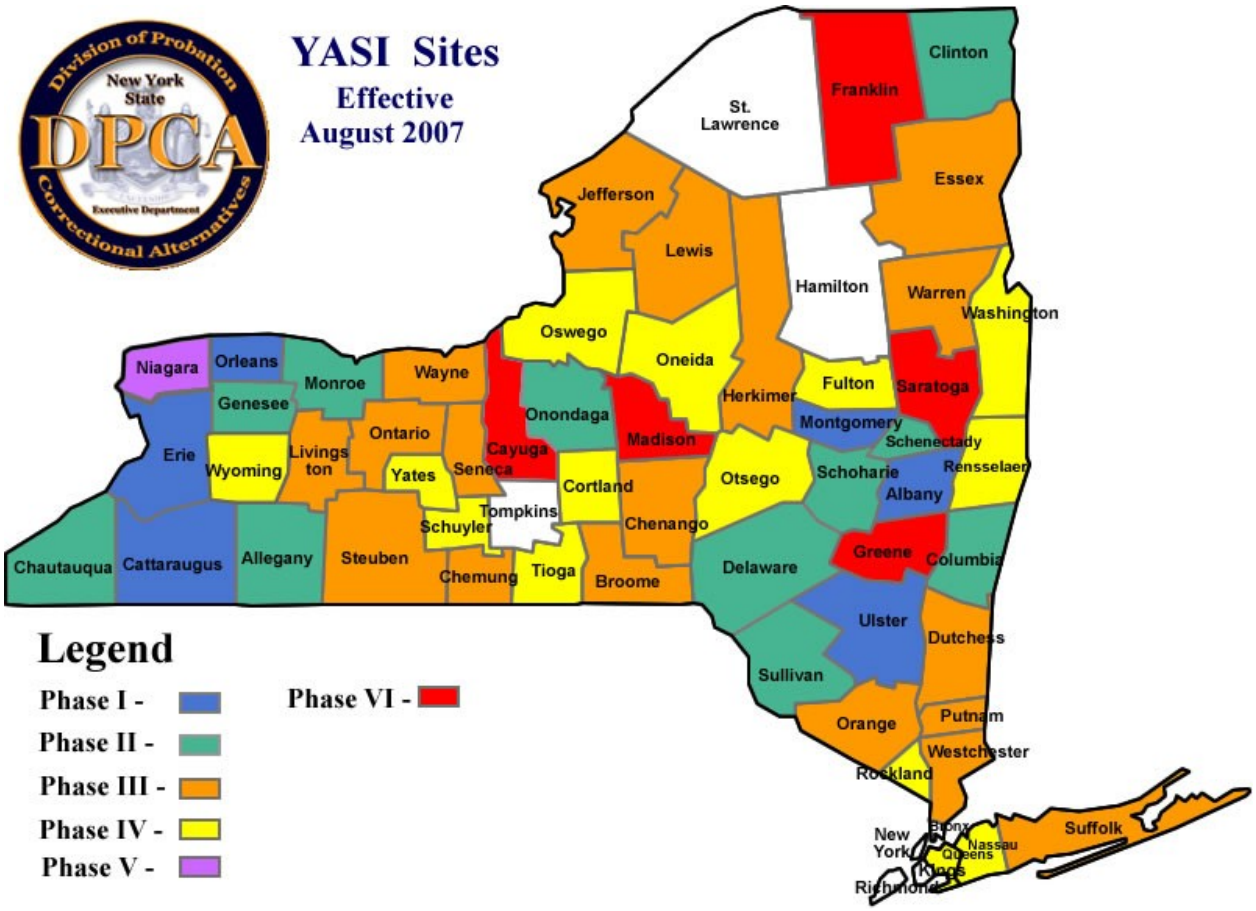
## Overview of the Report

In 2000 New York State began implementation of a new assessment tool for juvenile probation, the Youth Assessment and Screening Instrument (YASI). Through the efforts of the New York State Division of Probation and Correctional Alternatives, the implementation of YASI has now extended to 54 counties across the State of New York (See Implementation Map below).

This document reports on a two-year outcome validation of the tool based on a large sample of youth for which juvenile justice outcomes were measured at least 2 years following assessment with YASI. Previous reports have documented progress on the YASI implementation effort and provided validation data based on shorter follow-up periods. In addition, the earlier research was based on samples for which there was limited or incomplete outcome data available for a number of counties.

For this study we designed a stratified random sample and more closely managed the number of cases for which outcome data needed to be collected by field staff in probation. This created greater response to the outcome survey and ensured that a number of critical variables could be well represented in the sample. The random sample of 3,249 youth assessments was based on a larger pool of 17,493 assessments completed between October 2000 and January 2005. To supplement the data provided by probation departments on the

juvenile justice outcomes for cases assessed with YASI, we collected official information on the youth from the New York State Division of Criminal Justice Services (NYSDCJS). This source allowed us to obtain official criminal record information on arrests and dispositions for youth as they moved beyond the range of jurisdiction of juvenile probation.




In this report, we provide a brief description of the YASI and refer to steps that were taken to implement the assessment by the New York State Division of Probation and Correctional Alternatives (NYSDPCA) and the county juvenile probation departments participating in the project. Although we sketch some of the implementation history of the YASI in this report, the primary purpose is to examine the validity of the tool with respect to differentiating

various groups of youth and predicting their juvenile probation service outcomes. Previous reports have furnished detailed profiles of the juvenile probation population on the basis of YASI data from a 2003 sample which involved all YASI's completed between October 2000 and August 2003 (n=14,442). For this reason, we limit our examination of data to the validity indicators that have been assembled specifically for this long-term validation study. The key intent of this study was to assemble a strong sample for exploring the validity of YASI based on juvenile justice outcomes.

In Chapter 2 of the report we briefly discuss the background of the YASI project in New York State and describe the assessment model on which the YASI is based. More detailed information on the implementation and application of YASI in New York State is available in an Appendix to this report. The implementation information contained in the appendix is based on a more detailed description tabled in a 2005 report entitled *"A Report on the Youth Assessment and Screening Instrument in New York State Juvenile Probation: A Report on the Implementation and Validation of YASI After Four Years of Progress", by Orbis Partners, Inc*. The next chapter (3) is concerned with a description of the current stratified random sample and the procedures that were used to appropriately weight the data for analysis. The chapter also contains details about the data collection procedures used to assemble the outcome measures.

In Chapter 4 we turn to an examination of the available validation data collected for the current study. We first present validity data on the Pre-Screen component of the instrument. The validity data shows the predictive accuracy of the Pre-Screen classification of low, moderate and high risk across a number of outcomes, including new referrals/arrests, felony and person offenses, and dispositions (e.g., placement, new probation). The report relies on the use of the Receiver Operator Curve Statistic (Area Under the Curve, AUC) as a method of assessing the validity of the Pre-Screen assessments. We also assess the performance of the Pre-Screen measure for different sub-groups of

youth. Some analyses are presented to show that the tool could be improved with revised weighting, scoring and procedures aimed at setting new selection rations. In Chapter 5 we present the results of similar validity analysis for the Full Assessment version of YASI, the tool used for case planning purposes. We examine the validity of both overall and domain scores, test the interaction between risk and protective factors, and report on the validity of dynamic reassessments with YASI. Finally, in Chapter 6 we provide some concluding remarks on the contribution of the current study.

Overall, the two-year validation study was successful in showing that the YASI remains a valid and useful tool for predicting outcomes over a minimum period of two years. The current sample greatly improves on earlier validation samples by providing better representation of the New York counties and allowing analyses based on longer term and official outcomes.

CHAPTER

# 2 Implementation of YASI in New York State

## Background of the YASI Implementation

The introduction of a new assessment tool in New York juvenile probation grew from the recognition that adequate assessment was a prerequisite for the effective delivery of services and the promotion of positive outcomes in youth populations. It was also acknowledged that impressive advances in assessment had been achieved over the last 25 years based on new research and an expanded theoretical framework that has shaped use of assessment. Juvenile probation services are an enormous operational component of the juvenile justice system. Probation services are provided at all stages of juvenile justice processing and to a diverse range of youth and their families. A major component of this role involves the work of assessing and screening youth as they are referred for services (Office of Juvenile Justice and Delinquency Prevention, 1996).

Developments in assessment have helped to better serve probation-involved youth and to increase the level of efficiency of probation in promoting public safety. There are a number of instruments currently available for use with juvenile delinquent populations and other services involving youth at risk of negative personal and social outcomes (Krisberg, 2000). In probation and other juvenile corrections settings, objectives for use of such instruments include prediction of re-offending (and other negative outcomes) and assessment of service needs for reducing risk. The use of case planning to target appropriate risk reduction

services has become an important objective in the most recent thinking regarding assessment (Hoge and Andrews, 1997).

The Youth Assessment and Screening Instrument (YASI) is a comprehensive risk, need and protective factor assessment instrument designed for use in juvenile probation and other high-risk youth service settings. The instrument is based on an assessment model first developed for juveniles in the State of Washington where it is used in all 33 juvenile courts in that state. The first version of the model was developed by the Washington State Institute of Public Policy (WSIPP) in cooperation with the Washington State Association of Juvenile Court Administrators (WAJCA). Dr. Robert Barnoski (WSIPP) was the scientific authority responsible for the development of the instrument and for its validation in Washington State, where the tool is referred to as the Case Management Assessment Protocol (CMAP). Dr. Marilyn Van Dieten (Orbis Partners, Inc) designed the training and quality assurance components that were implemented to increase the utility of the tool for case planning and other casework routines. The Washington tool was selected by New York State Division of Probation and Correctional Alternatives (NYSDPCA) to serve as a model for risk, needs and strengths assessment in juvenile probation in New York State. The model was selected for adaptation with both Juvenile Delinquents (JDs) and Persons In Need of Supervision (PINS).

NYSDPCA responded to the need for availability of an assessment tool for use by counties to ensure that probation services across the state employed a standard method for determining risk, needs and protective factors to be addressed in working with individual youth. Using individualized assessment based on systematic procedures, service providers are in a better position to match the levels and types of interventions to the levels of risk and needs that are presented by individual youth. Therefore, it was recognized that systematic assessment would furnish greater consistency in the data gathering procedures that were utilized to develop individual case plans across the state. This would increase the

probation system's capacity to ensure that the right youth were matched to the right services. Further, it would improve both the county and the state's ability to identify effective services gaps within the larger service delivery network.

The principles of effective case management that were formalized by Andrews and his colleagues have shaped the field of assessment and service delivery in both youth and adult services (Andrews, Bonta & Hoge, 1990). They identified the following principles:

- ***Risk*** – service intensity should be matched with the level of risk of negative outcomes presented by the client. Higher risk youth (e.g., those assessed as having a high probability of future or ongoing problems) should receive the most intensive services, while lower risk youth should receive only minimal attention from service providers.

- ***Needs*** – the types of services offered should be directed to the behavior, attitudes and situations that were most directly linked to their presenting problems. Hence, the content or target of service must match the youth characteristics that are driving the problem behavior.

- ***Responsivity –*** the methods and styles used to intervene should be sensitive to the learning styles of the youth being served. There are general responsivity concerns that can be addressed by using methods of service delivery empirically shown to produce positive effects with this population. There are also individual responsivity factors that refer to unique characteristics of individuals that need to be considered in choosing interventions that will be effective (e.g., personality, mental health, learning abilities).

- *Program Integrity* – the effectiveness of interventions will be influenced by the rigor and integrity of implementation. The procedures that are selected for their evidence of fidelity to the responsivity principle must be carefully employed in a way that ensures that all of the ingredients of their effectiveness have been preserved.

The implementation of assessment procedures provides a foundation for adherence to the principles of effective case management outlined above. In particular, it is not possible to apply the first three principles without the introduction of a valid protocol for assessing youth risk and needs. The development of the YASI was very much influenced by the four principles of effective case management.

NYSDPCA issued a Request for Proposal (RFP) for assistance with the development and implementation of a juvenile probation assessment model.[1] The requirements specified that the model assess risk and need as well as incorporate the measurement of protective factors. The Washington State model, which was proposed by the successful consulting team, was viewed as fulfilling the requirements as outlined in the RFP. The Washington State Institute of Public Policy indicated support for the application of their assessment model in New York State and extended an offer of assistance with the project. In collaboration with the NYSDPCA project authority, the current authors revised the Washington tool to accommodate New York State juvenile justice language and other style concerns (e.g. sequence of items and domains). Following the adaptation, the instrument came to be known as the Youth Assessment and Screening Instrument (YASI). Similar versions of the YASI have also been adapted and implemented in two youth service jurisdictions in the State of Illinois (Department of Human Services and the Administrative Office of the Illinois Courts), the Juvenile Court of North Dakota, State of Vermont, Commonwealth of Virginia, State of Mississippi and in many county probation jurisdictions

in the State of Michigan. Implementations have also occurred in San Francisco County, Fulton County, Georgia (Atlanta), and in St. Joseph County in Indiana.

In designing the implementation of the tool in New York State, a number of revisions were made to the original protocol first used in Washington. In particular, the language used in New York State for legal terminology was updated and a variety of items were revised to adapt the tool to popular use in the State. Some revisions to the measures were also designed to increase the protective factor components of the assessment and produce improved dynamic properties for the purposes of reassessment with some items. The Appendix A provides detailed information on YASI, tracing its history from the Washington implementation, and describing the customizations that were completed in New York State. In addition, based on the 2005 report entitled *"A Report on the Youth Assessment and Screening Instrument in New York State Juvenile Probation: A Report on the Implementation and Validation of YASI After Four Years of Progress"*, the appendix details the standards for application of the tool in New York counties.

We turn now to a description of the current sample and reports on the YASI validation efforts conducted for this study.

[1] The project was supported by funds from the Juvenile Accountability Block Grant (JABG) as administered by the New York State Division of Criminal Justice Services.

# CHAPTER 3 Sample and Methodology

## Overview

In this chapter we review the sampling methodology that was employed to construct the sample of youth for the long-term validation study. We also describe the manner in which the outcome information was collected at the juvenile probation department level and the New York State Division of Criminal Justice Services (NYSDCJS) for adult criminal activity (e.g., arrests, convictions, etc.) for youth aged 16 and over. Lastly, the characteristics of the population used to construct the sample are presented and displayed in comparison to the final validation sample.

## Sampling Procedure

A stratified random sampling strategy was employed that drew cases from a base pool of 17,493 youth assessed with the YASI. The population of assessments was based on cases from a data collection effort conducted in January 2005. In previous outcome studies, counties were requested to provide outcome information on all cases for which YASI assessments were available. However, many counties were not able to comply with the outcome data request. Recognizing the effort required to assemble the data for the current validation study, the sampling methodology specified the maximum number of cases for which outcome data was to be provided for each county.

In addition, the sampling was stratified to over-represent the number of youth with completed full assessments to ensure there were a sufficient number of cases with full assessments for the outcome study. Previous samples included an insufficient number of cases to fully exploit the validation analyses for longer term outcomes. For each county, the final sample was randomly selected to include 20% of cases with only a completed pre-screen and 80% of cases with a completed full assessment. Counties with populations less than 10,000 had a maximum of 50 random cases in which outcome information had to be provided. Those with populations between 10,000 and less than 50,000 had a maximum of 100 random cases and counties with populations of 50,000 or higher had a maximum of 150 random cases. This strategy was employed to better manage the time burden on individual counties that were responsible for completing the outcome forms on youth included in the samples.

The outcome data collection was planned in two separate phases. In phase I, an outcome form was developed to collect information on new referrals, petitions, adjudications, and probation violations from the time the intake YASI assessment was completed to the current time. For each youth included in the sample, an outcome form was completed by reviewing information available at the county level [see Outcome Form in Appendix B]. This phase was completed at the end of January 2007.

The second phase of the data collection involved the request of outcome information provided by the New York State Division of Criminal Justice Services (DCJS) for a sub sample of youth that reached age 16 before the end of the follow-up period. A list of these youth was provided to NYSDCJS with appropriate identifiers. The data items that were supplied by DCJS are all data fields included in the Computerized Criminal History SPSS System File – a recidivism database maintained by NYSDCJS and updated on a regular basis to reflect arrest and conviction activity.

## Validation Sample

A total of 3,263 youth were randomly selected and included in the validation sample. Completed outcome forms by county were returned for 3,249 youth - representing a very impressive completion rate of 99.6%. Of the 3,263 youth in the validation sample, a sub sample of 2,716 had turned age 16 before the end of the follow-up period (i.e., January 2007). This sub sample was forwarded to NYSDCJS to examine if any adult criminal activity had occurred during the follow-up period. A final dataset was returned in August 2007 for youth that had one or more "hits" in the system – all personal identifiers were removed and the database anonymized for analyses.

**Table 3.1** shows the characteristics of the original YASI population for which assessments were available up to January 2005. Also shown are the characteristics of the final validation sample – with the descriptive information displayed in both unweighted and weighted format. Due to the stratified condition of the sampling (i.e., for county size and completion of Full Assessments), it was necessary to calculate sample weights in order to ensure the final validation sample was representative of the characteristics of the original population of 17,493 cases.

The data in **Table 3.1** shows that the sample weights effectively corrected for the possible biasing effects of the stratification procedures. In particular, the final pre-screen distribution of the weighted sample is almost identical to the original population as is the percentage of cases with completed full assessments. Accordingly, the outcome results reported in the remaining chapters will be representative of all youth assessed using the YASI.

## YASI Population and Sample Characteristics — Table 3.1

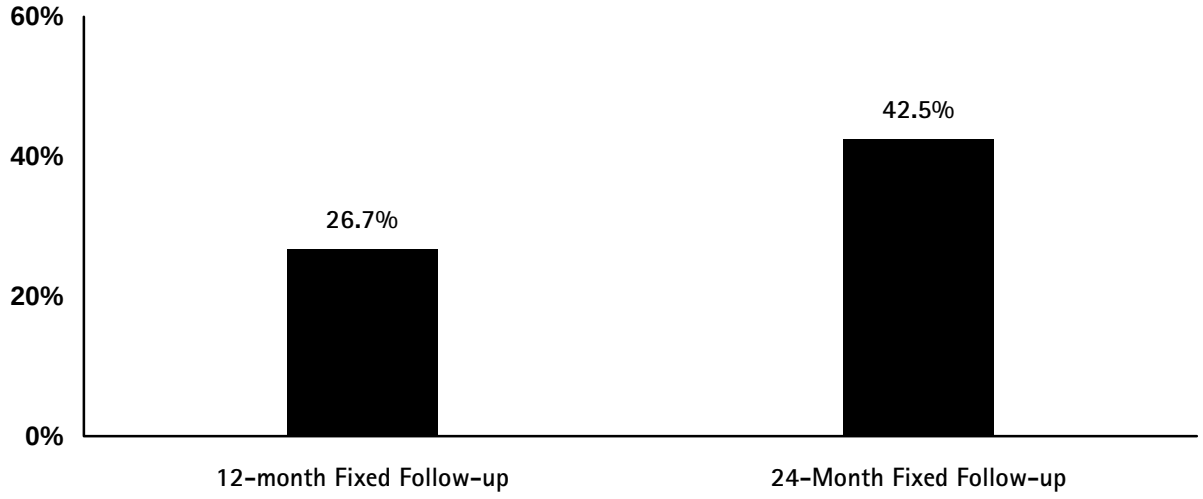
| | YASI Database (N=17,493) | YASI Database/Sample Sample – Unweighted (n=3,249) | YASI Database/Sample Sample – Weighted (n=3,249) |
|---|---|---|---|
| Gender (%) | | | |
| - Females | 38.5 | 34.6 | 34.8 |
| - Males | 61.5 | 65.4 | 65.2 |
| Age Categories (%) | | | |
| - 13 and younger | 20.9 | 22.2 | 22.3 |
| - 14 to 15 | 48.0 | 46.2 | 47.2 |
| - 16 and older | 31.1 | 31.6 | 30.5 |
| Race Categories (%) | | | |
| - African American | 24.4 | 18.2 | 18.9 |
| - Caucasian | 63.3 | 71.2 | 70.5 |
| - Hispanic | 10.3 | 8.8 | 8.9 |
| - Other | 2.0 | 1.8 | 1.7 |
| Case Type (%) | | | |
| - JD | 42.5 | 40.7 | 44.5 |
| - PINs | 57.5 | 59.3 | 55.5 |
| Intake Status (%) | | | |
| - Intake/Diversion | 77.9 | 69.5 | 71.3 |
| - Referred for Petition | 22.1 | 30.5 | 28.2 |
| County Size (%) | | | |
| - Small | 13.7 | 22.3 | 22.5 |
| - Medium | 46.2 | 52.7 | 52.6 |
| - Large | 40.1 | 25.0 | 24.9 |
| Pre-Screen Levels (%) | | | |
| - Low | 34.6 | 27.3 | 34.4 |
| - Moderate | 33.5 | 35.1 | 33.7 |
| - High | 31.9 | 37.6 | 31.9 |
| Full Assessment (FA) Complete (%) | 51.2 | 73.1 | 50.0 |
| FA Dynamic Risk Levels (%) | | | |
| - Low | 16.2 | 14.1 | 15.9 |
| - Low-Moderate | 15.6 | 14.7 | 15.0 |
| - Moderate | 16.1 | 15.8 | 15.8 |
| - Moderate-High | 16.2 | 16.7 | 16.1 |
| - High | 13.9 | 16.1 | 15.5 |
| - Very High | 22.0 | 22.6 | 21.7 |
| FA Dynamic Protective Levels (%) | | | |
| - Low | 30.4 | 33.4 | 32.4 |
| - Low-Moderate | 15.6 | 15.5 | 15.5 |
| - Moderate | 14.7 | 14.9 | 14.7 |
| - Moderate-High | 14.9 | 14.3 | 14.3 |
| - High | 10.2 | 8.9 | 9.2 |
| - Very High | 14.3 | 13.0 | 13.9 |

## Follow-up Time and Outcome Measures

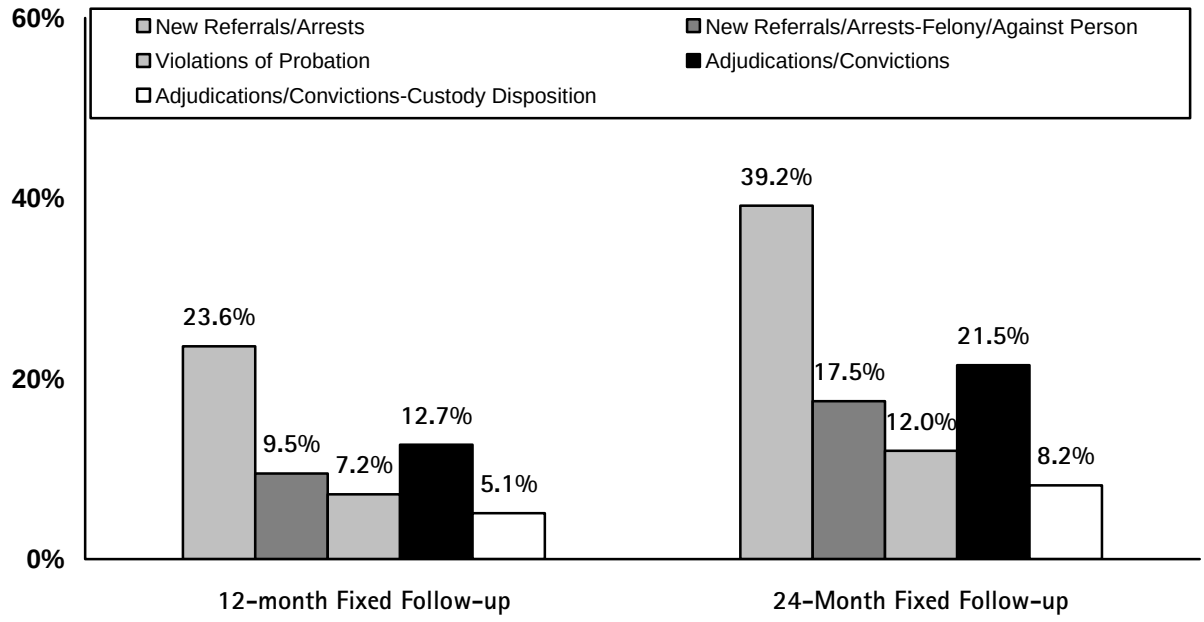
One of the main advantages of the current long-term validation study is the length of follow-up time available to examine outcomes. As described earlier, the sample was drawn from a 2005 YASI sample and the outcome measures were taken at the end of January 2007. Accordingly, a minimum follow-up period of 24 months was available for analyses for all cases. Two periods of review were established – a 12-month fixed follow-up and 24-month fixed follow-up. For example, for each period, outcomes were examined within the specified timeframe of either 12 or 24 months. In this way, follow-up time is standardized for each youth. With respect to the 12-month follow-up periods, only recidivism that occurs within the first 12-month from the YASI assessment is included in the outcome measures. Similarly, for the 24-month follow-up, only recidivism that occurs within the first 24 months following the YASI assessment is included in the assessment.

Using the outcome data reported by juvenile probation departments and NYSDCJS official records, a number of outcome variables were constructed. The outcome indices were also combined to form an overall "negative outcome" variable. **Figure 3.1** shows that the overall rate of any negative outcomes within the 12-month fixed follow-up period was 26.7% and for the 24-month period, 42.5% for the full sample of 3,249 youth. **Figure 3.2** shows a breakdown of the types of negative outcomes. New referrals/arrests were highest within each of the respective follow-up periods (12-month - 23.6%; 24-month - 39.2%) followed by adjudications/convictions (12-month – 12.7%; 24-month – 21.5%). Rates of adjudications/convictions resulting in a custody disposition were lowest (12-month – 5.1%; 24-month – 8.2%).

*OUTCOMES – ANY NEGATIVE OUTCOMES* **Figure 3.1**




*OUTCOMES – TYPES OF NEGATIVE OUTCOMES* **Figure 3.2**




We now turn to an examination of the outcome results. In particular, we are interested in establishing how the YASI risk and protective factor scores predict the various outcome measures.

CHAPTER

# 4 YASI Pre-Screen

## Overview

This chapter presents results of analyses undertaken to examine the outcome validity (i.e., predictive validity) of the YASI Pre-Screen. This includes an examination of how the "low", "moderate" and "high" risk categories were distributed in the juvenile probation sample in New York State, and how the categories discriminated juvenile justice outcomes of youth within the probation population. We present outcomes by Pre-Screen risk level across a number of factors including probation status, gender, age and race to determine whether or not the assessment performed differently for various sub-groups.

The YASI Pre-Screen has an important triage function for assigning cases to different levels of service priority. Based on a combination of static and dynamic factors related to both legal and social history, the YASI Pre-Screen classifies each case by the three risk levels mentioned above. The triage principle is based on the assumption that, without higher levels of intervention, higher risk cases will have a greater probability of exhibiting continuing behavioral and other problems (Risk Principle). An additional component of the Pre-Screen triage function involves decisions about which youth should receive a more thorough assessment using the YASI Full Assessment. The assumption is that moderate and high risk cases will require more case planning effort and will need more detailed assessment to assist with targeting needs and setting case goals. Therefore, the extent to which the YASI Pre-Screen can successfully predict which cases have higher probabilities of negative outcomes is important for determining whether the tool is appropriate and valid

for triage purposes. Hence, a large component of this chapter constitutes an examination of YASI Pre-Screen scores in relation to the various outcomes defined for this validation effort. At the end of the chapter, we also examine whether the current data support revisions to the weighting or cut-off scores of the Pre-Screen scoring system in order to provide more efficient triage utility.

## Outcomes by Pre-Screen Risk Levels

The validity and ultimate usefulness of YASI Pre-Screen Risk hinges on the ability of the measure to predict juvenile probation outcomes. In the previous YASI report for NYSDPCA, outcome results showed generally consistent trends supporting the ability of the Pre-Screen to distinguish between youth who will have continuing problems and those who will experience more positive outcomes. However, the data was somewhat limited in terms of controlled follow-up time, length of follow-up time and types of outcomes for review. As described in the methodology chapter, for the current analysis, the follow-up periods are much longer and a broader range of negative outcomes are available for analyses (e.g., adult arrest and conviction data, etc.).

**Table 4.1** displays the results observed when the three levels of Pre-Screen risk were cross-tabulated with the various negative outcomes. The results show a consistent linear pattern whereby the rates of negative outcomes increase as the YASI Pre-Screen risk level increases. Any negative outcome within the 12-month fixed follow-up period was 15.5% for Low, 29.6% for Moderate and 35.9% for High. Within the 24-month fixed follow-up period, rates were 30.1% for Low, 45.2% for Moderate and 53.1% for High. (see **Figure 4.1**) For both follow-up periods, new referrals/arrests were the greatest contributor to the overall negative outcome rates.

As a measure to assess the strength of the prediction we conducted Receiver Operating Curve analysis using the Area Under the Curve statistic (AUC) as the primary metric. The

area under the receiver operator characteristic is a helpful measure when comparing strengths of associations when the base rate for the dependent variable varies. For those unfamiliar with this measure, it is helpful to generally think of the AUC as a measure of predictive accuracy. Consider the following example, if you flip a coin a number of times (be it 10, 100, or 1000) over many different time periods, eventually on average the result will be 50% heads. The corresponding AUC value for this coin flipping exercise would be 0.50 (suggesting random chance). Now, if you had an unevenly weighted coin that yielded heads an average of 65% of the time, the AUC value would be 0.65 (suggesting there was some reason the results were better than random chance – in this case, an unevenly weighted coin).

Barnoski (2004) recommended the AUC measure in his validation work with the Washington Model. In the present study, AUC values can be interpreted as the probability of correctly identifying a youth at risk of failure (using the Pre-screen or full assessment measures). The value of AUC ranges from 0.50 to 1.0 - values near 0.50 suggest prediction is only slightly better than random chance, values ranging from .60 to .70 suggest moderate predictive ability and values of .70 or higher suggest a strong predictive ability.

**Table 4.1** shows the AUC corresponding to Pre-Screen risk and negatives outcomes was found to range between 0.58 to .65 for outcomes within the 12-month period (any negative outcome-0.61) and 0.58 to 0.63 for negative outcomes within the 24-month period (any negative outcome-0.60). These findings are comparable to the AUC of 0.64 reported by Barnoski (2004) in examining the relationship between the Washington model Pre-Screen measure and rates of delinquency adjudications (misdemeanors and felonies) after 18-months.

An important question concerns the relative predictive strength of the overall Pre-Screen risk score across different sub-groups of juvenile probation cases. Given that the YASI Pre-Screen is used for males and females, youth of different ages, those with different racial

backgrounds and for PINS and JDs, it is important to determine whether YASI Pre-Screen predicts appropriately for various sub-groups. We conducted detailed analyses to address this question.

*OUTCOMES BY PRE-SCREEN LEVELS* — *Table 4.1*

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **12-month Follow-up** | | | | |
| New Referrals/Arrests | 14.5 | 26.5 | 30.3 | .58 |
| New Referrals/Arrests-Felony/Offense Against Pers | 5.6 | 8.1 | 15.0 | .62 |
| Violations of Probation | 3.0 | 6.3 | 12.5 | .65 |
| Adjudications/Convictions | 6.4 | 14.2 | 17.9 | .60 |
| Adjudications/Convictions-Custody | 1.8 | 4.8 | 9.0 | .65 |
| **Any Negative Outcome – 12-months** | **15.5** | **29.6** | **35.9** | **.61** |
| **24-month Follow-up** | | | | |
| New Referrals/Arrests | 28.7 | 41.8 | 47.7 | .58 |
| New Referrals/Arrests-Felony/Offense Against Pers | 13.0 | 15.1 | 25.0 | .59 |
| Violations of Probation | 6.0 | 11.5 | 18.9 | .63 |
| Adjudications/Convictions | 13.3 | 22.5 | 29.1 | .59 |
| Adjudications/Convictions-Custody | 4.2 | 7.6 | 13.2 | .63 |
| **Any Negative Outcome – 24-months** | **30.1** | **45.2** | **53.1** | **.60** |

*ANY NEGATIVE OUTCOMES BY PRE-SCREEN RISK LEVELS – 24-MONTH FIXED FOLLOW-UP PERIOD* — *FIGURE 4.1*

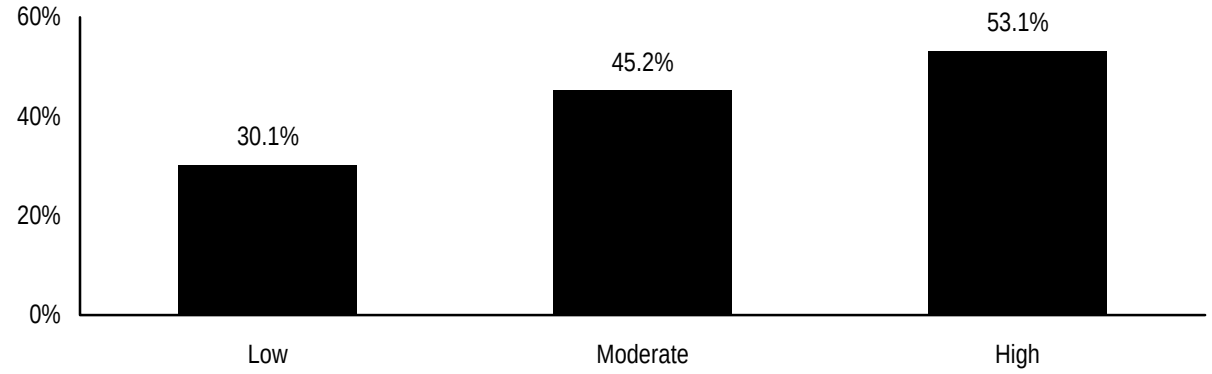


**Table 4.2** shows the negative outcomes broken down by gender. The three Pre-Screen levels continue to properly discriminate the various 12- and 24-month outcomes. AUC's ranged between 0.56 and 0.67 for females and 0.58 and 0.65 for males. However, it was noted for both fixed follow-up periods, failure rates were generally lower for females compared to males. The results suggest that scoring cut-offs may need to be developed separately based on gender. The existing data suggests that girls are being over-classified in the high risk category relative to boys. A similar finding emerged in validation analyses in the State of Illinois, where adjustments were made to the scoring to correct for the over-classification. For this reason, the cut-offs for Pre-Screen scores for girls will be modified to produce outcome rates similar to males across the three levels. This procedure will correct the over-classification that has been reported. Changes to the cut-offs will be introduced in YASI 5.0, a new version of the software planned for release in early 2008. In addition, a series of analyses will be planned in the future to explore the extent to which the item weighting for individual pre-screen components should be adjusted to reflect factors that may be stronger or weaker predictors of outcomes for females.

Similar patterns were found for the different types of 12- and 24-month negative outcomes by age and race categories. **Tables 4.3** and **4.4** show the results. Generally, linear trends were observed where higher failure rates were associated with higher Pre-Screen levels. AUC values ranged between 0.54 and 0.66 for those aged 13 and younger, 0.58 and 0.66 for youth aged 14 to 15 and 0.59 and 0.67 for those 16 years and older. For the different racial categories, AUC's were between 0.56 and 0.65 for African-Americans, 0.57 and 0.65 for Caucasians and 0.59 and 0.70 for Hispanics. It was noted that there was slightly less discrimination of 24-month negative outcomes between the moderate and high risk levels for youth 13 years of age and younger and for those of African-American race. However, looking at the overall negative outcomes as a summary measure, there was less evidence then in the gender data to suggest that there was a problem of over-classification on age or race/ethnicity factors.

## OUTCOMES BY PRE-SCREEN LEVELS – GENDER — Table 4.2

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **12-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - Females | 12.5 | 26.0 | 24.8 | .58 |
| - Males | 15.7 | 26.8 | 32.8 | .58 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - Females | 2.5 | 5.8 | 8.0 | .64 |
| - Males | 7.4 | 9.4 | 18.3 | .61 |
| Violations of Probation | | | | |
| - Females | 3.3 | 7.6 | 11.3 | .64 |
| - Males | 2.8 | 5.5 | 13.1 | .65 |
| Adjudications/Convictions | | | | |
| - Females | 3.8 | 11.7 | 13.5 | .62 |
| - Males | 7.9 | 15.7 | 19.9 | .59 |
| Adjudications/Convictions-Custody | | | | |
| - Females | 0.8 | 3.8 | 6.8 | .67 |
| - Males | 2.4 | 5.3 | 10.1 | .64 |
| **Any Negative Outcome – 12-months** | | | | |
| **- Females** | **13.9** | **30.0** | **31.5** | **.61** |
| **- Males** | **16.3** | **29.3** | **37.9** | **.61** |
| **24-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - Females | 24.8 | 37.2 | 36.8 | .56 |
| - Males | 30.9 | 44.4 | 52.6 | .59 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - Females | 6.1 | 8.5 | 13.0 | .61 |
| - Males | 17.0 | 18.8 | 30.4 | .58 |
| Violations of Probation | | | | |
| - Females | 7.6 | 10.7 | 17.8 | .62 |
| - Males | 5.2 | 11.9 | 19.5 | .63 |
| Adjudications/Convictions | | | | |
| - Females | 8.5 | 16.5 | 21.1 | .60 |
| - Males | 16.1 | 26.0 | 32.7 | .59 |
| Adjudications/Convictions-Custody | | | | |
| - Females | 2.1 | 4.3 | 8.0 | .65 |
| - Males | 5.4 | 9.4 | 15.6 | .62 |
| **Any Negative Outcome – 24-months** | | | | |
| **- Females** | **27.3** | **42.2** | **44.1** | **.59** |
| **- Males** | **31.8** | **46.9** | **57.2** | **.61** |

## OUTCOMES BY PRE-SCREEN LEVELS – AGE

Table 4.3

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **12-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - 13 and younger | 12.6 | 23.7 | 23.1 | .55 |
| - 14-15 | 14.8 | 24.8 | 28.6 | .58 |
| - 16 and older | 14.8 | 31.6 | 38.4 | .61 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - 13 and younger | 3.5 | 3.9 | 5.9 | .57 |
| - 14-15 | 5.6 | 9.2 | 15.5 | .61 |
| - 16 and older | 6.6 | 10.3 | 21.9 | .65 |
| Violations of Probation | | | | |
| - 13 and younger | 0.0 | 4.0 | 9.8 | .66 |
| - 14-15 | 3.7 | 6.6 | 14.9 | .66 |
| - 16 and older | 3.2 | 7.7 | 11.7 | .64 |
| Adjudications/Convictions | | | | |
| - 13 and younger | 3.3 | 16.6 | 13.3 | .54 |
| - 14-15 | 7.8 | 13.5 | 18.1 | .59 |
| - 16 and older | 5.3 | 13.4 | 21.3 | .64 |
| Adjudications/Convictions-Custody | | | | |
| - 13 and younger | 0.8 | 4.7 | 7.7 | .62 |
| - 14-15 | 2.7 | 3.8 | 9.2 | .65 |
| - 16 and older | 0.8 | 6.3 | 9.9 | .67 |
| **Any Negative Outcome – 12-months** | | | | |
| **- 13 and younger** | **12.6** | **25.4** | **26.8** | **.57** |
| **- 14-15** | **15.6** | **28.9** | **35.1** | **.61** |
| **- 16 and older** | **16.5** | **34.3** | **44.7** | **.64** |
| **24-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - 13 and younger | 24.7 | 38.0 | 40.3 | .56 |
| - 14-15 | 29.5 | 41.1 | 49.7 | .59 |
| - 16 and older | 29.2 | 46.1 | 51.3 | .59 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - 13 and younger | 6.3 | 6.2 | 9.9 | .57 |
| - 14-15 | 13.2 | 16.9 | 28.8 | .60 |
| - 16 and older | 15.9 | 20.3 | 32.3 | .61 |
| Violations of Probation | | | | |
| - 13 and younger | 1.2 | 9.8 | 15.9 | .63 |
| - 14-15 | 7.7 | 13.2 | 21.5 | .62 |
| - 16 and older | 5.3 | 10.3 | 18.1 | .65 |
| Adjudications/Convictions | | | | |
| - 13 and younger | 9.3 | 21.6 | 20.8 | .56 |
| - 14-15 | 14.7 | 21.6 | 30.7 | .60 |
| - 16 and older | 12.7 | 24.7 | 33.9 | .61 |
| Adjudications/Convictions-Custody | | | | |
| - 13 and younger | 2.5 | 6.5 | 10.3 | .61 |
| - 14-15 | 5.4 | 7.5 | 15.1 | .63 |
| - 16 and older | 2.8 | 8.7 | 13.2 | .64 |
| **Any Negative Outcome – 24-months** | | | | |
| **- 13 and younger** | **24.7** | **41.5** | **44.7** | **.58** |
| **- 14-15** | **31.2** | **45.0** | **54.8** | **.60** |
| **- 16 and older** | **30.9** | **48.7** | **58.1** | **.62** |

## OUTCOMES BY PRE-SCREEN LEVELS - RACE — Table 4.4

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **12-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - African-American | 17.9 | 32.3 | 31.4 | .56 |
| - Caucasian | 13.9 | 24.6 | 29.2 | .58 |
| - Hispanic | 13.9 | 29.4 | 34.2 | .61 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - African-American | 7.6 | 12.6 | 20.0 | .62 |
| - Caucasian | 4.8 | 6.5 | 12.7 | .61 |
| - Hispanic | 6.6 | 10.3 | 18.6 | .64 |
| Violations of Probation | | | | |
| - African-American | 3.7 | 5.2 | 13.8 | .65 |
| - Caucasian | 2.8 | 6.4 | 11.6 | .65 |
| - Hispanic | 4.0 | 9.6 | 17.3 | .65 |
| Adjudications/Convictions | | | | |
| - African-American | 7.5 | 18.3 | 20.9 | .59 |
| - Caucasian | 5.5 | 12.8 | 16.4 | .60 |
| - Hispanic | 8.1 | 13.1 | 21.0 | .62 |
| Adjudications/Convictions-Custody | | | | |
| - African-American | 2.5 | 6.7 | 14.2 | .63 |
| - Caucasian | 1.3 | 3.5 | 6.8 | .65 |
| - Hispanic | 3.3 | 4.7 | 10.9 | .66 |
| **Any Negative Outcome – 12-months** | | | | |
| **- African-American** | **18.7** | **33.9** | **37.1** | **.59** |
| **- Caucasian** | **14.9** | **28.2** | **34.8** | **.61** |
| **- Hispanic** | **14.4** | **32.8** | **41.4** | **.64** |
| **24-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - African-American | 30.0 | 49.1 | 53.1 | .59 |
| - Caucasian | 28.3 | 40.2 | 45.9 | .57 |
| - Hispanic | 27.8 | 37.9 | 46.4 | .59 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - African-American | 14.7 | 23.5 | 34.9 | .61 |
| - Caucasian | 12.1 | 12.2 | 21.1 | .57 |
| - Hispanic | 14.2 | 15.4 | 27.4 | .60 |
| Violations of Probation | | | | |
| - African-American | 6.2 | 16.7 | 19.8 | .60 |
| - Caucasian | 6.1 | 10.3 | 18.8 | .63 |
| - Hispanic | 6.9 | 12.5 | 20.5 | .63 |
| Adjudications/Convictions | | | | |
| - African-American | 13.0 | 27.5 | 36.3 | .61 |
| - Caucasian | 12.6 | 21.0 | 26.5 | .59 |
| - Hispanic | 16.4 | 18.3 | 28.8 | .59 |
| Adjudications/Convictions-Custody | | | | |
| - African-American | 5.3 | 10.9 | 20.3 | .63 |
| - Caucasian | 4.1 | 5.9 | 10.3 | .61 |
| - Hispanic | 3.3 | 5.6 | 15.2 | .70 |
| **Any Negative Outcome – 24-months** | | | | |
| **- African-American** | **30.9** | **52.8** | **58.4** | **.61** |
| **- Caucasian** | **29.8** | **43.6** | **51.8** | **.60** |
| **- Hispanic** | **29.5** | **42.0** | **50.7** | **.60** |

We also examined the pattern of outcome results by case type (JD/PINs). **Table 4.5** shows that the YASI Pre-Screen continues to reliably predict outcomes across low, moderate and high risk levels. Closer inspection of the data suggest less variation between the moderate and high risk levels for PINs cases compared to JDs. The AUC values for overall negative outcomes for both the 12- and 24-month fixed follow-up period were lower for PINs compared to the JDs (12-month – JD-0.65, PINs-0.58; 24-month – JD-0.65, PINs-0.57).

As a final measure of the longer-term predictability of the Pre-Screen, we also examined whether the YASI predicted outcomes for youth from juvenile probation departments of different sizes. The data in **Table 4.6** demonstrate that the YASI Pre-Screen predicted outcomes regardless of the county size (small, medium, large) where the assessment was completed. However, it was observed that smaller counties had higher failure rates in the high pre-screen level for both the 12- and 24-month fixed follow-up periods.

## OUTCOMES BY PRE-SCREEN LEVELS – CASE TYPE

Table 4.5

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **12-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - JD | 11.5 | 23.3 | 29.3 | .61 |
| - PINs | 17.5 | 28.5 | 31.1 | .56 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - JD | 6.6 | 8.5 | 17.8 | .63 |
| - PINs | 4.6 | 7.9 | 12.7 | .61 |
| Violations of Probation | | | | |
| - JD | 2.1 | 3.5 | 13.3 | .71 |
| - PINs | 3.9 | 8.0 | 12.0 | .61 |
| Adjudications/Convictions | | | | |
| - JD | 5.1 | 13.2 | 17.5 | .62 |
| - PINs | 7.6 | 14.9 | 18.2 | .58 |
| Adjudications/Convictions-Custody | | | | |
| - JD | 1.8 | 3.7 | 8.2 | .65 |
| - PINs | 1.8 | 5.4 | 9.7 | .65 |
| **Any Negative Outcome – 12-months** | | | | |
| **- JD** | **11.9** | **24.1** | **35.0** | **.65** |
| **- PINs** | **19.0** | **33.0** | **36.7** | **.58** |
| **24-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - JD | 25.6 | 37.7 | 49.1 | .62 |
| - PINs | 31.8 | 44.3 | 46.6 | .55 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - JD | 13.6 | 16.5 | 31.0 | .62 |
| - PINs | 12.4 | 14.2 | 20.0 | .57 |
| Violations of Probation | | | | |
| - JD | 4.2 | 10.9 | 19.4 | .67 |
| - PINs | 5.2 | 11.9 | 19.5 | .60 |
| Adjudications/Convictions | | | | |
| - JD | 12.1 | 21.7 | 31.9 | .62 |
| - PINs | 14.6 | 23.0 | 26.8 | .57 |
| Adjudications/Convictions-Custody | | | | |
| - JD | 4.2 | 7.6 | 14.5 | .64 |
| - PINs | 4.2 | 7.5 | 12.1 | .62 |
| **Any Negative Outcome – 24-months** | | | | |
| **- JD** | **26.0** | **40.2** | **54.6** | **.65** |
| **- PINs** | **34.3** | **48.3** | **51.9** | **.57** |

## OUTCOMES BY PRE-SCREEN LEVELS – COUNTY SIZE

Table 4.6

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **12-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - Small | 17.9 | 25.3 | 36.0 | .58 |
| - Medium | 14.7 | 25.3 | 27.3 | .57 |
| - Large | 11.3 | 30.2 | 31.5 | .62 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - Small | 9.7 | 6.7 | 14.6 | .52 |
| - Medium | 4.1 | 8.1 | 12.7 | .63 |
| - Large | 5.1 | 9.5 | 20.6 | .66 |
| Violations of Probation | | | | |
| - Small | 2.6 | 9.5 | 18.6 | .67 |
| - Medium | 2.0 | 4.9 | 9.2 | .65 |
| - Large | 5.2 | 5.9 | 13.9 | .63 |
| Adjudications/Convictions | | | | |
| - Small | 6.9 | 14.2 | 20.5 | .60 |
| - Medium | 5.8 | 13.1 | 15.5 | .59 |
| - Large | 6.9 | 16.6 | 20.6 | .61 |
| Adjudications/Convictions-Custody | | | | |
| - Small | 2.5 | 3.5 | 10.2 | .66 |
| - Medium | 1.7 | 5.0 | 7.8 | .64 |
| - Large | 1.5 | 5.3 | 10.7 | .66 |
| **Any Negative Outcome – 12-months** | | | | |
| **- Small** | **20.1** | **31.9** | **44.0** | **.61** |
| **- Medium** | **15.1** | **26.5** | **32.4** | **.59** |
| **- Large** | **12.2** | **34.0** | **36.4** | **.63** |
| **24-month Follow-up** | | | | |
| New Referrals/Arrests | | | | |
| - Small | 27.6 | 38.8 | 51.3 | .59 |
| - Medium | 26.8 | 41.4 | 45.5 | .58 |
| - Large | 33.4 | 45.4 | 49.3 | .57 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - Small | 12.9 | 13.3 | 24.0 | .57 |
| - Medium | 10.7 | 14.2 | 22.5 | .59 |
| - Large | 17.6 | 18.7 | 31.4 | .59 |
| Violations of Probation | | | | |
| - Small | 7.6 | 15.6 | 24.2 | .64 |
| - Medium | 4.0 | 7.4 | 14.2 | .63 |
| - Large | 8.5 | 15.8 | 24.3 | .62 |
| Adjudications/Convictions | | | | |
| - Small | 13.8 | 23.6 | 28.6 | .58 |
| - Medium | 11.6 | 21.6 | 28.4 | .60 |
| - Large | 16.5 | 23.6 | 31.0 | .59 |
| Adjudications/Convictions-Custody | | | | |
| - Small | 5.5 | 8.7 | 12.0 | .60 |
| - Medium | 3.2 | 7.1 | 12.3 | .64 |
| - Large | 5.1 | 7.6 | 16.3 | .63 |
| **Any Negative Outcome – 24-months** | | | | |
| **- Small** | **30.7** | **44.9** | **58.8** | **.62** |
| **- Medium** | **27.3** | **42.8** | **50.0** | **.60** |
| **- Large** | **35.2** | **50.6** | **54.8** | **.59** |

## Revisions to Pre-Screen Risk Cut-Off Scores

Overall, the validation analyses suggest that the YASI Pre-Screen yields a valid prediction to assist in decisions about how cases should be served in juvenile probation settings. As YASI Pre-Screen risk level increased, there was a corresponding increase in the rate of negative outcomes observed for the sample. The pattern was maintained when the results were based on longer follow-up periods (i.e., 24-months). At the same time, some of the analyses suggested that there was some room for improvement in the level of discrimination, especially between moderate and high risk cases. For this reason, we conducted an additional series of analyses aimed at determining whether adjustments to the Pre-Screen cut-offs could be beneficial for juvenile probation practice.

The selection of cut-off scores for the YASI Pre-Screen customized for New York State was modeled after the scoring design employed in Washington State. The model employed in Washington used a combination of Legal and Social History risk scores in a way that maximized any interaction that occurred between the two components in predicting risk[1]. While the component interaction model provided a beneficial cut-off solution for Washington State, there is the possibility that the interactive model would not necessarily produce the same results in an alternative jurisdiction. For example, because of differences in the characteristics of juvenile populations or the nature of juvenile justice processing (e.g., rates of negative outcomes, data quality, etc.) the interaction model may not "fit" the New York model as well as the "fit" observed for Washington State. In addition, because the YASI customized for New York involved considerable revisions in content and scoring, it was important that scoring based on the original Washington model be re-validated in the current setting.

[1] This resulted in a 12-cell matrix of scores involving four levels of legal history risk and 3 levels of social history risk. The result was an interactive combination of the two components rather than a simple additive composite score for deriving overall Pre-Screen risk. Scores for each cell defined an overall Pre-Screen risk level based on the combination and interaction between legal and social risk.

We explored a number of possible changes to the cut-off scores for Legal and Social History risk and their combined matrix for deriving overall Pre-Screen risk scores. Using the interactive scoring model adopted by Washington, we were not able to select cut-off scores that would deliver more benefits in increasing the outcome discrimination between the risk classifications. However, we found that by switching to a simple additive model without the use of an interactive matrix, we were able to maintain accuracy of prediction while achieving progress in meeting our outcomes. The additive model simply sums the legal history and social history scores into an overall pre-screen score and cut-offs are selected to maximize prediction accuracy. Based on this simple additive model, **Table 4.7** shows the level of association between Pre-Screen risk and negative outcomes for the 24-month fixed follow-up period. The overall rate of any negative outcomes for this group shows much better discrimination than the original matrix Pre-Screen levels [see **Table 4.1**]. In addition, the AUC's observed for the revised cut-offs are higher for each type of outcome compared to the original matrix classification.

*OUTCOMES BY ADDITIVE PRE-SCREEN - ORIGINAL ITEM WEIGHTS* — *Table 4.7*

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **Additive Pre-Screen – Original Item Weights** | | | | |
| New Referrals/Arrests | 28.7 | 43.4 | 49.3 | .61 |
| New Referrals/Arrests-Felony/Offense Against Pers | 12.3 | 16.6 | 26.6 | .63 |
| Violations of Probation | 7.0 | 11.7 | 20.0 | .65 |
| Adjudications/Convictions | 14.0 | 22.6 | 31.2 | .62 |
| Adjudications/Convictions-Custody | 4.6 | 7.6 | 14.4 | .66 |
| **Any Negative Outcome – 24-months** | **30.4** | **46.9** | **55.1** | **.63** |

While the additive model of the Pre-Screen yields a more accurate level of prediction, we observed the discrimination improved mostly between the moderate and high risk levels but the overall 24-month negative outcome rate for low risk cases stayed about the same. An

important question concerns whether the level of negative outcomes observed for low risk cases is considered acceptable or tolerable for defining a group of juvenile probationers as "low" risk in New York State. It will be recalled that with both the original matrix and revised additive models, the proportion of low risk cases with negative outcomes over the 24-month period was around 30.0%. Obviously, to reduce the rate of negative outcomes to a lower level, the cut-offs could be adjusted – the clear disadvantage of this approach would be the subsequent reduction in the number of youth classified as low risk. This has implications for the provision of services and also the risk that more youth will receive services that might not be necessary under conditions of scarce resources.

An alternative approach to changing the cut-off levels would be to determine if the additive model could be further improved. Recall that the first additive model simply summed the legal and social history scores – no changes were made to the weighting of items included in either pre-screen subscale. Using the long-term outcome data, it was hypothesized that improvements could be made in changing the weights applied to responses for each item, thereby enhancing the predictive accuracy at the item level which would in turn increase the overall prediction of the additive model.

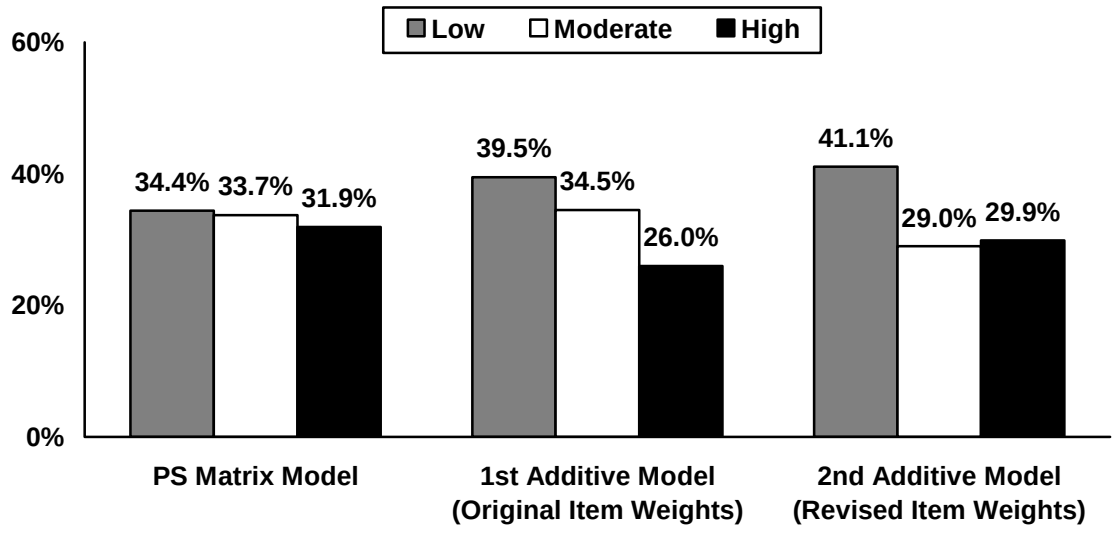
**Table 4.8** shows the association between the second additive pre-screen (revised item weights) and the 24-month outcome variables. The overall rate of any negative outcomes shows better discrimination than the original matrix and the first additive pre-screen model (original item weights). The failure rate for low risk cases also decreased to 28.9%. In addition, the AUC's are once again higher compared to the original matrix and first additive pre-screen model.

*OUTCOMES BY ADDITIVE PRE-SCREEN - REVISED ITEM WEIGHTS* **Table 4.8**

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **Additive Pre-Screen – Revised Item Weights** | | | | |
| New Referrals/Arrests | 27.3 | 42.2 | 52.4 | .63 |
| New Referrals/Arrests-Felony/Offense Against Pers | 10.9 | 17.0 | 27.1 | .65 |
| Violations of Probation | 6.1 | 10.2 | 21.7 | .68 |
| Adjudications/Convictions | 13.3 | 21.6 | 32.4 | .64 |
| Adjudications/Convictions-Custody | 4.0 | 8.0 | 14.1 | .67 |
| **Any Negative Outcome – 24-months** | **28.9** | **45.5** | **58.4** | **.65** |

**Figure 4.2** shows the distribution of low, moderate and high risk cases across each level of the Pre-Screen for the original matrix model [as shown in **Table 3.1**], first additive model (original item weights) and second additive model (revised item weights). The results show an increasingly larger percentage of cases in the low risk groups – from 34.4% to 41.1%. Hence, in adopting the revised cut-offs in YASI 5.0 as described above, the benefit of increasing the number of low risk cases is supported by a lower rate of negative outcomes **(Table 4.8)**.

*DISTRIBUTION OF CASES - ORIGINAL AND REVISED PRE-SCREEN LEVELS* *FIGURE 4.2*



It's clear that the second additive model (revised item weights) yielded a more predictive Pre-screen measure and a higher percentage of low risk cases. However, as was also the case in **Table 4.2**, subsequent analyses revealed that females classified in the moderate and high risk categories still had noticeably lower failure rates compared to the boys (Any Negative Outcome – 24-months: Females – 26.5% Low, 39.7% Moderate, 47.5% High; Males – 29.9% Low, 48.9% Moderate, 65.1% High). As was suggested earlier, separate cut-offs for females and males may be necessary to correct for the over-classification.

To explore the benefit of separate cut-offs, the second additive model (revised item weights) was analyzed separately for boys and girls and cut-offs were devised for each gender group. The results are shown in **Table 4.9.** For the most part, failure rates across the various 24-month outcomes are more equal between females and males. This is particularly evident when examining the rate of any negative outcomes – failure rates were within about three percentage points for each level of risk on the additive model (revised item weights). The AUC values for females and males were also higher for the various outcomes, reaching 0.61 for females and 0.68 for males for any negative outcomes.

*OUTCOMES BY ADDITIVE PRE-SCREEN - REVISED ITEM WEIGHTS*
*SEPARATE CUT-OFFS FOR FEMALES AND MALES*

*Table 4.9*

| | Pre-Screen Levels (%) | | | AUC |
|---|---|---|---|---|
| | Low | Mod | High | |
| **Additive Pre-Screen – Revised Item Weights** | | | | |
| New Referrals/Arrests | | | | |
| - Females | 25.6 | 37.9 | 50.5 | .58 |
| - Males | 24.6 | 44.4 | 57.3 | .66 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | |
| - Females | 6.0 | 9.3 | 31.1 | .65 |
| - Males | 11.7 | 20.7 | 32.9 | .66 |
| Violations of Probation | | | | |
| - Females | 6.8 | 15.1 | 24.2 | .67 |
| - Males | 4.6 | 10.4 | 20.8 | .68 |
| Adjudications/Convictions | | | | |
| - Females | 10.4 | 17.3 | 35.9 | .61 |
| - Males | 12.3 | 24.8 | 36.5 | .66 |
| Adjudications/Convictions-Custody | | | | |
| - Females | 3.4 | 4.5 | 14.7 | .64 |
| - Males | 3.7 | 10.1 | 16.0 | .68 |
| **Any Negative Outcome – 24-months** | | | | |
| - Females | **28.1** | **44.8** | **58.1** | **.61** |
| - Males | **25.1** | **47.1** | **61.9** | **.68** |

CHAPTER

# 5 YASI Full Assessment

## Overview

This chapter is concerned with the validation analyses that were conducted for the YASI Full Assessment measures. The YASI Full Assessment was designed to provide more detailed information for preparing case plans which responded to the individualized needs of youth and their families. To a large extent the focus of the Full Assessment shifts away from static risk indicators to an examination of the dynamic need areas that will become targets of service. The need areas include problem areas (e.g., family, school, attitudes, social and cognitive skills, etc.) and also protective factors or strengths that will help buffer the impact of risk factors.

Similar to the Pre-Screen analyses, our approach to validation involved an assessment of the extent to which the score groupings of the Full Assessment predicted various juvenile justice outcomes. In addition, we examined the performance of the Full Assessment measures for sub-populations, examined the interaction of risk and protective factors, and examined the validity of YASI reassessments.

## Outcomes by Full Assessment Dynamic Risk

The Full Assessment Overall Dynamic Risk measure is comprised of a summated scale that includes all dynamic items in the battery. The overall score was then divided into six groups from low to very high dynamic risk. The results for the six-level dynamic risk

measures are shown in **Table 5.1**. The recidivism rates for the various outcome indices examined in the last chapter are tabled for each level of overall dynamic risk, and the AUC is tabled as a measure of the quality of the prediction for each outcome. **Figure 5.1** shows the overall negative outcomes by the six level measure.

Linear trends were evident with recidivism rates clearly increasing as each level of dynamic risk increases. The overall negative outcome rates range from 29% with any negative outcome in the Low dynamic risk group to 59% in the Very High risk group. The Moderate High and High dynamic risk categories were not well differentiated in terms of the proportions of cases with negative outcomes across these two groupings. Hence, it appears that the overall dynamic risk measure could demonstrate some improvements with changes to the cut-off scores. At the same time, the current cut-offs provide useful discrimination between the two highest dynamic risk groups (High and Very High).

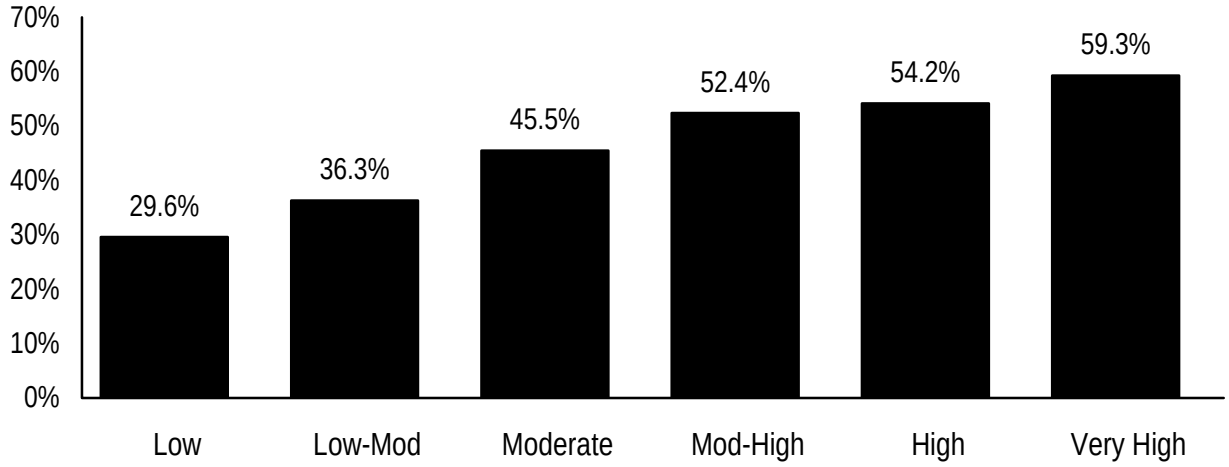
The AUC values ranged from 0.61 to 0.65. The value associated with Any Negative Outcomes was 0.62 for both the 12-month and 24-month outcome measures. Overall, the dynamic risk measure performs just as well as the Pre-Screen risk measure, even though no static components are included. The AUC values were highest for the more serious outcomes of felony/person offenses and adjudication/conviction with custody. The AUC values were weakest for probation violations. In summary, the dynamic risk measure performed well in discriminating outcomes across the six levels, and particularly well for more serious outcomes.

The next series of tables compares the performance of the overall dynamic risk measure when used for PINS and JDs and for girls and boys. **Tables 5.2** and **5.3** show the respective tabulations for these comparisons.

## *OUTCOMES BY FULL ASSESSMENT DYNAMIC RISK LEVELS* — *Table 5.1*

| | Full Assessment Dynamic Risk Levels (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Low | Low-Mod | Mod | Mod-High | High | Very High | AUC |
| **12-month Follow-up** | | | | | | | |
| New Referrals/Arrests | 13.9 | 18.9 | 23.1 | 31.6 | 29.4 | 35.4 | .61 |
| New Referrals/Arrests-Felony/Offense Against Pers | 5.7 | 4.4 | 8.2 | 11.9 | 12.9 | 18.6 | .65 |
| Violations of Probation | 5.1 | 8.4 | 11.4 | 9.6 | 13.5 | 16.6 | .61 |
| Adjudications/Convictions | 8.5 | 11.4 | 12.8 | 15.3 | 15.0 | 23.4 | .61 |
| Adjudications/Convictions-Custody | 2.2 | 4.9 | 3.2 | 7.9 | 6.1 | 11.4 | .65 |
| **Any Negative Outcome – 12-months** | **15.7** | **22.4** | **29.3** | **36.1** | **36.4** | **43.6** | **.62** |
| **24-month Follow-up** | | | | | | | |
| New Referrals/Arrests | 25.9 | 33.6 | 39.5 | 46.9 | 47.2 | 52.8 | .61 |
| New Referrals/Arrests-Felony/Offense Against Pers | 9.9 | 12.4 | 16.5 | 18.2 | 22.7 | 30.3 | .64 |
| Violations of Probation | 9.9 | 12.2 | 16.1 | 15.1 | 20.0 | 23.5 | .60 |
| Adjudications/Convictions | 12.0 | 18.8 | 21.7 | 24.9 | 25.1 | 36.3 | .62 |
| Adjudications/Convictions-Custody | 3.0 | 7.1 | 6.1 | 11.6 | 8.0 | 17.0 | .65 |
| **Any Negative Outcome – 24-months** | **29.6** | **36.3** | **45.5** | **52.4** | **54.2** | **59.3** | **.62** |

*NEGATIVE OUTCOME BY DYNAMIC RISK LEVELS (n=2,972)* **Figure 5.1**




Overall, the pattern of differences for both groups compare with the results obtained for the Pre-Screen risk measures. However, the magnitude of differences in AUC values is somewhat less than reported in the earlier analyses. In terms of the any negative outcomes for PINS and JDS at the 24 month follow-up point, the AUC for PINS was 0.59 and 0.68 for JDs. While the AUC for PINS suggests an acceptable degree of predictive accuracy, the AUC for JDs is moderately high. For both PINS and JDs, the overall dynamic risk score performed well for predicting more serious outcomes (felony/person offenses and custody dispositions). For both PINS and JDs, inspection of the percentage rates for recidivism across the six levels revealed the expected linear pattern of higher recidivism associated with higher dynamic risk. For the PINS group, there was less than ideal discrimination between the Moderate High and High groups.

The predictive accuracy for boys remained adequate across all of the measures of outcome. For girls, in three of the six comparisons, the AUC dipped slightly below the 0.60 level. However, for more serious outcomes, the AUC's were stronger for both girls and boys. The

dynamic risk levels discriminated better for boys than girls. In the middle ranges of the scale for girls, the recidivism rates were not well differentiated. In addition, there was an over-classification tendency similar to the Pre-Screen results, suggesting that girls were over-classified as high risk relative to boys. These data suggest the need for some refinements in the cut-off and/or scoring procedures for girls. With the introduction of the newest version of the YASI software (YASI 5.0), the cut-offs for overall full assessment risk will be adjusted so that girls are not over-classified. Moreover, more detailed analysis of the full assessment domains for girls will be pursued in the future. This research may suggest additional scoring adjustments to make the too perform more efficiently for girls and boys.

## OUTCOMES BY FULL ASSESSMENT DYNAMIC RISK LEVELS – CASE TYPE

Table 5.2

| | Full Assessment Dynamic Risk Levels (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Low | Low-Mod | Mod | Mod-High | High | Very High | AUC |
| **24-month Follow-up** | | | | | | | |
| New Referrals/Arrests | | | | | | | |
| - JD | 22.8 | 35.3 | 41.5 | 50.2 | 54.3 | 62.8 | .67 |
| - PINs | 29.7 | 32.6 | 38.4 | 45.8 | 44.3 | 48.4 | .58 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | | | | |
| - JD | 11.4 | 16.4 | 23.5 | 22.6 | 34.3 | 43.4 | .68 |
| - PINs | 8.2 | 9.8 | 12.8 | 16.7 | 18.0 | 24.5 | .62 |
| Violations of Probation | | | | | | | |
| - JD | 9.1 | 11.8 | 19.1 | 17.3 | 28.0 | 27.2 | .63 |
| - PINs | 10.8 | 12.4 | 14.5 | 14.4 | 16.6 | 21.9 | .59 |
| Adjudications/Convictions | | | | | | | |
| - JD | 11.9 | 24.6 | 25.7 | 29.2 | 26.5 | 46.9 | .65 |
| - PINs | 12.1 | 15.3 | 19.5 | 23.3 | 24.5 | 31.6 | .61 |
| Adjudications/Convictions-Custody | | | | | | | |
| - JD | 4.1 | 9.8 | 9.2 | 11.9 | 13.3 | 25.7 | .69 |
| - PINs | 1.7 | 5.5 | 4.4 | 11.5 | 5.8 | 13.2 | .63 |
| **Any Negative Outcome – 24-months** | | | | | | | |
| **- JD** | **26.2** | **37.3** | **48.4** | **57.6** | **63.6** | **68.1** | **.68** |
| **- PINs** | **33.6** | **35.6** | **43.9** | **50.5** | **50.3** | **55.4** | **.59** |

## OUTCOMES BY FULL ASSESSMENT DYNAMIC RISK LEVELS – GENDER

**Table 5.3**

| | Full Assessment Dynamic Risk Levels (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Low | Low-Mod | Mod | Mod-High | High | Very High | AUC |
| **24-month Follow-up** | | | | | | | |
| New Referrals/Arrests | | | | | | | |
| - Females | 23.8 | 24.4 | 37.8 | 42.4 | 36.6 | 39.7 | .57 |
| - Males | 27.1 | 38.4 | 40.5 | 49.4 | 53.2 | 59.7 | .63 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | | | | |
| - Females | 3.6 | 4.0 | 9.6 | 8.2 | 13.9 | 18.5 | .65 |
| - Males | 13.2 | 16.7 | 20.7 | 23.5 | 27.7 | 36.5 | .64 |
| Violations of Probation | | | | | | | |
| - Females | 9.0 | 16.7 | 11.5 | 15.6 | 15.9 | 19.9 | .58 |
| - Males | 10.4 | 9.9 | 19.0 | 14.9 | 22.3 | 25.4 | .61 |
| Adjudications/Convictions | | | | | | | |
| - Females | 6.8 | 10.6 | 18.2 | 14.5 | 15.9 | 23.5 | .60 |
| - Males | 14.7 | 23.1 | 23.8 | 30.4 | 30.2 | 43.0 | .63 |
| Adjudications/Convictions-Custody | | | | | | | |
| - Females | 2.4 | 4.2 | 2.2 | 5.5 | 4.8 | 8.4 | .62 |
| - Males | 3.3 | 8.6 | 8.5 | 14.9 | 9.8 | 21.5 | .66 |
| **Any Negative Outcome – 24-months** | | | | | | | |
| **- Females** | **26.9** | **29.9** | **43.3** | **50.1** | **43.6** | **48.9** | **.59** |
| **- Males** | **31.0** | **39.6** | **46.7** | **53.5** | **60.1** | **64.8** | **.64** |

## Outcomes by Full Assessment Dynamic Protective Factors

The next series of analyses is concerned with the validation of the dynamic protective factor scores, beginning with the 6-level overall score based on a summation of all protective factor items in the YASI battery. **Table 5.4** shows the resulting data from the outcome analyses. Generally, the dynamic protective factor scores performed less well than the dynamic risk scores reported in the last section. However, the AUCs in the majority of comparisons hovered around the 0.60 level, suggesting adequate predictability of recidivism.

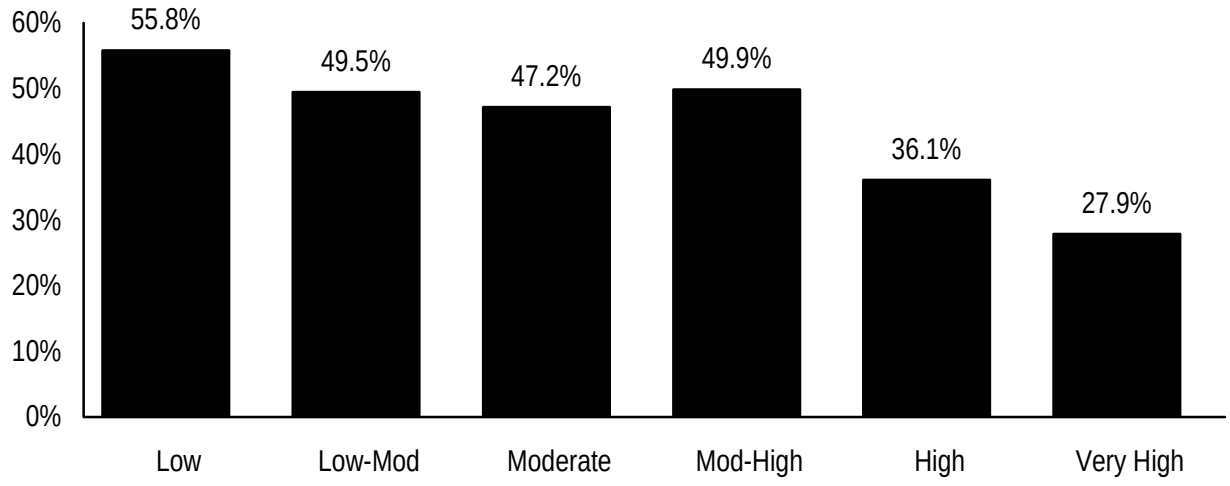
While there was a general linear trend that suggests an expected inverse relationship between protective factors and the outcome measures, the existing cut-offs provided good discrimination only at the extremes. Although low, moderate and high levels of protective factors showed good discrimination, the increments of protective factors in the middle range did not provide good differentiation for the various rates of negative outcomes reported in **Table 5.4**. Improvement in the distribution of levels could easily be achieved through adjustment of cut-offs. However, it is likely that item re-weighting would also results in a better predictive accuracy level for the dynamic protective factor scores. Nevertheless, the current dynamic protective factor measure still provides adequate predictability when assessing protective factors in this population of youth.

## *Outcomes by Full Assessment Dynamic Protective Levels* — Table 5.4

| | Full Assessment Dynamic Protective Levels (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Low | Low-Mod | Mod | Mod-High | High | Very High | AUC |
| **12-month Follow-up** | | | | | | | |
| New Referrals/Arrests | 32.2 | 28.8 | 25.4 | 27.8 | 15.2 | 14.6 | .59 |
| New Referrals/Arrests-Felony/Offense Against Pers | 15.8 | 9.4 | 8.8 | 11.4 | 6.4 | 5.3 | .61 |
| Violations of Probation | 17.8 | 8.4 | 6.6 | 10.2 | 8.7 | 6.7 | .61 |
| Adjudications/Convictions | 19.8 | 15.4 | 13.8 | 15.6 | 8.1 | 8.4 | .59 |
| Adjudications/Convictions-Custody | 9.3 | 6.9 | 6.1 | 5.6 | 2.2 | 2.1 | .62 |
| **Any Negative Outcome – 12-months** | **40.2** | **33.0** | **29.6** | **33.1** | **20.1** | **17.0** | **.60** |
| **24-month Follow-up** | | | | | | | |
| New Referrals/Arrests | 48.8 | 45.1 | 42.0 | 45.2 | 31.0 | 24.6 | .59 |
| New Referrals/Arrests-Felony/Offense Against Pers | 25.2 | 16.2 | 16.7 | 21.6 | 14.8 | 10.6 | .59 |
| Violations of Probation | 24.4 | 14.4 | 12.9 | 14.6 | 13.2 | 9.7 | .61 |
| Adjudications/Convictions | 31.0 | 22.0 | 23.9 | 26.1 | 15.0 | 13.1 | .59 |
| Adjudications/Convictions-Custody | 13.8 | 9.2 | 10.0 | 7.3 | 3.9 | 3.6 | .62 |
| **Any Negative Outcome – 24-months** | **55.8** | **49.5** | **47.2** | **49.9** | **36.1** | **27.9** | **.60** |

In **Table 5.5** we display predictive accuracy information for PINS and JD cases separately. There were lower AUC values produced for PINS (0.57 for overall negative outcomes) relative to JDs (.65). At the same time the linear pattern of prediction was manifested as expected for protective factors and recidivism (see **Figure 5.2**). Contrary to the previous findings for risk, the dynamic protective factors scores did not yield higher AUC values for the more serious outcome measures.

*NEGATIVE OUTCOME BY DYNAMIC PROTECTIVE LEVELS (n=2,972)* — *Figure 5.2*




The protective factor results by gender (**Table 5.6**) showed little difference in the AUC values for girls and boys, with most metrics reported in the 0.60 range. There was some tendency to over-classify girls in the lowest protective factor level. In addition, there was poorer differentiation across the score levels for females than for males.

## *Outcomes by Full Assessment Dynamic Protective Levels – Case Type* — Table 5.5

| | Full Assessment Dynamic Protective Levels (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Low | Low-Mod | Mod | Mod-High | High | Very High | AUC |
| **24-month Follow-up** | | | | | | | |
| New Referrals/Arrests | | | | | | | |
| - JD | 59.3 | 41.7 | 40.3 | 43.4 | 36.1 | 23.1 | .64 |
| - PINs | 43.8 | 46.5 | 42.9 | 46.1 | 28.4 | 26.4 | .55 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | | | | |
| - JD | 36.8 | 21.0 | 22.5 | 26.3 | 19.1 | 11.5 | .64 |
| - PINs | 19.8 | 14.3 | 13.5 | 19.4 | 12.6 | 9.6 | .56 |
| Violations of Probation | | | | | | | |
| - JD | 27.3 | 15.7 | 19.8 | 16.9 | 13.5 | 7.5 | .62 |
| - PINs | 23.0 | 13.9 | 9.3 | 13.5 | 13.0 | 12.0 | .60 |
| Adjudications/Convictions | | | | | | | |
| - JD | 39.1 | 25.6 | 25.2 | 29.0 | 18.7 | 12.6 | .63 |
| - PINs | 27.2 | 20.5 | 23.2 | 24.8 | 13.1 | 13.7 | .57 |
| Adjudications/Convictions-Custody | | | | | | | |
| - JD | 18.0 | 14.9 | 14.0 | 9.0 | 6.5 | 4.6 | .64 |
| - PINs | 11.9 | 6.9 | 7.8 | 6.6 | 2.6 | 2.5 | .63 |
| **Any Negative Outcome – 24-months** | | | | | | | |
| **- JD** | **65.8** | **45.3** | **47.8** | **51.2** | **41.3** | **24.8** | **.65** |
| **- PINs** | **51.1** | **51.2** | **46.9** | **49.2** | **33.5** | **31.4** | **.57** |

## OUTCOMES BY FULL ASSESSMENT DYNAMIC PROTECTIVE LEVELS – GENDER

**Table 5.6**

| | Full Assessment Dynamic Protective Levels (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Low | Low-Mod | Mod | Mod-High | High | Very High | AUC |
| **24-month Follow-up** | | | | | | | |
| New Referrals/Arrests | | | | | | | |
| - Females | 39.2 | 40.9 | 34.7 | 38.4 | 16.9 | 24.1 | .57 |
| - Males | 54.2 | 47.8 | 45.9 | 48.2 | 38.3 | 25.0 | .60 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | | | | |
| - Females | 15.3 | 10.9 | 7.5 | 11.0 | 3.8 | 3.9 | .62 |
| - Males | 30.8 | 19.6 | 21.6 | 26.3 | 20.4 | 14.2 | .59 |
| Violations of Probation | | | | | | | |
| - Females | 22.2 | 9.0 | 11.1 | 13.8 | 12.7 | 12.6 | .60 |
| - Males | 25.7 | 17.8 | 14.0 | 14.9 | 13.4 | 8.1 | .61 |
| Adjudications/Convictions | | | | | | | |
| - Females | 21.7 | 9.4 | 18.6 | 15.8 | 10.2 | 8.3 | .59 |
| - Males | 36.2 | 30.0 | 26.7 | 30.8 | 17.5 | 15.7 | .59 |
| Adjudications/Convictions-Custody | | | | | | | |
| - Females | 7.9 | 3.4 | 4.4 | 3.1 | 1.4 | 3.2 | .61 |
| - Males | 17.2 | 12.9 | 13.0 | 9.2 | 5.2 | 3.8 | .63 |
| **Any Negative Outcome – 24-months** | | | | | | | |
| **- Females** | **48.7** | **44.9** | **40.7** | **42.7** | **23.3** | **29.2** | **.59** |
| **- Males** | **59.7** | **52.4** | **50.7** | **53.1** | **42.7** | **27.3** | **.60** |

## Outcomes by Full Assessment Dynamic Risk and Protective Factor Domains

In addition to the overall dynamic risk and protective factor scores, the validation efforts were extended to the individual dynamic risk and protective factor domains that comprise the YASI Full Assessment. We examined the 3-level "low", "moderate" and "high" levels for each of the risk and protective factor domains in relation to the 24-month outcomes.

For the most part, the dynamic risk domains performed well, exhibiting higher levels of recidivism as risk increased from low to high (**Table 5.7**). While the AUCs were lower relative to the overall dynamic total scores, this is to be expected given that the domains constitute components of the overall dynamic scores. The AUCs ranged from 0.55 to 0.63 with the Community and Peer and Attitudes domains showing the highest levels for any negative outcomes. The Alcohol and Other Drugs, Skills and Free Time domains had the lowest AUC values and in some cases the relationships were not entirely linear with outcomes. Some rescaling work is indicated to improve these measures.

The AUC values (**Table 5.8**) for protective factor domains ranged from 0.50 to 0.58. The 0.50 value for the Employment domain suggests that this is a weaker predictor – however, the predictiveness of the domain may be hampered by the low percentage of youth with current or past employment activity. In the newest YASI version slated for implementation in New York State in 2008, Employment and Free Time are combined into one domain which provides more variability for examining their relationships with negative outcomes.

## OUTCOMES BY FULL ASSESSMENT DYNAMIC RISK DOMAINS — Table 5.7

| | Domain Levels (%) | | | | AUC |
|---|---|---|---|---|---|
| | None | Low | Mod | High | |
| **24-month Follow-up** | | | | | |
| New Referrals/Arrests | | | | | |
| - Family | 25.9 | 38.9 | 41.7 | 46.9 | .57 |
| - School | 28.6 | 34.6 | 45.6 | 46.5 | .57 |
| - Community/Peers | 25.7 | 34.4 | 40.4 | 50.4 | .62 |
| - Alcohol/Drugs | 37.7 | 49.0 | 56.5 | 51.6 | .56 |
| - Attitude | 30.1 | 40.2 | 47.3 | 51.6 | .58 |
| - Skills | 36.8 | 43.2 | 43.3 | 45.7 | .54 |
| - Free Time | 37.6 | 42.1 | - | 48.3 | .55 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | | |
| - Family | 11.3 | 17.9 | 18.2 | 22.1 | .56 |
| - School | 14.3 | 13.6 | 20.7 | 23.3 | .58 |
| - Community/Peers | 10.0 | 11.8 | 16.8 | 25.8 | .65 |
| - Alcohol/Drugs | 15.2 | 24.0 | 24.5 | 31.2 | .60 |
| - Attitude | 13.4 | 16.1 | 22.4 | 30.6 | .59 |
| - Skills | 15.3 | 18.4 | 20.0 | 23.1 | .56 |
| - Free Time | 16.8 | 17.6 | - | 24.2 | .55 |
| Violations of Probation | | | | | |
| - Family | 9.9 | 12.1 | 17.9 | 19.2 | .56 |
| - School | 10.8 | 14.2 | 16.6 | 20.7 | .56 |
| - Community/Peers | 10.3 | 12.3 | 15.1 | 21.0 | .59 |
| - Alcohol/Drugs | 14.4 | 21.7 | 19.6 | 22.6 | .56 |
| - Attitude | 11.1 | 14.4 | 20.2 | 24.7 | .59 |
| - Skills | 14.0 | 13.6 | 18.4 | 20.1 | .55 |
| - Free Time | 14.1 | 18.1 | - | 19.6 | .55 |
| Adjudications/Convictions | | | | | |
| - Family | 16.3 | 18.8 | 25.0 | 27.0 | .56 |
| - School | 13.3 | 17.6 | 28.3 | 26.6 | .57 |
| - Community/Peers | 13.0 | 18.8 | 19.6 | 31.3 | .62 |
| - Alcohol/Drugs | 19.9 | 31.7 | 34.2 | 34.6 | .58 |
| - Attitude | 15.3 | 21.6 | 28.1 | 35.5 | .59 |
| - Skills | 19.9 | 23.5 | 26.4 | 27.2 | .55 |
| - Free Time | 20.6 | 24.3 | - | 29.1 | .55 |
| Adjudications/Convictions-Custody | | | | | |
| - Family | 3.3 | 7.1 | 9.1 | 11.8 | .59 |
| - School | 3.4 | 7.2 | 9.5 | 12.4 | .60 |
| - Community/Peers | 4.4 | 7.5 | 6.3 | 12.9 | .62 |
| - Alcohol/Drugs | 7.3 | 14.6 | 8.8 | 14.5 | .59 |
| - Attitude | 5.2 | 7.6 | 11.3 | 16.7 | .61 |
| - Skills | 6.9 | 7.9 | 8.9 | 12.9 | .58 |
| - Free Time | 7.0 | 11.2 | - | 11.2 | .56 |
| **Any Negative Outcome – 24-months** | | | | | |
| **- Family** | **29.8** | **42.0** | **46.9** | **53.5** | **.58** |
| **- School** | **30.9** | **39.6** | **51.1** | **52.6** | **.58** |
| **- Community/Peers** | **29.8** | **39.1** | **45.5** | **56.4** | **.63** |
| **- Alcohol/Drugs** | **43.3** | **53.1** | **59.4** | **56.9** | **.56** |
| **- Attitude** | **33.9** | **45.5** | **52.3** | **59.8** | **.59** |
| **- Skills** | **40.9** | **47.2** | **50.8** | **51.7** | **.55** |
| **- Free Time** | **42.5** | **47.7** | **-** | **54.0** | **.55** |

## OUTCOMES BY FULL ASSESSMENT DYNAMIC PROTECTIVE DOMAINS — Table 5.8

| | Domain Levels (%) | | | | AUC |
|---|---|---|---|---|---|
| | None | Low | Mod | High | |
| **24-month Follow-up** | | | | | |
| New Referrals/Arrests | | | | | |
| - Family | 78.7 | 47.3 | 40.5 | 34.6 | .56 |
| - School | 46.2 | 43.4 | 40.1 | 34.5 | .55 |
| - Community/Peers | 47.6 | 41.8 | 39.7 | 33.3 | .54 |
| - Attitude | 51.4 | 43.5 | 42.1 | 30.4 | .59 |
| - Skills | 45.8 | 44.6 | 42.7 | 27.4 | .57 |
| - Employment | 41.5 | 44.5 | 43.5 | 38.1 | .50 |
| - Free Time | 49.3 | 42.5 | 43.3 | 33.5 | .56 |
| New Referrals/Arrests-Felony/Offense Against Pers | | | | | |
| - Family | 28.1 | 22.1 | 18.8 | 14.9 | .56 |
| - School | 23.7 | 18.9 | 16.7 | 15.1 | .56 |
| - Community/Peers | 25.5 | 17.4 | 19.1 | 12.7 | .56 |
| - Attitude | 26.4 | 18.7 | 17.3 | 14.1 | .59 |
| - Skills | 22.0 | 18.2 | 21.8 | 10.6 | .56 |
| - Employment | 18.8 | 18.6 | 23.4 | 21.8 | .51 |
| - Free Time | 25.2 | 18.6 | 19.2 | 15.2 | .56 |
| Violations of Probation | | | | | |
| - Family | 50.7 | 21.5 | 14.4 | 11.6 | .60 |
| - School | 19.7 | 15.6 | 16.7 | 12.7 | .55 |
| - Community/Peers | 24.5 | 15.5 | 14.1 | 12.2 | .57 |
| - Attitude | 21.2 | 18.1 | 15.6 | 11.4 | .57 |
| - Skills | 19.1 | 19.9 | 13.1 | 9.9 | .56 |
| - Employment | 16.8 | 17.3 | 12.5 | 16.3 | .50 |
| - Free Time | 18.1 | 20.3 | 14.9 | 11.6 | .56 |
| Adjudications/Convictions | | | | | |
| - Family | 28.1 | 28.8 | 22.4 | 18.2 | .57 |
| - School | 28.5 | 25.2 | 20.7 | 19.8 | .55 |
| - Community/Peers | 30.0 | 23.5 | 21.4 | 18.9 | .55 |
| - Attitude | 32.3 | 24.2 | 24.0 | 15.8 | .59 |
| - Skills | 27.1 | 24.3 | 25.2 | 14.7 | .56 |
| - Employment | 24.1 | 22.7 | 20.9 | 27.0 | .50 |
| - Free Time | 29.1 | 25.3 | 24.9 | 17.1 | .56 |
| Adjudications/Convictions-Custody | | | | | |
| - Family | - | 12.8 | 8.6 | 5.0 | .61 |
| - School | 11.4 | 10.7 | 8.1 | 5.8 | .57 |
| - Community/Peers | 13.4 | 8.2 | 8.8 | 6.8 | .55 |
| - Attitude | 15.5 | 9.0 | 7.9 | 4.9 | .63 |
| - Skills | 10.7 | 10.7 | 8.9 | 4.4 | .57 |
| - Employment | 9.5 | 7.6 | 7.1 | 10.9 | .51 |
| - Free Time | 11.9 | 10.5 | 9.2 | 5.6 | .58 |
| **Any Negative Outcome – 24-months** | | | | | |
| **- Family** | **78.7** | **53.8** | **45.5** | **38.5** | **.58** |
| **- School** | **51.9** | **48.8** | **46.1** | **37.7** | **.56** |
| **- Community/Peers** | **54.5** | **46.9** | **44.6** | **37.3** | **.55** |
| **- Attitude** | **57.9** | **48.5** | **47.8** | **34.7** | **.59** |
| **- Skills** | **52.1** | **50.7** | **45.3** | **32.0** | **.57** |
| **- Employment** | **46.9** | **51.7** | **44.5** | **40.5** | **.50** |
| **- Free Time** | **54.2** | **49.2** | **48.1** | **37.5** | **.57** |

## Interaction between Risk and Protective Factors

An important construct in the YASI assessment model concerns the distinction between risk and protective factors and the argument that protective factors add additional predictive power to the assessment tool. According to this argument, protective factors are not simply the reverse of risk. Rather, based on the resilience research on juvenile delinquency, protective factors are concrete components that "buffer" or reduce the effects of risk. In order to test this hypothesis with the YASI data, we assembled the statistics shown in **Table 5.9**.

There is mild evidence of such a buffering effect shown for overall negative outcomes. The effect is more pronounced at the lower end of the risk continuum. The buffering effect is more evident with higher risk cases for the adjudication/conviction outcomes. We examined males and females separately to determine whether or not there was a differential buffering effect by case type and gender. In **Table 5.10** the data clearly support the buffering hypothesis for high risk JDs. Curiously, the hypotheses is also supported for low risk PINS, but not for high risk PINS. With respect to gender, as shown in **Table 5.11,** the buffering effect does not emerge as clearly as in the case type comparison.

Overall, there is some evidence for the buffering hypotheses in this YASI sample. It is possible that re-weighting of items that will improve the protective factors scoring and could help identify a stronger resilience effect with these measures.

## OUTCOMES BY INTERACTION OF DYNAMIC RISK AND PROTECTIVE LEVELS — Table 5.9

| | Risk/Protective Groupings (%) | | | | $X^2$ |
|---|---|---|---|---|---|
| | L-M Risk MH-VH Prot | L-M Risk L-M Prot | MH-VH Risk MH-VH Prot | MH-VH Risk L-M Prot | |
| **24-month Follow-up** | | | | | |
| New Referrals/Arrests | 30.4 | 36.7 | 47.8 | 49.7 | 57.8, p<.0001 |
| Adjudications/Convictions | 16.6 | 19.0 | 25.9 | 30.2 | 48.3, p<.0001 |
| **Any Negative Outcome – 24-months** | **33.7** | **38.8** | **55.7** | **55.7** | **87.3, p<.0001** |

## OUTCOMES BY INTERACTION OF DYNAMIC RISK AND PROTECTIVE LEVELS – CASE TYPE — Table 5.10

| | Risk/Protective Groupings (%) | | | | $X^2$ |
|---|---|---|---|---|---|
| | L-M Risk MH-VH Prot | L-M Risk L-M Prot | MH-VH Risk MH-VH Prot | MH-VH Risk L-M Prot | |
| **24-month Follow-up** | | | | | |
| New Referrals/Arrests | | | | | |
| - JD | 29.7 | 33.1 | 49.0 | 57.9 | 53.8, p<.0001 |
| - PINs | 30.9 | 40.6 | 47.4 | 46.2 | 18.3, p<.0004 |
| Adjudications/Convictions | | | | | |
| - JD | 17.8 | 18.2 | 26.8 | 37.3 | 40.8, p<.0001 |
| - PINs | 15.6 | 19.8 | 25.7 | 27.2 | 17.9, p<0005 |
| **Any Negative Outcome – 24-months** | | | | | |
| **- JD** | **32.5** | **34.6** | **65.1** | **63.8** | **75.9, p<.0001** |
| **- PINs** | **34.7** | **43.2** | **53.0** | **52.3** | **26.1, p<.0001** |

## OUTCOMES BY INTERACTION OF DYNAMIC RISK AND PROTECTIVE LEVELS – GENDER

**Table 5.11**

| | Risk/Protective Groupings (%) | | | | $X^2$ |
|---|---|---|---|---|---|
| | L-M Risk MH-VH Prot | L-M Risk L-M Prot | MH-VH Risk MH-VH Prot | MH-VH Risk L-M Prot | |
| **24-month Follow-up** | | | | | |
| New Referrals/Arrests | | | | | |
| - Females | 24.3 | 31.4 | 38.8 | 39.7 | 12.0, p<.008 |
| - Males | 33.4 | 39.6 | 52.1 | 55.1 | 49.0, p<.0001 |
| Adjudications/Convictions | | | | | |
| - Females | 12.1 | 14.0 | 9.0 | 20.0 | 7.9, p<.05 |
| - Males | 18.9 | 21.7 | 34.1 | 35.8 | 46.8, p<.0001 |
| **Any Negative Outcome – 24-months** | | | | | |
| **- Females** | **28.9** | **34.7** | **46.4** | **47.9** | **20.6, p<.0001** |
| **- Males** | **36.1** | **41.0** | **60.3** | **60.0** | **6.2, p<.0001** |

## Validity of YASI Reassessments

An important objective in the design of the YASI scoring was the enhancement of the dynamic properties of the assessment model. For this reason, it was important to test the extent to which reassessments using YASI, would show validity. That is, it was hypothesized that change in scores would provide important predictive information about youth who improve their outcomes as a result of positive change.

**Table 5.12** provides evidence that reassessments do provide important information about the likelihood of success given knowledge of changes on the YASI measures. In comparison to youth who showed no change or increased in risk there was a 18.1% reduction the rate of negative outcomes associated with youth who decreased in risk upon reassessment. With respect to Protective Factors, a reduction of 24.2% was evident when protective factors increased.

One concern is the possibility that positive change occurs only in lower risk cases and is not observed for cases that are higher risk. As an exploration of the impact of risk reduction among higher risk youth, we examined the reassessment data separately for youth that were High or Very High on overall dynamic risk. The reduction in negative outcomes for this highest risk group was maintained with reduction rates of 17.5% for cases that decreased in risk and 31.9% for cases that improved in protective factors (**Table 5.13**).

The risk reduction effect was also tested for case type and gender (**Tables 5.14** and **5.15**). There was stronger evidence of the predictive validity of reassessments for PINS as opposed to JDS. With respect to gender, the data indicated that the reassessment scores were somewhat more predictive of outcome for males than females. However, positive change did signal better outcomes for females as well.

## OUTCOMES BY CHANGE AT REASSESSMENT OF DYNAMIC RISK AND PROTECTIVE SCORES — Table 5.12

| | Change of Risk and Protective Scores (%) | | | | | |
|---|---|---|---|---|---|---|
| | Risk Decrease | Risk No Chg / Increase | % Chg | Prot Increase | Prot No Chg / Decrease | % Chg |
| **24-month Follow-up** | | | | | | |
| New Referrals/Arrests | 32.2 | 38.6 | 16.6 ↓ | 32.2 | 37.5 | 14.1 ↓ |
| Adjudications/Convictions | 18.8 | 19.6 | 4.1 ↓ | 18.3 | 20.2 | 9.4 ↓ |
| **Any Negative Outcome – 24-months** | **36.7** | **44.8** | **18.1 ↓** | **34.8** | **45.9** | **24.2 ↓** |

## OUTCOMES BY CHANGE AT REASSESSMENT OF DYNAMIC RISK AND PROTECTIVE SCORES - H-VH ON DYNAMIC RISK — Table 5.13

| | Change of Risk and Protective Scores (%) | | | | | |
|---|---|---|---|---|---|---|
| | Risk Decrease | Risk No Chg / Increase | % Chg | Prot Increase | Prot No Chg / Decrease | % Chg |
| **24-month Follow-up** | | | | | | |
| New Referrals/Arrests | 38.3 | 48.2 | 20.5 ↓ | 37.9 | 46.8 | 19.0 ↓ |
| Adjudications/Convictions | 28.2 | 27.5 | 2.5 ↑ | 26.7 | 29.8 | 10.8 ↓ |
| **Any Negative Outcome – 24-months** | **45.7** | **55.4** | **17.5 ↓** | **41.1** | **60.4** | **31.9 ↓** |

## *Outcomes by Change at Reassessment of Dynamic Risk and Protective Scores - Case Type*

*Table 5.14*

| | Change of Risk and Protective Scores (%) | | | | | |
|---|---|---|---|---|---|---|
| | Risk Decrease | Risk No Chg / Increase | % Chg | Prot Increase | Prot No Chg / Decrease | % Chg |
| **24-month Follow-up** | | | | | | |
| New Referrals/Arrests | | | | | | |
| - JD | 32.7 | 40.0 | 18.3 ↓ | 37.9 | 32.4 | 17.0 ↑ |
| - PINs | 32.1 | 38.2 | 16.0 ↓ | 30.9 | 38.5 | 19.7 ↓ |
| Adjudications/Convictions | | | | | | |
| - JD | 20.6 | 25.2 | 18.3 ↓ | 20.2 | 25.8 | 21.7 ↓ |
| - PINs | 18.4 | 18.2 | 1.1 ↑ | 17.9 | 19.1 | 6.3 ↓ |
| **Any Negative Outcome – 24-months** | | | | | | |
| **- JD** | **45.0** | **44.1** | **2.1 ↑** | **45.5** | **43.5** | **4.6 ↑** |
| **- PINs** | **35.1** | **44.9** | **18.1 ↓** | **32.5** | **46.4** | **30.0 ↓** |

## *Outcomes by Change at Reassessment of Dynamic Risk and Protective Scores - Gender*

*Table 5.15*

| | Change on Risk and Protective Scores (%) | | | | | |
|---|---|---|---|---|---|---|
| | Risk Decrease | Risk No Chg / Increase | % Chg | Prot Increase | Prot No Chg / Decrease | % Chg |
| **24-month Follow-up** | | | | | | |
| New Referrals/Arrests | | | | | | |
| - Females | 19.9 | 22.6 | 11.9 ↓ | 21.6 | 19.5 | 10.8 ↑ |
| - Males | 40.4 | 47.7 | 15.3 ↓ | 39.7 | 47.3 | 16.1 ↓ |
| Adjudications/Convictions | | | | | | |
| - Females | 8.0 | 10.1 | 20.8 ↓ | 9.9 | 6.8 | 45.6 ↑ |
| - Males | 26.1 | 25.1 | 4.0 ↑ | 24.2 | 27.5 | 12.0 ↓ |
| **Any Negative Outcome – 24-months** | | | | | | |
| **- Females** | **25.0** | **28.7** | **12.9 ↓** | **25.7** | **27.0** | **4.8 ↓** |
| **- Males** | **44.5** | **54.0** | **17.6 ↓** | **41.3** | **56.1** | **26.4 ↓** |

CHAPTER

# 6 Conclusions

The current validation advances the support of earlier reports for the use of YASI in juvenile probation departments in the State of New York. The sampling strategy that was used to address previous limitations in data analysis was highly successful. The approach produced a large sample for which there was nearly 100% response from the New York counties that participated in the implementation of YASI across the state. The high rate of county compliance with the data requirements of the outcome study contributes greatly to the integrity of the sample. The sample provided long-term outcome data on 3,249 youth with a minimum of 2 years follow-up post assessment. In addition, there were an ample number of cases for exploring important questions related to the validity of the Full Assessment. While validation results related to the Pre-Screen were very adequate in previous samples, the current sample allowed us to examine the Full Assessment YASI with greater scientific rigor. Overall, the quality of the current sample permits greater certainty in conclusions about the utility of YASI in New York State and builds confidence in conclusions about methods that can be employed to address some minor limitations in the current version of YASI scoring.

With respect to the validity of the YASI Pre-Screen, the data demonstrated a sufficient level of predictive accuracy using statistical technology that is the current standard for evaluating assessment tools. Twenty-four months after intake assessment the YASI Pre-Screen discriminated between low, moderate and high risk youth on a number of indices of juvenile justice outcomes. Approximately 30% of low risk cases evidenced some form of

negative outcomes after 24 months following their initial assessments with YASI. Following a linear pattern of increase in risk and negative outcomes, moderate risk cases exhibited some form of recidivism at a rate of 45% and high risk cases recidivated at a rate of 53%. The evidence for the utility of YASI as a predictive tool was particularly convincing for the outcome of placements following a new adjudication or conviction. In fact, the predictive accuracy statistic was highest for this most serious juvenile justice outcome. Twenty-four months after their identification as low risk cases using YASI, only 4.2% of such cases had an adjudication or conviction that resulted in a placement. The rate for moderate risk cases (7.6%) was almost double the rate for low risk cases, and almost double again for high risk cases (13.2%).

The quality of dynamic assessment measures is of particular importance for the overall validation of the YASI model because case planning is dependent on identifying individual factors that need to change in order to reduce risk. The validity data presented for the YASI Full Assessment measures was very promising. There was evidence of linear relationships between negative juvenile justice outcomes and dynamic risk and protective factors as measured by the YASI Full Assessment. The predictive accuracy statistics obtained for the purely dynamic scores was actually found to exceed (slightly) the level of predictability associated with the Pre-Screen measures that combine both static and dynamic components of risk. Static risk factors have always been considered an efficient method of predicting outcomes because of the ease of their measurement and the assumed greater measurement reliability that can be obtained when using historical records. However, the results of our current analyses demonstrate convincingly that juvenile probation officers are capable of measuring, with more than adequate validity, rather complex dynamic constructs based on semi-structured interviewing techniques. Again, given the paramount role of dynamic assessment in the case work model of which YASI is a part, the latter findings are most encouraging.

The YASI is embedded within a casework model that places emphasis on the importance of risk and protective factors. In comparison to risk, protective factors, or strengths, have received less practical application in assessment. The model employed here suggests that assessment of strengths is an important tool for the development of case plans because probation officers and other case workers should focus on building new attitudes, skills and resources to help youth live more successful lives in the community. It is also argued that strengths or "protective factors" can help buffer the impact of risk leading to a resilience effect. For example, some research has been shown that youth possessing high strengths have recidivism rates much lower than would be expected from their status on risk factors. This hypothesis was confirmed again in the current analysis using YASI measures. We found that in a number of comparisons on outcome, both high risk and low risk youth had measurably better outcomes when their protective factor scores were high. This suggests that caseworkers and probation officers should consider both risk and protective factors when developing case plans, carefully considering the possible interaction between these two predictive components.

The data analyses resulted in good support for the utility of reassessment as a principal component of the YASI model. The reassessment data showed that dynamic YASI components are sensitive to detecting positive change in youth receiving probation services. Moreover, the YASI dynamic change scores for both risk and protective factors provided meaningful predictive information about probation outcomes: youth who showed progress on YASI scores had measurably lower rates of negative outcomes than youth who failed to change or increased their levels of risk and decreased protective factors. The implications of these findings are that YASI is an appropriate tool for gauging progress on case plans. The dynamic reassessment properties of the tool have the potential to help juvenile probation departments measure their performance in reducing risk and increasing strength among their juvenile probation clients.

In addition to providing evidence that the customized version of YASI for New York State performs well for predicting negative juvenile justice outcomes and measuring the dynamic risk and protective factors of youth, the study points to some areas that need improvement in the measurement model. While the YASI manifested very good predictive qualities for a number of juvenile probation sub-groups, PINS and female youth were identified as two groups for which measurement properties could be improved.

With respect to assessing risk in females, a tendency toward over-classification has been detected in a number of popular assessment measures used in general populations of offenders. However, in most instances, the problem will be easily corrected with changes to cut-off scores. With respect to the YASI, specialized cut-offs for girls have been validated in the State of Illinois where a similar problem of over-classification of risk for girls was discovered in a large outcome sample of juvenile probationers. The amendment to YASI scoring for girls has been implemented in that state and a situation has been achieved whereby the recidivism rates for high risk girls and boys is equivalent. We would recommend that similar scoring adjustment procedures for girls should be implemented in the State of New York. This can be achieved by introducing new cut-offs in the planned deployment of YASI 5.0 software in 2008. In addition, given the quality of the outcome sample that has been constructed, there may also be considerable utility in conducting a larger investigation of the validity of YASI items and domains for girls. It is likely that alternative scoring and weighting procedures could be developed to further improve the performance of YASI with female juvenile populations.

On the subject of PINS cases, the outcome analyses demonstrated that YASI is a less efficient predictor of outcomes for this group than it is for JD cases. While the YASI produces linear relationships between risk, protective factors and outcomes, the tool currently performs better with JDs. In comparison to the over-classification issues discovered for females, limitations for PINS cases resides in poor discrimination between

moderate and high risk cases. Since the distribution of risk and outcomes in these cases is linear, the current data is not sufficient to propose that the use of YASI should be abandoned for PINS cases. However, we recommend that an analytical exercise be performed that could lead very likely to the development of improved weighting and scoring of YASI items for PINS cases. For example, it is likely that there may be a minimal number of YASI components that do not predict outcomes in PINS cases. In such cases, the items could be adjusted so that they do not add weight to the scoring for PINS cases. It is also probable that a number of items are of greater importance to the prediction of outcomes for PINS cases than for JDs. These questions warrant further investigation and could be explored with the current validation sample.

While we have identified some sub-groups that could benefit from improved psychometric properties, in general, our current analysis suggests that the overall predictive efficiency of YASI Pre-Screen and Full Assessment scoring could be improved. For example, our preliminary exploration of re-weighting procedures for the Pre-Screen resulted in some gains in prediction with minimal adjustments to individual items. While the current scoring is effective in achieving classification results, further exploration of the data would lead to enhanced efficiency of prediction. A similar situation exists with the Full Assessment dynamic components, where some domains could be improved through re-scoring efforts. Cut-off points along the overall dynamic risk and protective factor continuums could also be adjusted to produce more meaningful discrimination. Improvements to the cut-offs for these scales will be released with the newest version of the software (YASI 5.0).

Overall, the YASI project in New York State is an impressive example of organizational change and innovation in juvenile justice. The momentum of the project resulted in the voluntary involvement of 54 departments and approximately 1000 staff have completed an intensive "what works" curriculum on assessment and case planning. In addition, the counties have been participating in a bi-annual initiative to analyze and use the data

collected using YASI for program planning and performance measurement. The development and evolution of the YASI over the last seven years, has given New York counties a state-of-the-art tool that can be employed as a foundation for the delivery and advancement of a full range of juvenile probation services.

APPENDIX

# A YASI Implementation

## History of the Washington State Model

As an innovative development in the State of Washington, the development of the model was a response to a 1997 legislative mandate that required the introduction of a menu of effective programs for juveniles (for example, see Aos, Phipps, Barnowski & Leib, 2001). As an integral component of the introduction of the program menu, the development of a state-of-the-art assessment component was recommended as an initial step. Based on existing research to inform the development, the new assessment model was to be used for assigning clients to programs and services according to their risk, need and protective factor levels. The assessment model was designed to ensure that juveniles would be efficiently and cost-effectively matched to appropriate interventions from the menu of programs that was to be introduced. Scores from the assessment process are now routinely used to identify which juveniles are eligible (according to need) for participation in the various structured programs that have been implemented in most juvenile courts in the state. These programs are being drawn from national program models that have demonstrated effectiveness (i.e., recidivism reduction) in serving the juvenile population.[1] More detail on the development of the Washington assessment model and the associated initiatives for reducing risk in the juvenile population in Washington is available from the WSIPP (www.wsipp.wa.gov, Barnoski, 2003). Based on a large follow-up sample, a recent

[1] For example, Aggression Replacement Training, Functional Family Therapy, Multi-Systemic Therapy and others.

report also provides validity information on the use of the tool in Washington State (Barnoski, 2004).

Several advances in both theory and research within the juvenile delinquency field guided the development of the Washington Model. As indicated above, the model is consistent with three principles of effective case classification (risk, need, and responsivity) that have recently become influential in case management practice in both juvenile justice and adult corrections (Andrews, Bonta, and Hoge, 1990). In addition, the development of the tool benefited from a thorough review of the juvenile justice literature including predictors of delinquency, risk and needs research, resiliency and protective factors, and program effectiveness evaluations. During the development stage, a number of experts in the juvenile delinquency field were consulted to provide input on the tool from the point of view of scientific integrity, inclusion of relevant content, and the degree to which it responded to limitations in currently available assessment devices.

The design of the Washington State assessment model benefited greatly from the input of juvenile probation staff[2] who were directly involved in delivering probation services. This input shaped how the tool would "look" and "feel" for the frontline staff using the instrument on a daily basis. For example, there was a desire to reflect the language used by probation staff to describe the various risk, need, and protective factor concepts included in the model. Consultations with frontline juvenile probation staff helped select terms and response styles that were understood and preferred by the staff who would ultimately be responsible for conducting the assessments. For example, the language used in the instrument attempted to mirror the professional language used to describe interventions for youth and the process of monitoring the progress of supervision over the course of service.

[2] Juvenile probation services staff are referred to as probation counselors in Washington State.

The Washington State Model differs from other juvenile assessment instruments in a number of respects. The Washington State model is considerably longer and more comprehensive than alternative tools for assessment of risk and need in juvenile settings. The inclusion of protective factor items, another major distinguishing feature, and the use of multiple response categories (usually 4 or more per item) contributed to the relative lengthiness of the assessment protocol. Rather than using dichotomous or simple rating formats for item responses (e.g., a problem or situation is either present or absent, or a problem is very serious to not at all serious), the Washington model employs multiple behavioral categories whenever possible. This approach provides a more concrete user interface to operationalize the multiple risk and protective constructs. The greater range in response categories minimizes forced-choice responses and gives users a neutral or mid-range option. In some cases this helps users make more rapid responses to the items, especially when the true response does not fall on the extreme end of a continuum. In other instances, the use of multiple response categories permits measurement of both risk and protective factor constructs within a single item.

Reassessment of dynamic items is another area that benefits from the greater range in item response categories. Many of the items are sensitive to modest changes in behavior or attitudes. This provides for more realistic assessment of smaller yet meaningful changes that many youth make over the course of receiving juvenile justice services. From a psychometric point of view, the use of a greater range in response categories also permits more flexibility for selecting cut-off scores to reflect different levels of static and dynamic risk and protective factors. This flexibility is particularly helpful in designing cut-offs for sub-scales (e.g., family, school, etc.) where the available range in responses for alternative tools can limit the development of meaningful groupings or levels of scores.

The information gathering methodology that was designed for conducting assessments was also an important advance. Significant effort was devoted to developing an approach for

collecting reliable and valid data based on multiple assessment sources. The sources include the youth, family, school, police, mental health service providers, referral and other official records, and any other data available from collateral sources. However, the assessment relies most heavily on information solicited from the youth and his or her family through a semi-structured interview. Open-ended interviewing techniques are emphasized as the most effective procedure for gathering information from clients. Essential as a tool for rapport building, the interviewing procedures are intended as first steps in establishing a realistic and self-motivating case plan to address the needs identified by the assessment. Given the thrust of the model to assist in case planning and service delivery, the semi-structured interview procedures are considered essential to the conduct of the assessment. Using principles of motivation (e.g., Miller and Rollnick, 2002) that are now being widely applied in human service settings, the assessment interview is used to initiate a relationship with the client. The initial assessment interview paves the way for the juvenile justice professional to provide feedback to clients on the risks and strengths that are identified in the assessment process. Further, since the assessment protocol is comprehensive, it increases the ability to "jumpstart" appropriate service intervention.

Another innovative feature of the Washington model concerned the use of a two-stage model of assessment. Using a Pre-Screen Assessment that is followed by a more comprehensive assessment (Full Assessment) for cases that are identified as higher risk, the model employs triage principles. The Pre-Screen consists of approximately one-third of the items in the total Full Assessment battery. The Pre-Screen includes both static and dynamic risk items that are considered to be most efficient predictors of outcome. These include traditional criminal/legal history items along with social history items that measure family, school, peers, substance abuse, and mental health need areas. Clients are classified as "low", "moderate" or "high" by combining total scores for the criminal history and social history Pre-Screen risk sub-scales. The Full Assessment includes all of the static and

dynamic risk items from the Pre-Screen along with additional items that assesses use of free-time, employment, attitudes, and skill (i.e., social and cognitive) dimensions.

Both risk and protective factor items are incorporated in the Full Assessment. The risk items refer to characteristics of the youth and their situations that are predictive of negative outcomes. Protective factors refer to strengths and other resources possessed by the youth and/or their family that help reduce risk and provide a source of resilience in the face of negative circumstances. Protective factors help link youth to positive social influences that may help insulate them from involvement in a variety of problem behaviors. The Full Assessment includes protective factor items for assessing client strengths across seven of the risk dimensions (Family, School, Community/Peers, Employment, Use of Free Time, Attitudes/Behavior, and Skills).

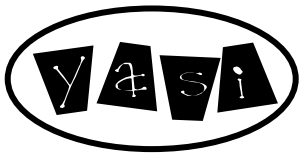
## The NYSDPCA Version of the Washington Model - YASI

The YASI was customized specifically for use by juvenile probation departments in New York State. The Pre-Screen adaptation consists of 31 items while the Full Assessment includes 91 items in total. All 10 dimensions of the Washington model are included in the YASI Full Assessment (Legal History, Family, School, Community/Peers, Alcohol/Drugs, Physical/Mental Health, Attitudes, Skills, Use of Free Time, and Employment). Outlines of the Pre-Screen and Full Assessment versions of YASI appear on the following pages.

The original Washington protocol required revisions to reflect the language and legal policy surrounding juvenile justice processing in the State of New York. In particular, the tool was adapted to include "PINS" (Persons in Need of Supervision), a major category of youth

PRE-SCREEN ASSESSMENT OUTLINE

**Youth Assessment & Screening Instrument**




# 1 Legal History

1. Previous complaints
2. Age at first contact with probation
3. PINS complaints
4. JD Complaints
5. Felony-level complaints
6. Number of family court adjudications
7. Number of criminal court adjudications
8. Offenses against another person
9. VOP Complaints
10. Detention
11. Out-of-home placements
12. Incarceration
13. Escapes
14. Failure-to-appear in court

# Social History

## 2 Family Environment

1. Runaways/Kicked-out
2. History of child neglect
3. Parental authority
4. Circumstances of family members living at home

## 3 School

1. Current enrollment status
2. Attendance
3. Conduct
4. Academic performance

## 4 Community and Peer Relationships

1. Associates the youth spends time with

## 5 Alcohol and Drugs

1. Alcohol and substance sue

## 6 Physical / Mental Health

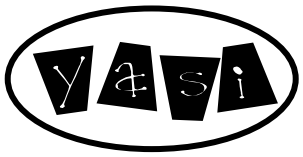
1. Mental health problems
2. Homicidal ideation
3. Suicidal ideation
4. Violence
5. Sexual aggression
6. Physical/Sexual Abuse
7. Sexual vulnerability/exploitation

## 7 Attitudes

1. Responsibility for delinquent/PINS behavior

FULL ASSESSMENT OUTLINE

**Youth Assessment & Screening Instrument**




## 1 Legal History

1. Previous Complaints
2. Age at first contact with probation
3. PINS complaints
4. JD complaints
5. Felony-level complaints
6. Number of family court adjudications
7. Number of criminal court adjudications
8. Offenses against another person
9. VOP complaints
10. Detention
11. Out-of-home placements
12. Incarceration
13. Escapes
14. Failure-to-appear in court

## 2 Family & Environment

1. Runaways/Kicked-out
2. History of child neglect
3. Parental authority
4. Circumstances of family members living at home
5. Historic problems of family members at home
6. Youth's current living arrangements
7. Annual household income
8. Parental supervision
9. Appropriate consequences
10. Appropriate rewards
11. Parental attitude
12. Family support network
13. Family member(s) the youth feels close to
14. Family provides opportunities for participation
15. Family provides opportunity for learning, success
16. Parental love, caring and support
17. Family conflict

## 3 School

1. Current enrollment status
2. Attendance
3. Conduct
4. Academic performance
5. Academic performance compared to last year
6. Special education student
7. Youth believes in the value of education
8. Encouraging school environment
9. Expulsions and suspensions since first grade
10. Age at first expulsion
11. Involvement in school activities
12. Teachers/staff/coaches youth likes

## 4 Community and Peer Relationships

1. Associates the youth spends time with
2. Attachment to positively influencing peer(s)
3. Admiration/emulation of tougher delinquent peers
4. Months associating with delinquent friends/gang
5. Free time spent with delinquent peers
6. Strength of delinquent peer influence
7. Number positive adult relationships in community
8. Pro-social community ties

## 5 Alcohol and Drugs

1. Alcohol and other drug use
2. Previous substance use treatment
3. Receptivity to treatment

## 6 Physical / Mental Health

1. Mental health problems
2. Homicidal ideation
3. Suicidal ideation
4. Violence
5. Sexual aggression
6. Physical/Sexual Abuse
7. Victimization
8. Other mental health indicators
9. General physical health
10. Type of physical health complaints

## 7 Attitudes / Behaviors

1. Responsibility for delinquent/criminal behavior
2. Attitude during delinquent/criminal act(s)
3. Understanding impact of behavior on others
4. Willingness to make amends
5. Optimism
6. Hostile interpretation - actions/intentions of others
7. Law-abiding attitudes
8. Respect for authority figures
9. Tolerance for frustration
10. Belief in use of physical aggression
11. Belief in use of verbal aggression
12. Readiness for change

## 8 Skills

1. Consequential thinking skills
2. Social perspective-taking skills
3. Problem-solving skills
4. Impulse-control skills to avoid getting in trouble
5. Loss of control over delinquent/criminal behavior
6. Interpersonal skills
7. Goal-setting skills

## 9 Employment

1. History of employment
2. Number of times youth has been employed
3. Number of weeks of longest period of employment
4. Positive relationship(s) with employer(s) or adult coworker(s)

## 10 Use of Free Time

1. Structured recreational activities
2. Unstructured recreational activities
3. Challenging/exciting hobbies/activities
4. Decline in interest in positive leisure pursuits

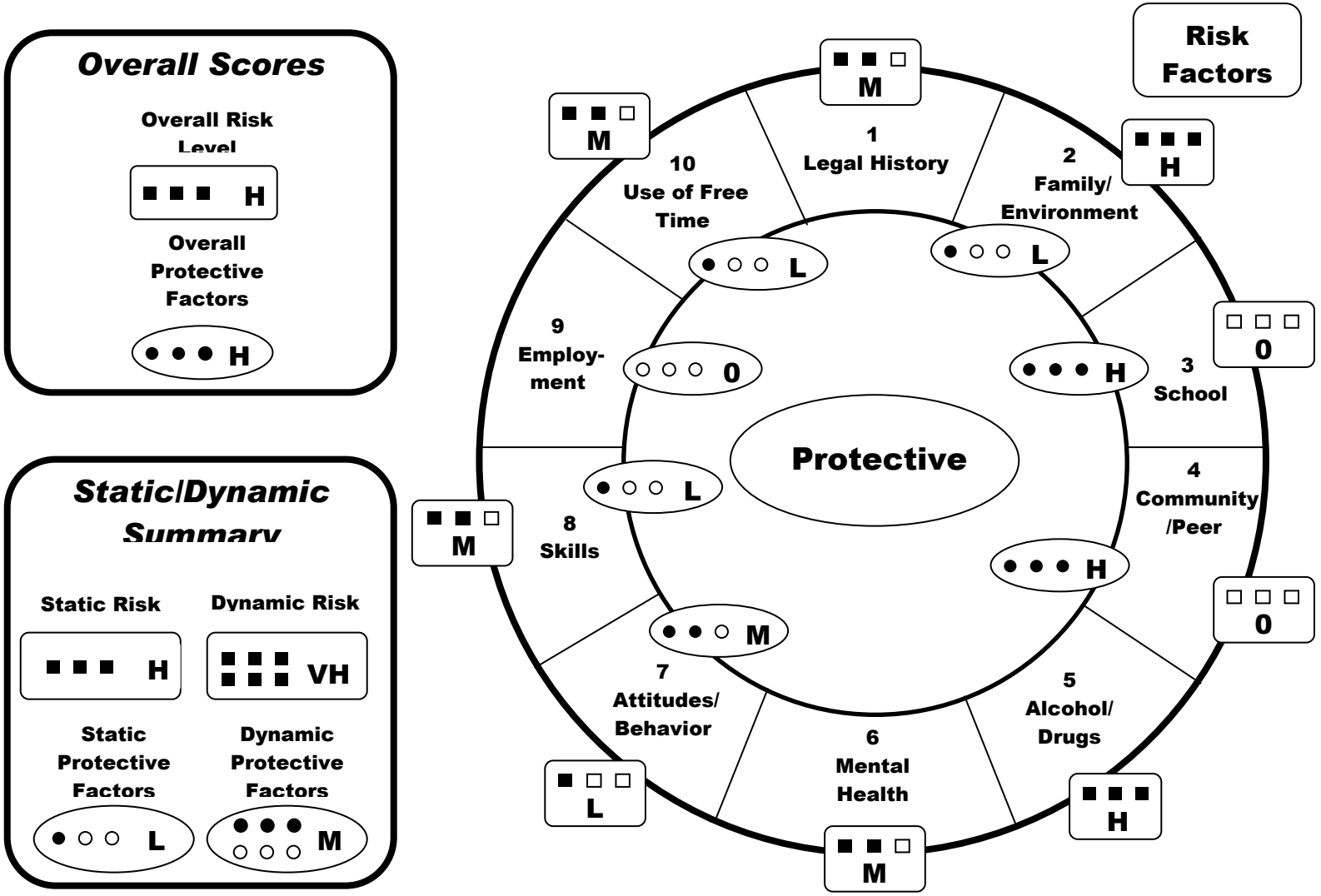
served by juvenile probation departments in the State of New York[3]. A small number of items were deleted from the YASI and a limited number of supplementary items were introduced to bolster the protective factor sub-scales. Items were also added to assess a greater range of characteristics within the Physical/Mental Health dimensions. The sequence of sub-scales was also realigned with the existing order in which information is collected by probation officers. The re-sequencing was also used to accomplish a more efficient formatting of Pre-Screen and Full Assessment items.

A critical requirement of the revised assessment tool was that it be appropriate for use across the PINS and JD populations. While there are a number of assessment instruments available for juvenile delinquents, there has been less attention to assessment issues for youth who are at risk because of other problems including status offenses (e.g., truancy, runaways, unlawful marijuana possession, etc.) and family and parenting problems (e.g., ungovernable/incorrigible behavior). At the same time, it has been argued that many of the risk indicators for delinquency are also risk indicators for a range of other problem behaviors that do not necessarily qualify as delinquent behavior (Farrington, 2000). For this reason, it was generally understood that many of the risk indicators that apply to juvenile delinquents would also be appropriate for PINS. In the content of YASI items, careful attention was given to ensuring that the phrasing of the items applied equally to PINS and JD behaviors.

An additional area of development for the YASI concerned the presentation of Full Assessment results. The current authors devised a graphic profile, now referred to as the "YASI Wheel", to display the Full Assessment results. The "Wheel", shown on the following page, summarizes the overall results of the assessment and shows the risk and protective

[3] The latter youth are status offenders who typically exhibit a pattern of conflict with their families or school (e.g., ungovernability, runaways, truancy), or other incorrigible behavior such as alcohol or marijuana use.

factor levels for all 10 domains included in the Full Assessment. The "Wheel" is generated by YASI software distributed by Orbis Partners Inc.


Overall Scores
Overall Risk Level
H
Overall Protective Factors
H
Static/Dynamic Summary
Static Risk
H
Dynamic Risk
VH
Static Protective Factors
L
Dynamic Protective Factors
M
Risk Factors
1 Legal History
M
2 Family/ Environment
H
3 School
0
4 Community /Peer
0
5 Alcohol/ Drugs
H
6 Mental Health
M
7 Attitudes/ Behavior
L
8 Skills
M
9 Employ- ment
0
10 Use of Free Time
M
L
L
H
L
H
M
Protective

The Pre-Screen version is an initial screening device for assessing legal risk and the need for services. It is also used to determine whether or not a more comprehensive assessment should be conducted. Pre-Screen scoring procedures result in the classification of each case according to "low", "moderate", or "high" risk of negative outcomes (e.g., future involvement in delinquent/PINS behavior, new complaints, etc.), based on the combination of the legal and social history items that make up the scoring. Risk levels are also generated separately for the Legal History and Social History components (comprised of selected family, school, community and peers, substance use, mental health, and attitude items).[4]

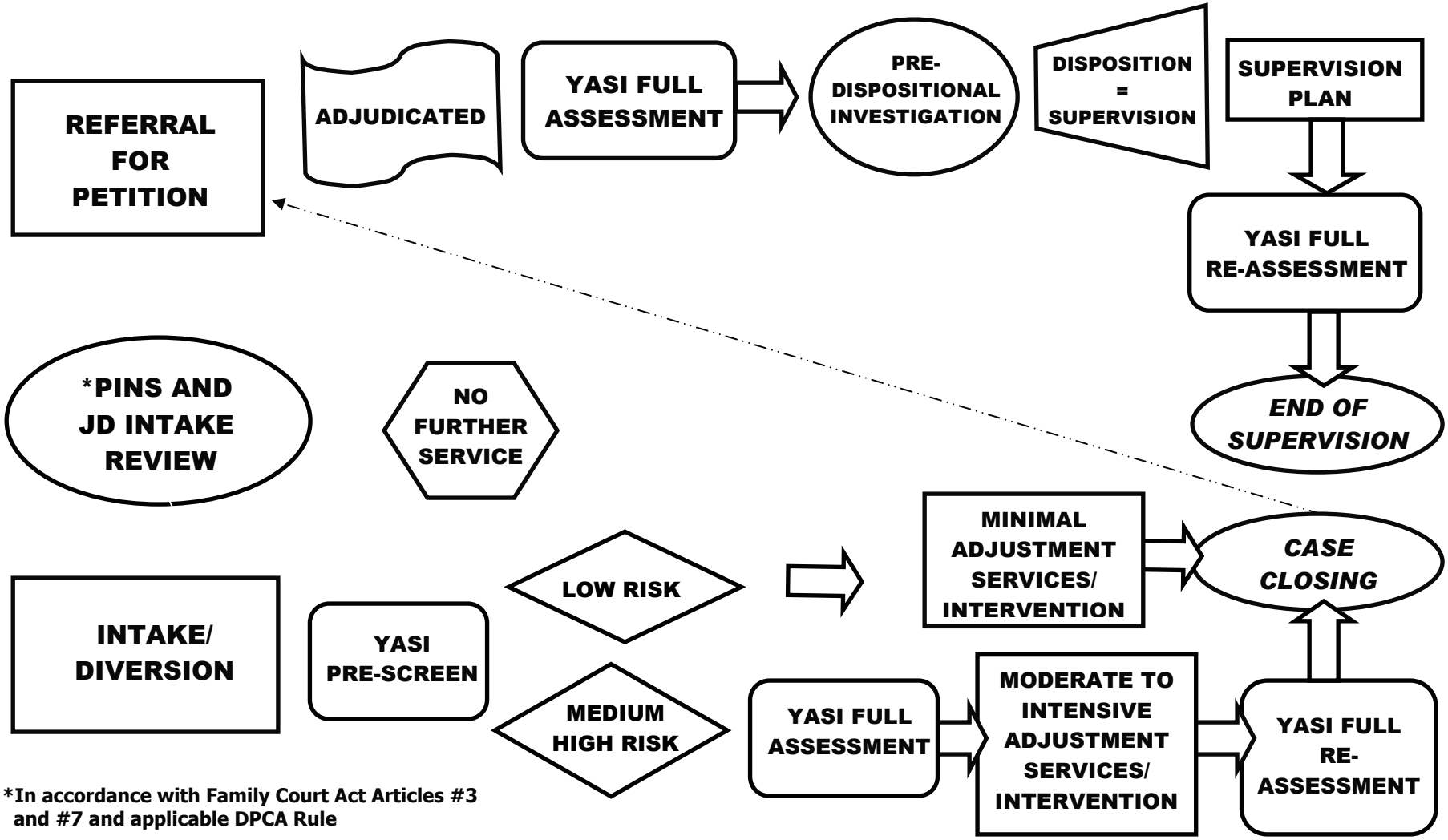
Following the completion of a Pre-Screen assessment, the YASI Full Assessment is reserved for use with moderate and high-risk cases that are likely to require more ongoing monitoring and a greater concentration of services and programs than cases assessed as exhibiting low-risk of negative outcomes. As such, the Full Assessment is used for service planning, allowing the juvenile justice practitioner to identify priorities for service delivery. This protocol follows the model used in Washington State. The Full Assessment provides significant detail about the various problems and protective factors possessed by the youth. This helps staff set goals of service and identify issues that should be monitored over the course of working with the youth. The Full Assessment may also provide helpful information for preparation of various reports that might be required by the court, community service providers, placement agencies, or other juvenile justice authorities. For example, an automated Pre-Disposition Investigation (PDI) narrative report has been introduced with the YASI software to help probation officers make greater use of the assessment protocol in preparing reports for the court. The Full Assessment can also be reviewed and updated at Reassessment in order to monitor progress on the case plan, and at case closing to measure the impact of intervention services.

[4] Although not included in the original Washington model, and the first version of YASI implemented in New York, an attitude item was added to the Pre-Screen following the first year of implementation by NYSDPCA.

## YASI Administration Guidelines

NYSDPCA developed guidelines for use of the YASI at various stages in the probation service process for both PINS and JDs and for cases that were either open for adjustment services or adjudicated after a referral to petition. For cases opened for adjustment services, Pre-Screen YASI assessments are followed by Full Assessments for cases that score in the moderate and high-risk range. For adjudicated cases, it is recommended that a Full Assessment YASI be conducted at the PDI stage to serve as the principal source of information for recommendations to the court and the elaboration of a case plan. For cases remaining open for service for 3 months or more, it is recommended that a reassessment is conducted. This is accomplished by reviewing and updating the most recent full assessment, which is then saved as part of the case file. A reassessment is also recommended to measure the status at case closing. A schematic representation of the administration guidelines is shown on the next page.

# USE OF THE YOUTH ASSESSMENT AND SCREENING INSTRUMENT (YASI) IN NY JUVENILE PROBATION SERVICES




***In accordance with Family Court Act Articles #3 and #7 and applicable DPCA Rule**

## Implementation

The implementation of YASI in New York State proceeded in six phases. Beginning with Phase I in the Fall of 2000, six counties began piloting YASI in their juvenile probation departments. In the five successive phases, which generally unfolded over periods of twelve months, several new counties joined the implementation. By the Fall of 2007, a total of 54 New York State county juvenile probation departments had implemented YASI.

Phase I involved a high degree of effort in preparing for the first counties to begin implementation and this phase laid the groundwork for subsequent expansion. As elaborated above, initial implementation focused on the adaptation of the Washington model to the particular needs and practices of juvenile probation departments in New York State. This was accomplished through collaboration with the NYSDPCA project authority responsible for juvenile justice initiatives within the Division. Following the customization of the Washington model, an orientation to the project was held for managers to introduce the YASI and outline the goals and objectives of the pilot assessment project. In addition, our consulting team visited all six pilot sites to brief probation directors and supervisors on the nature of the project and discuss preparations the department would need to make before implementation began. The site visits provided an important opportunity to gather information that was relevant to customizing training around the unique needs of the county jurisdictions. Information gained from the site visits relative to the delivery of juvenile probation services supplied additional input for finalizing the content and item formatting of YASI.

Following the site visits and finalization of the instrument, the YASI training curriculum was adapted by Orbis Partners Inc. for delivery to juvenile probation staff in New York

State. The revised YASI curriculum[5] incorporated components that clarified how the instrument would be used by the counties. The software application for scoring the instrument was also customized for utilization by New York State.

A pre-existing software template developed by the consulting team was adapted for delivery of the YASI. All of the YASI item content, scoring, and coding necessary for the generation of results was entered into the template and various testing routines were conducted on the functionality of the application. An "outcome tab" was developed to collect information necessary for assessing the predictive validity of the YASI scores. The final YASI software product provided the necessary utilities for scoring YASI items, generating and printing results, tracking case outcome information and producing aggregate agency information. While this activity describes the initial preparatory steps conducted in Phase I, the software was enhanced in subsequent phases with the result that the current YASI software utility (2004) represents a fourth enhancement to the functionality of the software.

Training for administration and use of the YASI was delivered by the consulting team in a series of 2 two-day training sessions to groups of 25-30 participants. NYSDPCA was responsible for the coordination of all training sessions (logistics, registration, site, travel/accommodation for participants, etc.). The first training was concerned with the administration of the YASI including the conduct of interviews with youth and the collection of supplementary information relevant to the youth's situation. Participants were exposed to assessment theory, general principles of interventions with troubled youth, a detailed description of the YASI model, demonstrations of YASI assessment procedures (by video tape), and group exercises aimed at providing role play practice on the methods necessary for administering the tool. Participants were also introduced to the software and

[5] The revised training was based on the curriculum that was designed by a member of the Orbis Partners team (Dr.

the guidelines for implementing the YASI within the juvenile probation services in New York State. A detailed manual and "handout" package outlining the major content covered in the training was distributed to participants. An interview guide presented in a desk reference format was also included. A total of four "initial" YASI trainings were delivered in the Fall of 2000 to accommodate the first six YASI pilot counties. In the subsequent three phases, an additional 28 sets of two-day trainings sessions were delivered by the consulting team to assist new counties in implementing YASI. At the beginning of each new Phase of YASI implementation, a probation directors' orientation meeting was held to introduce the project and help prepare managers and supervisors for implementation prior to staff training.

A second two-day training that focused on case planning followed the initial YASI training for all participants who had completed the first session. This practice was repeated for all YASI training sessions that were initiated during the six phases of the project. It was intended that the case planning training be delivered after users had an opportunity to conduct several assessments following initial YASI training. The content of the case planning training focused on providing staff with additional skills for administering the YASI and linking the tool to case planning and decision-making. Participants completed various exercises aimed at practicing the case planning skills using YASI case studies. This follow-up training focusing on case planning also provided an opportunity for the Orbis Partners team to present the preliminary statistical data on YASI assessments collected during the initial periods of implementation and to answer questions concerning YASI items and other procedures surrounding the assessment model. During the first two phases of the project, a meeting of all pilot site managers was held to review the progress of the project and identify additional training issues that needed to be addressed at that time.

Marilyn Van Dieten) for Washington State when the assessment model was originally implemented in that State.

During the managers' meetings, the consulting team also presented preliminary descriptive data collected using the YASI and introduced the content of the follow-up trainings.

As part of the post-training implementation phase of the project, technical support was provided to users through the consulting team and NYSDPCA. For each of the first three phases, a two-day supervisor training was offered following the initial and case planning trainings. This allowed supervisors time to address their questions about implementation and gave the consulting team a forum to assist with any issues that emerged in the supervision of staff and to encourage their participation in the project. During the fourth phase of the project, the two-day supervisor training was divided into two separate sessions. The first supervisor session was offered after the round of initial YASI training was delivered, and the second session was delivered following the completion of the round of case planning training. The use of separate sessions allows supervisors to address their unique concerns at different stages of the project as they "phase-in" the implementation of YASI.

During Phase III of the project, a series of "Data Workshops" were offered to juvenile probation department directors. Prepared by the consulting team, the two-day workshops provided directors, their supervisors, and planners to explore the YASI data for their county and make comparisons with the youth population characteristics and practices in other counties. Each county was provided with a detailed profile of the YASI data and the workshop leaders helped the county teams interpret and present their data to the larger groups. The workshops not only focused on accessing and interpreting the data, but helping each county identify any data quality issues that they needed to address in implementing YASI. A total of three rounds of regional data workshops have been conducted to date with three regional sessions scheduled for early 2008.

As part of the implementation support plan for YASI, with the assistance of the consulting team, NYSDPCA conducted five one-day regional managers workshops for all YASI counties in the late Spring of 2004. The regional workshops allowed managers and their supervisors to describe the progress of implementation in their counties and identify issues that needed to be resolved through changes to their YASI implementation protocols. The regional workshops provided NYSDPCA with valuable information about the counties that needed additional technical support in their implementation efforts. As each county shared their successes and challenges, the forums provided a rich opportunity for counties to learn from examples of counties that were more advanced in their implementation process.

A state-wide software training program was also offered to counties participating in the YASI project in the early Fall of 2004. The software training sessions were offered to county representatives that were particularly involved with YASI and the software component of the project. The training plan, which involved the delivery of four half-day sessions, was designed to equip representatives with enough information for providing training to colleagues at home. The training initiative was offered as a response to requests made through the regional workshops and other communications to NYSDPCA from counties participating in the YASI initiative.

In 2006 and 2007 a series of on-site technical support visits were offered by the consulting team to a number of New York counties implementing YASI. The site visits included refresher training sessions with staff in the county department, as well as technical assistance to the county managers. The technical assistance services extended the support offered through regional training opportunities to individual counties. Through on-site visits, the consultant was able to assist with specific implementation challenges and help the counties obtain greater benefit from the assessment model.

In 2007, NYSDPCA engaged the consultant to conduct a Training for Trainers exercise to develop the state's capacity to deliver training in the future. The training involved a number of minimum requirements for training candidates including both participation in and observation of both YASI user training sessions (Initial and Case Planning), as well as specialized training sessions aimed at providing advanced understanding of the model. The new trainers were observed in the delivery their first YASI user sessions and provided coaching and feedback on their performance. A certification process is currently being completed that involves video-tape review of YASI interviews conducted by the trainer candidates as well as input from observation of live sessions. From this process, a number of candidates will be fully certified to deliver the training to New York State counties in the future.

APPENDIX

# B YASI Long-Term Validation Study Form

# YASI Long-Term Validation Study

**Information Supplied by Orbis to Department for Distribution to Probation Officers:**

| | | |
|---|---|---|
| County: | Responsible Staff: | |
| Status: | Case ID: | NYSID: |
| Last Name: | First Name: | |
| Gender: | Race: | DOB: |
| Intake Status: | Date of Initial YASI: | |
| (Note: If Intake Status is 'Unknown', please write in whether the case was 'opened for diversion services' or 'referred for petition' at the time of the initial YASI.) | | |

**Outcome Information to be supplied by Department:**

## Section A (New Referrals)

| | | | |
|---|---|---|---|
| **Any new juvenile or adult referrals since date of initial YASI** **(If No, skip to section B)** | Y | | N |
| **If yes, indicate the number of new referrals (including adult referrals) since the date of initial YASI** | | | |
| **If yes, indicate the date of the first new referral** | mm | dd | yyyy |
| **If more than one referral, indicate the date of the last new referral** | mm | dd | yyyy |
| **If yes, check whether PINS, JD or Adult applied to any new referrals (check more than one if applicable):** | ☐ PINS | ☐ JD | ☐ Adult |
| **If yes, check any dispositions that applied (check more than one if applicable)** | ☐ Detention Admission<br>☐ Open for Diversion Services<br>☐ Referral for Petition<br>☐ Returned to Intake<br>☐ ACD<br>☐ Petition Withdrawn Dismissed<br>☐ JD Adjudication<br>☐ PINS Adjudication<br>☐ Probation Supervision<br>☐ Juv Placement<br>☐ Adult Convictions (Include YO's)<br>☐ Jail<br>☐ Prison | | |
| **If there were any new JD or Adult matters, check if any of the following applied (regardless of whether there was an adjudication):** | ☐ Felony<br>☐ Offense Against Person | | |

## Section B (Complaints for Violation of Probation)

| | | | |
|---|---|---|---|
| **Has a complaint for violation of probation been filed since date of initial YASI?** **(If No, no further info is required)** | Y | | N |
| **If yes, indicate the number of complaints for violation of probation filed since the date of initial YASI.** | | | |
| **If yes, indicate the date of the first new complaint for violation.** | mm | dd | yyyy |
| **If yes, check violation types that applied (check more than one if applicable)** | ☐ Technical Violation<br>☐ New Offense<br>☐ Absconder | | |