Jefferson Parish

Youth Outcomes Study

by Kristina Childs, John Ryals,
Paul Frick, Stephen Phillippi

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The implementation of evidence-based treatment programs (EBPs) for juvenile offenders has been a focus in many of the Louisiana Models for Change (LaMfC) sites, particularly in Jefferson Parish. The Department of Juvenile Services has been involved in LaMfC since 2007. Prior to 2007, Jefferson Parish used the Multi-Faceted Juvenile Offender Risk (MAJOR) needs assessment instrument to identify needs of youth combined with several contract treatment providers. Through technical assistance provided by LaMfC, improvements were made to the screening/assessment and therapeutic treatment processes. Specifically, existing practices were replaced with valid and reliable screening/assessment tools and therapeutic treatment services utilized empirically-tested practices and programs. Baseline data in 2007 showed merely 13% of treatment services were evidence-based and a fraction of youth received valid and reliable assessments. Since then, with the assistance of the National Youth Screening and Assessment Project, Jefferson Parish has implemented the Structured Assessment of Violence Risk in Youth (SAVRY), a valid and reliable risk/needs instrument, to serve as a cornerstone of pre-dispositional/post-adjudication investigations (Borum, Bartel, & Forth, 2002). In addition, Jefferson Parish implemented the Massachusetts Youth Screening Inventory (MAYSI-2) to screen for mental health-related indicators and the Juvenile Inventory for Functioning (JIFF) to screen arrested youths.

Jefferson Parish also utilized recommendations from the LaMfC initiative to build a portfolio of evidence-based practices to target the needs identified by the screening and assessment instruments. A pivotal connection between the screening and assessment process was developing mechanisms to enable probation officers to transfer assessment results into treatment referrals to specific evidence-based practices to ameliorate risk factors and build protective factors. As of January 2011, over 95% of youth were referred to evidence-based practices as evidenced by contractual requirements to use evidence-based practices and monitoring of services to ensure adherence to EBP models.

Along with data documenting the implementation of evidenced-based assessments and treatment programs, data are being collected on the number of EBPs available in Jefferson Parish, the proportion of funding allocated to evidence-based services, and the number of youth being screened and assessed with an evidence-based instrument. These data will serve as a valuable tool for measuring the changes that have occurred over the past four years in Jefferson Parish's use of evidenced-based practices for juvenile offenders. Although using data to show changes in agency practices is important, this information is unable to provide information regarding the effectiveness of these services in improving the well-being of the youth receiving the services. The importance of measuring improvements to the well-being of youth in the juvenile justice system is evident from the definition of EBPs set forth by the MfC Mental Health Action Network:

"An evidence-based program or practice (also called EBPs) refers to approaches to prevention or treatment (also called intervention) that have documented scientific evidence (i.e., published research) that they work. Related to the interface of mental health issues and juvenile justice issues, we look for such things as a reduction in crime/delinquency, family conflict, substance use, academic failure, behavioral problems, delinquent peer associations, etc. as evidence of effectiveness. "

The importance of youth outcomes is also evident in the evidence-based community services section of Louisiana's original MfC work plan (2007), "If the initiative is successful, the results will be better outcomes for juveniles and their families and a higher level of provider and system accountability."

As a result, the Department of Juvenile Services (DJS) partnered with the University of New Orleans (UNO) and the Louisiana State University Health Science Center (LSUHSC) to conduct the study discussed in this report. The purpose of this project was to collect additional data to evaluate youth outcomes associated with the implementation of an evidence-based screening and assessment tool and with the use of evidence-based treatment programs.

SPECIFIC GOALS

The objective of this project was to evaluate youth outcomes associated with the use of the Structured Assessment of Violence Risk in Youth (SAVRY) and referrals to treatment services available to youth on probation in Jefferson Parish. The specific goals of this project were broken down into four broad sections: 1) Implementation of the SAVRY, 2) Initial SAVRY, Treatment, and Youth Outcomes, 3) Change in SAVRY Risk Scores, Treatment, and Youth Outcomes, and 4) Treatment Referral and Recidivism. The specific goals of this project were to:

- Test whether the implementation of the SAVRY resulted in an increase in treatment referral and positive youth outcomes (reduced length of probation and recidivism).
- Test whether initial (pre-disposition/pre-treatment) SAVRY risk scores were related to type of treatment referral, treatment outcome, probation outcome, and recidivism at six months after probation.
- Both within and across types of treatments, compare SAVRY scores pre- and post-treatment.
- Compare probation outcomes and recidivism across changes in SAVRY risk scores.
- Compare six-month recidivism across specific treatment programs used by the Jefferson Parish Probation Department.

METHODS

Jefferson Parish is located in southeast Louisiana with a population of approximately 440,000 residents and a juvenile population of 45,000 youth between the ages of 10 and 17 (US Census Bureau, 2010). The probation department is housed in the Jefferson Parish Department of Juvenile Services (DJS). In 2009, 645 youth were placed on probation in Jefferson Parish (14 youth per 1,000 youth aged 10-17 years old).

DATA COLLECTION PROCEDURES

All youth released from probation in Jefferson Parish from January 2009 through September 2010 were included in this study (n=504). The data collection process occurred over a period of six months, from September 2010 through February 2011. Information was collected from multiple sources including the Green Sheet, treatment tracking files, and the probation paper files.

First, as a standard procedure of DJS, all probation officers are required to fill out a "Green Sheet" on youth released from probation. The Green Sheet is a one page form that tracks information pertaining to each probation case including offense and custody information, SAVRY scores, and treatment information (see Appendix A). This information is continually entered into an SPSS file by DJS staff and used by DJS for monitoring of probation cases (i.e., monitoring length of time, reason for release, and SAVRY scores). This Green Sheet data file was provided to UNO for use in the current study.

In addition to the Green Sheet data, the treatment coordinator for DJS tracks treatment information for youth on probation in Jefferson Parish in an Excel file for administrative purposes. This file tracks treatment referrals by provider and includes the specific treatment program, type of treatment (e.g., individual, family) and the number of sessions completed. This file was also provided to UNO so that the treatment information included in this file could be merged with the Green Sheet data. The next step in the data collection process involved coding the probation officer's paper files. A systematic coding process was developed and from November 2010 through January 2011, two graduate students from UNO, an undergraduate assistant from UNO, and one data coder from DJS reviewed all available probation paper files (162 files could not be located). The goal of this process was to obtain information that was missing from the Green Sheet and treatment tracking files. Therefore, the coders collected information on youths' adjudicated offense(s), score for each individual SAVRY item and overall risk levels, and treatment information included in the actual treatment section of the file or noted in the probation officer's case notes.

The final step in the data collection process was to obtain recidivism information. This information was obtained from the Automated Records Management and Mapping System (ARMMS) which is operated by the Jefferson Parish Sheriff's Office. ARMMS is the main database in Jefferson Parish for tracking data on all individuals (both youths and adults) that are arrested and booked in Jefferson Parish. Recidivism data for all 504 youth were collected via the ARMMS database in February 2010 and again in May 2011.[1]

1 Time at-risk, or time at which the youth living outside of a secure facility, is not accounted for in these analyses. Due to the lack of detention information entered into the ARMMS database, time at-risk was not able to be accounted for.

SAMPLE

The sample in this study included 504 youth released from probation in Jefferson Parish from January 2009 through September 2010. Of the 504 youth included in this study, 76% were male and 69% were Black. The average age of the sample was 16 (standard deviation = 1.5). Seventy-one percent of the sample was on probation for a delinquency offense and 29% was on probation for a formal FINS offense (i.e., status offense). Sixteen percent of youth were placed on intensive probation, which is a specialized probation program that targets the needs of high risk offenders through increased monitoring, supervision, and in-house service coordination. The average probation term ordered by judges was 20.58 months (standard deviation = 10.3).

MEASURES

Demographic, Offense, and Probation Characteristics. As described above, several sources of information were used to gather data for this study. Demographic information includes race, gender, and age. This information was obtained via the Green Sheet. Probation Charge Type is broken down into two categories: delinquency offense(s) and formal FINS offense(s). Four variables were used to measure probation term: initial probation level, initial probation term, actual probation term, and reason for release from probation. Initial Probation Level is broken down into two overall categories: regular probation and intensive probation. Initial Probation Term represents the number of months of probation ordered by judges, and Actual Probation Term represents the number of months the youth was actually on probation. Reason for Probation Release was coded into three categories: successfully completed probation term, unsuccessful release (aged out of system, unable to benefit), and revoked (for technical violation, for new offense, sent to OJJ, and transferred to adult court). All probation information was obtained via the Green Sheet data file.

SAVRY Administration and Results. The SAVRY is designed for use as a guide to assessing risk of future violence and delinquency and to aid in intervention planning. The SAVRY consists of 24 items measuring risk factors across three domains including historical risk factors, social/contextual risk factors, individual risk factors, and six additional items measuring protective factors. These items are combined to determine each youth's overall risk for future violence and delinquent behavior. Thus, the risk score is determined by considering both protective and risk factors.

According to DJS policy and procedure, the SAVRY is administered during the pre-dispositional investigation, at six month intervals, at changes in youths' status (i.e., significant life-changing event or re-arrest), and prior to the end of probation. This study focuses on the pre-disposition and the end of probation SAVRY administration. Trained probation officers administered the initial and end SAVRY to youth. Each juvenile probation officer completed a two-day training workshop for the SAVRY that covered information about the trajectories of youth offending, research on risk factors, and the test scoring criteria. The workshops included rating the SAVRY for two case vignettes, which were reviewed and discussed as a group. Information pertaining to the administration of the SAVRY was included in the Green Sheet and updated during the coding of the probation files.

SAVRY variables include SAVRY group, initial SAVRY risk scores, and end SAVRY risk scores. SAVRY Group distinguishes between youth released from probation prior to the implementation of the SAVRY (n=57), youth released from probation after implementation but did not receive a SAVRY (n=205), youth who received one SAVRY (n=138), and youth who received both SAVRYs (n=104).

Initial SAVRY risk levels represent the results of the SAVRY that was administered pre-disposition and prior to any treatment referral. Two variables were used to measure initial SAVRY results: Initial SAVRY Violence Risk Level which is the probation officer's judgment of future risk for violent behavior based on responses to the 30 individual items and Initial SAVRY Delinquency Level which is the probation officer's judgment of future delinquency based on responses to the 30 individual items. End SAVRY risk levels represent the results of the SAVRY that was administered prior to release from probation. Two variables are used to measure end SAVRY results: End SAVRY Violence Risk Level and End SAVRY Delinquency Level. Each SAVRY risk level has three categories: Low Risk, Moderate Risk, and High Risk.

Change in SAVRY risk level from the initial SAVRY to the end SAVRY was also measured in the analyses. Two variables were used to measure change in SAVRY risk level: Change in Delinquency Risk and Change in Violence Risk. These variables represent the change in risk score from the initial SAVRY to the end SAVRY (e.g., change in pre-disposition SAVRY delinquency risk score to pre-probation release SAVRY delinquency risk). These variables were coded as: Stable Low, Decrease in Risk Level (i.e., improvement), Stable High, and Increase in Risk Level (i.e., worsen).[2]

TREATMENT INFORMATION

All three data sources were used to obtain treatment information. The information provided in the Green Sheet data file, treatment tracking file, and coded from the probation paper files was merged together in an effort to obtain the most reliable and detailed treatment information. As a result of relying on three different

2 Youth who scored low risk (=1) on both SAVRYs were placed into the Stable Low group. Youth who increased at least one level or scored moderate or high risk (=2) on both SAVRYs were placed in the High Risk/Increase group. Youth who decreased at least one risk level were placed in the Decrease in Risk group.

sources for treatment information, a small number of cases had inconsistent treatment information. In these cases, the information provided in the treatment tracking file was considered the most up to date and reliable information.

Several variables were created based on the treatment information collected across the three sources. Treatment Referral measures whether or not the youth was referred to one or more treatment programs (coded yes/no). Number of Treatment Referrals represents the number of treatment programs the youth was referred to and ranged from one to three. Of the 504 cases included in this study, 68% of youth were referred to at least one treatment program. The remaining 32% of youth were reported to be "low need" and not in need of treatment.

Type of treatment referral represents the type of treatment program broken down into three categories. Brand EBPs are defined as protocol programs empirically demonstrated to have sustainable positive impacts using controlled studies of the implementation of the protocol conducted in different places. Generic EBPs are defined as interventions whose effectiveness is demonstrated using controlled studies of similar programs (e.g., similar parenting programs) of that type conducted in different places.[3] Non EBPs are defined as treatment programs that are not considered an evidence-based program. A variable was created for each type of treatment indicating whether or not the youth was referred to this type of treatment program. Since some youth were given multiple treatment referrals, these variables are not mutually exclusive. For example, one youth could be referred to a Brand EBP and a Generic EBP.

Treatment completion information was obtained in two ways. First, when completion was recorded in the treatment tracking file or in the probation paper files, this information was used. Second, if completion was not indicated, but the number of sessions completed was recorded in the treatment tracking file or the probation paper files, this information was used. The DJS treatment coordinator provided UNO with a list of treatment programs and the number of sessions required to complete the program.

Based on this list and the number of sessions recorded, treatment completion was determined. Based on this information, three variables were created: Treatment Completion, Brand EBP Completion, and Generic EBP completion. All three variables were coded as completed, referred but not completed, and not referred to treatment. Treatment completion and session data were not available for many of the youth. For instance, of the youth referred to a Brand EBP, 16% were missing the number of sessions completed and/or whether or not treatment was completed; of the youth referred to a Generic EBP, 20% were missing the number of session completed and/or whether or not treatment was completed. This limited the amount of analyses that could be performed using the treatment completion variables.

3 EBP services were validated by the department ensuring certification and training, monitoring progress notes for components of EBPs, and requiring weekly supervision for all staff utilizing EBPs with an EBP supervisor.

Youth included in this study were referred to one or more of fourteen treatment programs. Each of these programs were coded to represent whether the youth was referred to the specific program, referred to treatment but not that program, and not referred to treatment. Since some youth were referred to multiple treatment programs, these variables are not mutually exclusive. Table 1 provides a list of these treatment programs along with a description of each program's treatment type.

Table 1. List of Specific Treatment Programs

	Program Type*	Description of Program
Active Parenting of Teens	Brand	Parent Skills Training
Aggression Replacement Training	Brand	Conflict Resolution Training
Baby Think it Over	Brand	Pregnancy Prevention Program
Boys Town In Home Therapy	Brand	In-Home Family Therapy
Functional Family Therapy	Brand	In-Home Family Therapy
Family Therapy	Generic	Outpatient Family Therapy
Individual Therapy	Generic	Outpatient Individual Therapy
Individual and Family Therapy	Generic	Combined Individual/Family Therapy
Medical Treatment	Non EBP	Psychotropic Medication Monitoring
Mental Health Treatment	Non EBP	Treatment for Mental Illnesses
Moral Reconation Therapy	Brand	Conflict Resolution/Moral Development
Multisystemic Therapy	Brand	Intensive In-Home Family Therapy
Project LAST	Brand	Grief and Trauma Intervention
Substance Abuse Treatment	Non EBP	Outpatient Substance Abuse Therapy

* Brand = empirically demonstrated to have sustainable positive impacts using controlled studies of the implementation of the protocol conducted in different places; Generic = interventions whose effectiveness is demonstrated using controlled studies of similar programs.

RECIDIVISM

Recidivism was measured as at least one new arrest within six months following release from probation. Arrest information was based on officially recorded arrests entered into the ARMMS database. The six-month period included any arrest including arrests for a technical violation, delinquent offense, status offense, and/or arrests processed by the adult criminal justice system. Six-Month Re-Arrest was a dichotomous variables representing no arrests within six months (=0) and one or more arrests within six months (=1).

RESULTS

The analyses for this study were broken down into four sections coinciding with the goals outlined above. The first section examined the implementation of the SAVRY and whether the SAVRY influenced treatment referrals and youth outcomes. The second section examined the association among initial SAVRY results and treatment referral and youth outcomes. The third section assessed change in SAVRY results, examined whether the treatment referrals were related to change in SAVRY results, and compared probation outcomes and re-arrest rates across the different groups. The last section compared re-arrest rates across referral to each specific treatment program.

IMPLEMENTATION OF THE SAVRY

The SAVRY was implemented in the Jefferson Parish Probation Department in March 2009. However, full implementation of the SAVRY occurred over the course

of several months during that year. For example, the probation department started using the SAVRY in March 2009. However, 50% of youth released from March 2009 through December 2009 were not given a SAVRY and 8% were given both SAVRYs. From January 2010 through September 2010, 14% of youth released from probation did not receive a SAVRY and 57% received both SAVRYs.[4] Thus, although implementation began in March 2009, the full use of the SAVRY at both time points occurred over several months.

Descriptive analyses were completed to identify any significant differences across socio-demographic and offense characteristics that may influence treatment referral or recidivism across the four SAVRY groups: Pre-SAVRY (n=57), No SAVRY (n=205), One SAVRY (n=138), and Both SAVRYs (n=104). Chi-square tests of significance indicated that there were no significant differences in race (^{2} (6) = 8.99, p=.17), gender (^{2} (3) = 4.03, p=.26), or probation charge type (^{2} (3) = 2.05, p=.56) across the four groups. A comparison of means also indicated that there were no significant differences in age across the groups (F (3) = 1.09, p=.35). Thus, these results suggest that youth released from probation prior to implementation, youth released from probation after implementation but did not receive a SAVRY, youth released from probation SAVRY with only one SAVRY administration, and youth released from probation with both SAVRYs administered were similar across race, gender, age, and charge type.

Table 2 reports the proportion of youth who were referred to at least one treatment program while on probation. These data suggest that treatment referrals significantly increased after the implementation of the SAVRY (^{2}(3) = 90.64, p < .001). Thirty-three percent of the pre-SAVRY group was referred to at least one treatment program compared to 75% of youth receiving one SAVRY and 98% of youth receiving both SAVRYs. Similarly, the number of treatment referrals also increased after implementation (F(3) = 45.03, p < .001). The average number of treatment referrals for the pre-SAVRY group was 0.39 (standard deviation [SD]=0.59), compared to 1.02 (SD=0.76) for the one SAVRY group and 1.47 (SD=0.67) for the both SAVRYs group.

4 If a youth was already on probation once the SAVRY was implemented, the SAVRY was not administered for this youth.

Table 2. Differences Treatment (Tx) Referral across SAVRY Groups

	# of Cases	% Not Referred to Tx	% Referred to Tx	
Pre-SAVRY	57	66.7	33.3	^{2}(3) = 90.64, p < .001
No SAVRY	205	43.9	56.1	
One SAVRY	138	24.6	75.4	
Both SAVRYs	104	1.9	98.1	

Table 3 indicates that the implementation of the SAVRY was also related to the type of treatment referred. After implementation of the SAVRY, referrals to Brand EBPs significantly increased (^{2}(3) = 27.96, p=.001) and referrals to Generic EBPs declined (^{2}(3) = 10.42, p=.02).

Table 3. Type of Treatment (Tx) Referral across SAVRY Groups

	# of Cases Referred to Tx	% Referred to a Brand EBP	% Referred to a Generic EBP	% Referred to a Non EBP
Pre-SAVRY	19	47.4	57.9	10.5
No SAVRY	115	34.8	69.6	7.0
One SAVRY	104	60.6	53.8	4.8
Both SAVRYs	102	68.6	49.0	12.7
		$^2(3) = 27.96$, $p < .001$	$^2(3) = 10.42$, $p=.02$	$^2(3) = 4.74$, $p=.19$

Note: These categories are not mutually exclusive. Youth has up to three treatment referrals.

The SAVRY is also used to help determine whether a child is ready to be released from probation which involves assessing risk of future delinquency. Therefore, we also examined length of probation term and re-arrest rates across the four groups. Table 4 compares the average initial probation term (i.e., months of probation originally ordered by the judge) to the actual probation term (i.e., months actually on probation) for each of the groups. These results suggest that, after implementation of the SAVRY, the average actual time on probation was significantly shorter than the initially ordered probation term for each of the three groups representing post-SAVRY implementation. Interestingly, a comparison of the average initial probation term indicated a significant increase in the ordered probation term after SAVRY implementation across the four SAVRY groups ($F(3) = 3.72$, $p=.01$) and a moderately significant decrease in actual probation term after SAVRY implementation ($F(3) = 2.47$, $p=.06$) (see Table 4 for the means for each group). Youth receiving one or both SAVRYs revealed a significantly lower average time on probation compared to the other two groups as well as a significantly larger mean difference from initially ordered probation term to the actual time on probation.

Table 4. Length of Probation Term (in Months) across SAVRY Groups

	# of Cases	Average Initial Term (SD)	Average Actual Term (SD)	
Pre-SAVRY	57	16.53 (11)	15.60 (11)	$t(56) = .641$, $p=52$
No SAVRY	205	20.60 (10)	16.79 (12)	$t(204) = 4.50$, $p < .001$
One SAVRY	138	21.74 (11)	13.59 (10)	$t(137) = 10.39$, $p<.001$
Both SAVRYs	104	21.22 (10)	14.55 (10)	$t(103) = 6.36$, $p<.002$

INITIAL SAVRY RESULTS, TREATMENT, AND YOUTH OUTCOMES[5]

This section provides analyses which examined the association among initial SAVRY risk score and treatment, probation outcomes, and recidivism. As noted previously, the initial SAVRY was administered after the youth had been adjudicated, prior to disposition and treatment referral. The purpose of the SAVRY is to serve as a tool for identifying custody level, treatment need, and assessing future risk for delinquency and violence. A total of 162 youth (32%) included in this study were given an initial SAVRY. Only these 162 youth were included in this section of the analyses.

Table 5 summarizes the results of the initial SAVRY risk levels. Forty-four percent of youth were scored as low risk for future delinquent behavior and 32% were scored as high risk for future delinquent behavior. Thirty-three percent of youth were scored low risk for future violent behavior and 32% were scored as high risk for future violent behavior. Additionally, the correlation among the two risk scores was high ($r=0.79$, $p < .001$). Ninety-four percent of youth were scored low risk for both categories, 57% were scored moderate risk for both categories, and 84% were scored high risk for both categories.

Table 5. Initial SAVRY Risk Levels

	Delinquency Risk		Violence Risk	
	# of Youth	% of Youth	# of Youth	% of Youth
Low	72	44.4	53	32.7
Moderate	39	24.1	58	35.8
High	51	31.5	51	31.5
Total	162		162	

As stated above, one of the uses of the initial SAVRY was to help determine the youth's probation level. The Jefferson Parish Probation Department uses two overall probation levels: regular and intensive. The results reported in Table 6 highlight the strong association found among SAVRY risk score and initial probation level.

Youth who scored high on one or both of the risk categories (i.e., delinquency and/or violence risk) were significantly more likely to be placed on intensive probation. Thus, these results suggest that the initial SAVRY results were being used to inform initial probation placement.

5 Standard DJS policy mandates that the probation officer takes the higher of the two SAVRY risk scores (i.e., violence and delinquency) and considers this score the "overall" risk score. This "overall" score, referred to as the DJS Risk Level, is used to inform all custody and treatment decisions. Based on this category, 30.9% of youth (n=50) were considered low risk, 32.7% were considered moderate risk (n=53), and 36.4% (n=59) were considered high risk. All of the above analyses were also conducted using DJS risk level. However, the findings were similar to all of the results reported above.

Table 6. Initial SAVRY Risk Levels and Probation Level*

	# of Cases	% Regular Probation	% Intensive Probation	
Violence Risk				
Low	53	92.5	7.5	$^2(2) = 33.27$, $p < .001$
Moderate	58	94.8	5.2	
High	50	56.0	44.0	
Delinquency Risk				
Low	72	91.7	8.3	$^2(2) = 23.75$, $p < .001$
Moderate	39	92.3	7.7	
High	50	60.0	40.0	

* One was excluded due to type of probation listed (i.e., drug court).

The initial SAVRY results were also used as a tool to assess a youth's needs regarding the intensity of treatment. Therefore, the association among initial SAVRY risk score and treatment was examined. As indicated in Table 7, initial SAVRY risk score did not influence whether or not a youth was referred to one or more treatment programs or treatment completion. Although not included in the table, initial SAVRY results were also not related to the number of treatment referrals (Delinquency Risk: $F(2) = .21$, $p=.81$; Violence Risk: $F(2) = 2.37$, $p=.09$). For both Brand EBPs and Generic EBPs, there were no significant differences in treatment completion across SAVRY risk levels (Initial Violence Risk Score: $^2(2) = .865$, $p=.65$; Initial Delinquency Risk Score: $^2(2) = .802$, $p=.44$). Thus, these results suggest that initial SAVRY score was not related to treatment referral and/or treatment completion.

Table 7. Initial SAVRY Risk Levels and Treatment (Tx) Referral

	# of Cases	% Not Referred to Tx	% Referred to Tx	
Violence Risk				
Low	53	11.3	88.7	$^2(2) = 1.42$, $p=0.49$
Moderate	58	5.2	94.8	
High	51	7.8	92.2	
Delinquency Risk				
Low	72	8.3	91.7	$^2(2) = 0.67$, $p=0.72$
Moderate	39	5.1	94.9	
High	51	9.8	90.2	

It was also examined whether initial SAVRY risk score predicted positive probation outcomes. Results indicated that initial SAVRY scores were significantly related to both time on probation and reason for probation release. Youth who scored low risk for violence served an average of 11.5 months on probation, moderate risk for violence youth served an average of 12.5 months, and high risk youth served an average of 18.2 months ($F(2) = 5.89$, $p < .001$). Similar results were found for the delinquency risk scores. Specifically, youth who scored low risk for delinquency were on probation an average of 11.7 months, moderate risk youth were on probation an average of 13.9 months, and high risk youth were on probation for an average of 17.3 months ($F(2) = 3.97$,

p=.02). Table 8 displays the reasons for release from probation broken down by initial SAVRY risk score. Low risk youth were significantly more likely to complete the terms of probation and high risk youth were significantly more likely to get revoked for misbehavior. These results suggest that, not only can initial SAVRY risk scores be useful in determining probation level, they can also be used as a tool for improving positive probation outcomes.

Finally, as stated above, initial SAVRY results represent the probation officer's perception of risk for future delinquency and violence. Therefore, the next analyses tested the validity in these judgments by examining whether initial SAVRY risk scores were related to actual recidivism. As displayed in Table 9, there were no significant differences in six-month re-arrest rates across the different levels of risk. However, small (but non-significant) differences in the expected direction were found. Approximately 24% of Low Risk youth were re-arrested within six months of release from probation, compared to 31% of High Risk youth. Thus, although not statistically significant, a small association was found among initial SAVRY result and re-arrest and this relationship was in the expected direction.[6]

Table 8. Initial SAVRY Risk Levels and Reason for Probation Release

	# of Cases	% Completed	% Unsuccessful Release	% Revoked	
Violence Risk					
Low	52	88.5	11.5	--	$^2(4) = 30.75$, $p < .001$
Moderate	55	74.5	5.5	20.0	
High	51	45.1	13.7	41.2	
Delinquency Risk					
Low	71	87.3	8.5	4.2	$^2(4) = 39.17$, $p < .001$
Moderate	37	78.4	5.4	16.2	
High	50	38.0	16.0	46.0	

* Four cases were transferred to another jurisdiction. These cases are not included.

6 Since there were no significant differences in treatment referral, treatment outcome, and recidivism across initial SAVRY risk score, analyses examining whether treatment referral and/or treatment outcome changed the association among original SAVRY scores and recidivism (Goal 5) is not reported. Moderation analyses did not reveal any significant findings.

Table 9. Six Month Recidivism across Initial SAVRY Risk Levels

	# of Cases	% Re-Arrested within 6 months	
Violence Risk			
Low	53	24.5	^{2} (2) = .892, p=.64
Moderate	58	24.1	
High	51	31.4	
Delinquency Risk			
Low	72	23.6	
Moderate	39	25.6	^{2}(2) = .944, p=.62
High	51	31.4	

CHANGE IN SAVRY RISK LEVEL, TREATMENT, AND YOUTH OUTCOMES[7]

There were two goals to the next set of analyses. First, the influence of treatment referral and treatment completion on change in SAVRY risk score was examined. Then, the associations among change in SAVRY risk score and probation outcomes and recidivism was examined. Only youth with both SAVRY administrations (i.e., prior to disposition/treatment referral and post-treatment/pre-probation release) were included in these analyses (n=104). Four groups were created based on initial and end SAVRY results: Stable Low, Decrease in Risk Level (improvement), Stable High, and Increase in Risk Level (worsen). Table 10 provides the frequency of youths in these groups. Due to the low numbers in the Increase in Risk Level groups, these youth were merged with the Stable High group for all analyses.

Table 10. Changes in Risk Levels from Initial and End SAVRYs

	Delinquency Risk Level		Violence Risk Level	
	# of Cases	% of Cases	# of Cases	% of Cases
Stable Low Risk	35	33.7	28	26.9
Decrease in Risk Level	37	35.6	38	36.5
Stable High Risk	28	26.9	37	35.6
Increase in Risk Level*	4	3.8	1	1.0
Total	104		104	

*Due to the low numbers in the increase category, these cases were merged with the stable high group.

[7] To coincide with DJS policy, an additional variable was created to account for change in DJS Risk Level (described in footnote 1). Twenty-five percent of youth were in the stable low risk group, 41% were in the decrease in risk level group, and 34% were in the Stable High/Increase group. All of the above analyses were also conducted using Change in DJS Risk Level. The findings were similar to all of the results reported above.

Descriptive statistics were used to identify any socio-demographic differences across these groups. Chi-square tests of significance indicated that there were no significant race (change in delinquency risk: $^2(4) = 4.32$, p=.36; change in violence risk: $^2(4) = 6.56$, p=.16) or gender (change in delinquency risk: $^2(2) = 4.54$, p=.10; change in violence risk: $^2(2) = 3.63$, p=.16) differences across the groups. There were no significant differences in the average age of the groups (change in delinquency risk: $F(2) = 4.33$, p=.65; change in violence risk: $F(2) = 1.31$, p=.27). Significant differences were found across charge type (change in delinquency risk: $^2(2) = 13.13$, p=.00; change in violence risk: $^2(2) = 10.74$, p=.01). As reported in Table 11, youth on probation for a formal FINS offense were significantly less likely to be in the Stable High/Increase group and most likely to be in the Stable Low group.

Table 11. Probation Charge Type Differences in Changes in SAVRY Risk Levels

	# of Cases	% Delinquency	% Formal FINS	
Violence Risk				
Stable Low Risk	28	53.6	46.4	$^2(2) = 10.74$, p=.01
Decrease in Risk Level	38	68.4	31.6	
Stable High Risk/Increase	38	89.5	10.5	
Delinquency Risk				
Stable Low Risk	35	51.4	48.6	$^2(2) = 13.13$, $p < .001$
Decrease in Risk Level	37	75.7	24.3	
Stable High Risk/Increase	32	90.6	9.4	

Next, the association among type of treatment referral and change in SAVRY risk level was examined. Of the 104 youth with both SAVRY administrations, 98% received at least one treatment referral. Table 12 breaks down change in SAVRY risk score by type of treatment referral. A moderately significant association was found among referral to a Generic EBP and change in delinquency risk score. Youth not referred to a Generic EBP were most likely to decrease in risk level (i.e., improve) compared to youth referred to a Generic EBP. Although not statistically significant, a greater proportion of youth referred to a Brand EBP decreased in violence risk level compared to youth not referred to a Brand EBP. Similarly, a smaller proportion of youth referred to a Brand EBP were in the Stable High/Increase violence risk group compared to youth not referred to a Brand EBP. These results provide some support for the continued use of Brand EBPs.

Table 12. Type of Treatment Referral across Change in SAVRY Risk Levels*

	Violence Risk			
	# of Cases	% Stable Low	% Decrease in Risk Level	% Stable High/ Increase
Referred to Brand EBP	70	25.7	40.0	34.3
Not Referred to Brand EBP	34	29.4	29.4	41.2
		^{2} (2) = 1.12, p=.57		
Referred to Generic EBP	50	30.0	28.0	42.0
Not Referred to Generic EBP	54	24.1	44.0	31.5
		^{2} (2) = 3.05, p=.22		
	Delinquency Risk			
	# of Cases	% Stable Low	% Decrease in Risk Level	% Stable High/ Increase
Referred to Brand EBP	70	31.4	41.4	31.4
Not Referred to Brand EBP	34	38.2	23.5	38.2
		^{2} (2) = 3.29, p=.19		
Referred to Generic EBP	54	38.0	24.0	38.0
Not Referred to Generic EBP	50	29.6	46.3	24.1
		^{2}(2) = 5.80, p=.06		

* 98% of youth with both SAVRY's were referred for treatment. Referrals to Non EBPs are not reported due to low numbers (n=13).

Table 13 reports treatment completion rates across the three groups. Due to the low number of cases with valid treatment completion information, significance tests could not be computed. However, descriptive analyses highlighted some important trends. For example, 31% of youth who completed a Brand EBP were in the Violence Risk Stable High/Increase group compared to 55% of youth who were referred to a Brand EBP, but did not complete the program. At the same time, 49% of youth completing a Brand EBP were in the Decrease in Violence Risk group compared to 27% of youth who were referred to a Brand EBP but did not complete the program. These results provide preliminary support for the continued use of Brand EBPs and the development of policies to ensure completion of these programs.

Table 13. Type of Treatment Completion across Change in SAVRY Risk Levels

		Violence Risk		
	# of Cases*	% Stable Low	% Decrease in Risk Level	% Stable High/ Increase
Completed a Brand EBP	45	20.0	48.9	31.1
Referred to Brand EBP, but did not complete	11	18.2	27.3	54.5
Completed a Generic EBP	38	31.6	31.6	36.8
Referred to Generic EBP, but did not complete	5	20.0	--	80.0
	Delinquency Risk			
	# of Cases*	% Stable Low	% Decrease in Risk Level	% Stable High/ Increase
Completed a Brand EBP	45	24.4	46.7	28.9
Referred to Brand EBP, but did not complete	11	27.3	45.5	27.3
Completed a Generic EBP	38	39.5	21.1	39.5
Referred to Generic EBP, but did not complete	5	20.0	20.0	60.0

* Sixteen percent of youth referred to a Brand EBP and 20% referred to a Generic EBP were missing treatment completion information. Due to low numbers in some of the cells, significance tests could not be calculated. Referral to Non EBPs is not reported due to low numbers (n=13).

Differences in reason for probation release and time on probation across the difference levels of SAVRY change was also examined. Significant differences were found across the groups. Youth in the Decrease in Risk Level and Stable Low groups were on probation for a significantly shorter time period compared to youth in the Stable High/Increase group (Violence Risk: $F(2) = 3.08$, $p=.05$, Delinquency Risk: $F(2) = 3.57$, $p=.03$). Stable Low and Decrease in Risk youth were on probation for an average of 13 months, while Stable High youth were on probation for an average of 18 months. Similarly, as can be seen in Table 14, the Stable High/Increase groups were significantly more likely to have their probation revoked for misbehavior (i.e., technical violation, new offense).

Table 14. Reason for Probation Release across Change in SAVRY Risk Levels

	# of Cases	% Completed	% Unsuccessful Release	% Revoked	
Violence Risk					
Stable Low Risk	28	92.9	7.1	--	$^2(4) = 47.52$, p=.00
Decrease in Risk Level	38	94.7	2.6	2.6	
Stable High Risk/Increase	37	32.4	13.5	54.1	
Delinquency Risk					
Stable Low Risk	35	94.3	5.7	--	$^2(4) = 35.79$, p=.00
Decrease in Risk Level	37	81.1	8.1	10.8	
Stable High Risk/Increase	31	35.5	9.7	54.8	

* One youth was transferred to another jurisdiction. This youth is not included.

Six-month re-arrest rates were also examined across the groups. As reported in Table 15, youth in the Stable High/Increase group were more likely to get arrested after probation, compared to the other two groups. However, this result did not reach statistical significance. This finding provides some support for the ability of the SAVRY to predict future delinquent and violent behavior.

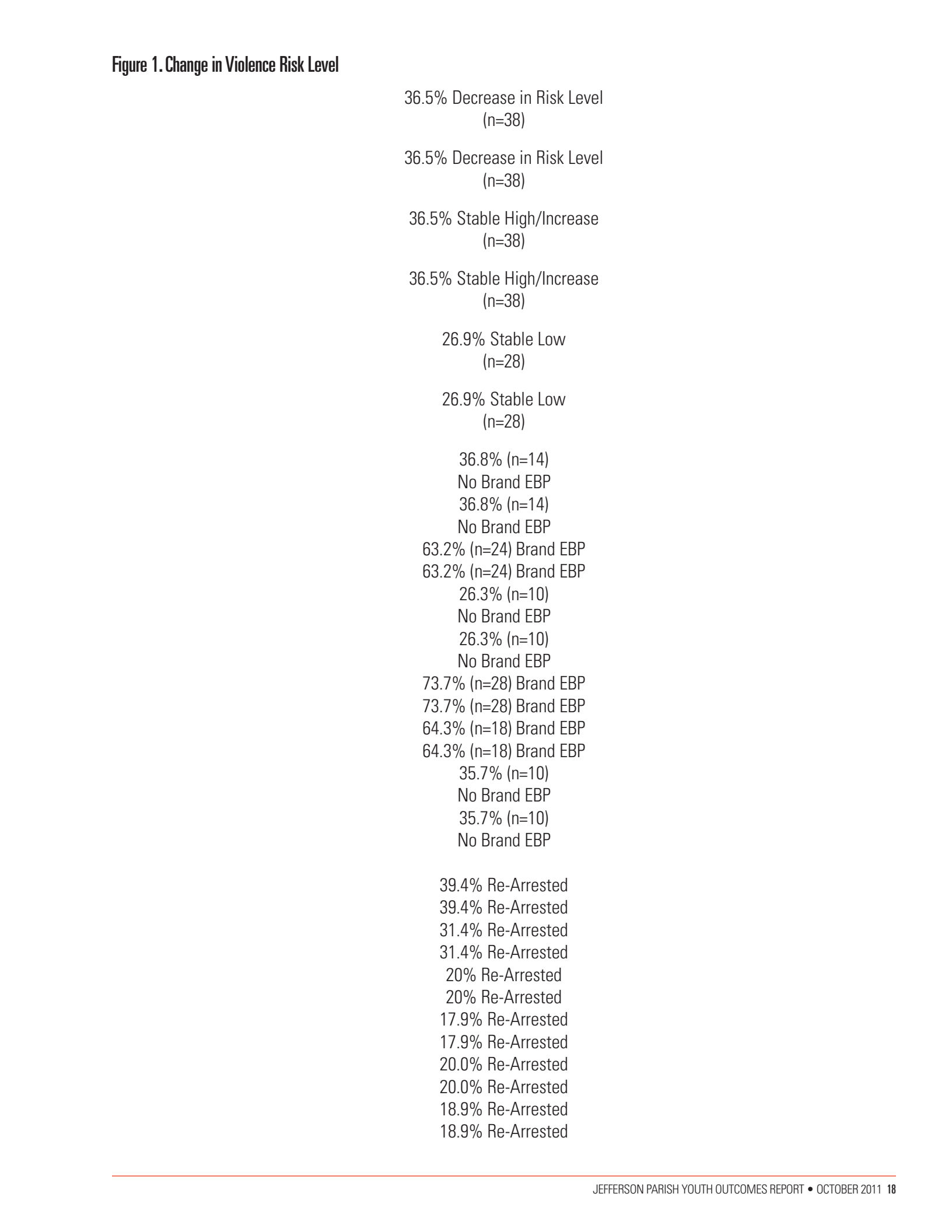
Table 15. Six Month Recidivism across Change in SAVRY Risk Levels

	# of Cases	% Re-Arrested within 6 months*	
Violence Risk			
Stable Low Risk	28	32.1	$^2(2) = 5.04$, p=.08
Decrease in Risk Level	38	18.4	
Stable High Risk/Increase	38	42.1	
Delinquency Risk			
Stable Low Risk	35	28.6	$^2(2)=2.26$, p=.32
Decrease in Risk Level	37	24.3	
Stable High Risk/Increase	32	40.6	

* Stable Low Risk youth were more likely to be on probation for a FINS offense, compared to the other groups.

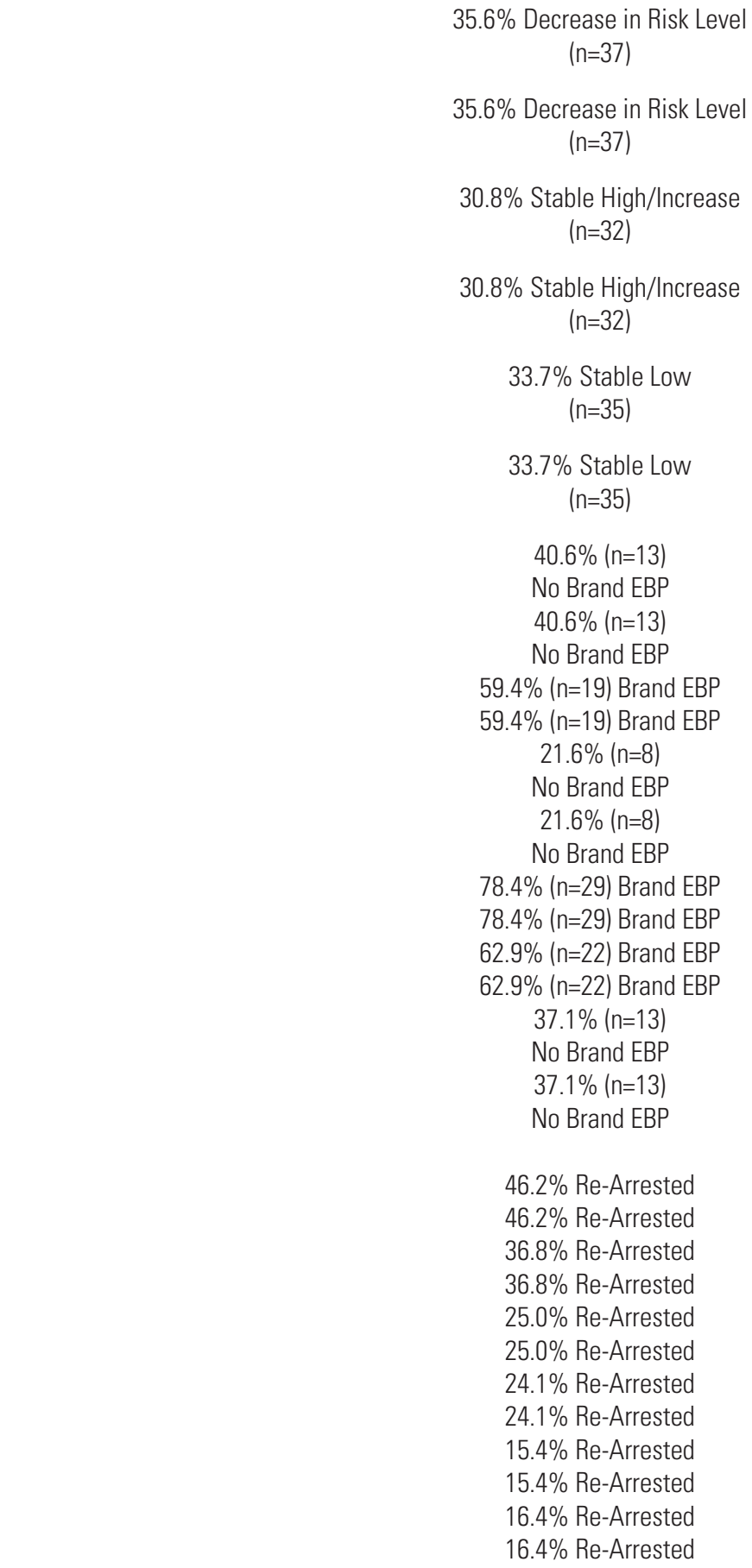
Based on these results, the final analyses reported in this section involve breaking down the groups and linking referral to a Brand EBP and re-arrest rate for each of the groups. Figure 1 displays these results for violence risk and Figure 2 displays these results for delinquency risk.

Figure 1. Change in Violence Risk Level



As can be seen in these figures, the results were very similar for the Delinquency and Violence risk scores. Within each group, youth referred to an EBP displayed lower re-arrest rates. However, as noted in these figures, the reduction in risk was fairly small in magnitude. As shown in Figure 2, within those with stable high SAVRY scores, 40.6% of those who did not get a Brand EBP were rearrested compared to 36.8% of those who did receive a Brand EBP.

Figure 2. Change in Delinquency Risk Level



TREATMENT REFERRAL AND SIX-MONTH RECIDIVISM

The final section of this report compared six-month re-arrest rates across each of the specific treatment programs. The goal of this section was to assess whether youth referred to a particular treatment program were less likely to recidivate. Table 16 shows the results of a comparison between the re-arrest rates of youth referred to each specific treatment program to the re-arrest rate of youth not referred to that particular program. Since some youth were referred to multiple treatment programs, these groups are not mutually exclusive. One youth may be included in up to three treatment programs listed in the table below.

Two treatment programs revealed statistically significant differences in six-month re-arrest rate. Youth referred to Functional Family Therapy (FFT) and Family Therapy were significantly less likely to be re-arrested within six months of release from probation. For example, 10% of youth referred to FFT (Brand EBP) were re-arrested within six months, compared to 22% of youth not referred to any treatment program and 24% of youth referred to one or more programs other than FFT. Four percent of youth referred to Family Therapy (Generic EBP) were re-arrested within six months of release from probation compared to 22% of youth not referred to treatment and 26% of youth referred to a treatment program other than Family Therapy. These results support the continued use of FFT and Family Therapy for youth on probation in Jefferson Parish.

Although not statistically significant, additional differences in re-arrest rate were revealed. For example, 17% of youth referred to Boys Town in Home Therapy (EBFT, Brand EBP) were re-arrested compared to 24% of youth who were referred to a treatment program other than EBFT. Youth referred to Moral Reconation Therapy (MRT, Brand EBP) were also less likely to be re-arrested than youth not referred to MRT (19% vs. 24%). These differences in re-arrest rates also provide a measure of support for continued use of these services.

Table 16. Six Month Re-Arrest across Treatment Programs

	# of Cases	% Arrested within 6 months
Not Referred to Treatment	164	22%
Active Parenting of Teens		
Referred to Tx, Not ACTPAR	304	23.4
Referred to ACTPAR	36	27.8
Baby Think it Over		
Referred to Tx, Not BTIO	328	24.1
Referred to BTIO	12	16.7
Boys Town In Home Therapy		
Referred to Tx, Not EBFT	313	24.3
Referred to EBFT	27	18.5
Functional Family Therapy**		
Referred to Tx, Not FFT	271	23.6
Referred to FFT	69	10.1
Family Therapy***		
Referred to Tx, Not FLY	314	25.5
Referred to FLY	26	3.8
Individual Therapy		
Referred to Tx, Not Ind	221	23.5
Referred to Ind	119	24.4
Individual and Family Therapy		
Referred to Tx, Not Ind/Fam	284	21.8
Referred to Ind/Fam	56	33.9
Moral Reconation Therapy		
Referred to Tx, Not MRT	314	24.2
Referred to MRT	26	19.2
Project Last		
Referred to Tx, Not PROJLAST	313	23.6
Referred to PROJLAST	27	25.9

* Only treatments with more than 10 cases were included in these comparisons. Aggression Replacement Training, MultiSystemic Therapy, and Substance Abuse were not included.

** $^2(2) = 6.04$, $p=0.05$

*** $^2(2) = 6.52$, $p=0.04$

DISCUSSION

The purpose of the current study was to evaluate youth outcomes associated with the use of the SAVRY and referrals to EBPs for youth on probation in Jefferson Parish. Several important findings can be drawn from this study.

Implementation of the SAVRY

- Over the 22-month time period included in this study, the number of youth with no SAVRY gradually declined, while the number of youth with both SAVRYs gradually increased.
- The results revealed a significant increase in treatment referrals, particularly referrals to Brand EBPs, after the SAVRY was implemented.
- The findings also revealed an important relationship between the implementation of the SAVRY and length of probation term. Youth with one or both SAVRY administrations were on probation an average of seven months shorter than the originally ordered probation term.

Juvenile justice assessments should target the risk and protective factors for the youth and his or her environment as well as identify those factors in which a treatment intervention is possible and realistic (Phillippi & DePrato, 2009). The results of the current study illustrate the increase in the use of SAVRY over the study period and, during this period, referrals to Brand EBP's also increased while the length of probation term decreased.

Initial SAVRY Results, Treatment, and Youth Outcomes

- The results suggest that initial SAVRY risk was related to probation level; specifically, the majority of youth placed on intensive probation scored High Risk on one or both of the SAVRY risk categories (i.e., delinquency and violence).
- Initial SAVRY results were also related to length of probation and reason for release; specifically, youth who scored High Risk for delinquent and/or violent behavior were substantially more likely to get their probation revoked due to misbehavior and remain on probation for a longer time period.
- Although not statistically significant, small differences in recidivism were revealed with re-arrest rates being higher for High Risk youth than youth in the other two groups.
- Initial SAVRY risk scores did not appear to influence whether a youth was referred to treatment, type of treatment referral, or treatment completion.

These results indicate that the initial SAVRY level was related to probation level and length of probation, which could suggest that the SAVRY was being used by DJS to determine terms of probation for youths. Importantly, the results support the predictive utility of the SAVRY, in that those with High Risk SAVRY scores were on probation longer, were more likely to have their probation revoked, and were somewhat more likely to be rearrested. However, SAVRY levels were not related to treatment referral or completion. One possible explanation for this latter finding relates to how treatment was coded for those on intensive probation. Youth placed on intensive probation are provided with in-house treatment coordination and many encounters are not documented separately in the probation folders. Treatment interventions include individual and family therapy, substance abuse, and decision-making skills training.

These results also suggest a potential issue regarding the unnecessary referral of Low Risk youth to services that may not be warranted. In this study, Low Risk youth were as likely to be referred to treatment as Moderate and High

Risk groups and the recidivism rates of all three groups were similar. As noted in the iatrogenic effect and social learning literature pertaining to delinquency interventions, treatment referrals for youth at low risk of offending may increase exposure to delinquent peers and, through those influences, increase subsequent delinquency, substance use, and violent behavior (Poulin, Dishion, & Burraston, 2001; Dishion & Dodge, 2005).

Change in SAVRY Risk Level, Treatment, and Youth Outcomes

- Youth referred to a Brand EBP were more likely to decrease in risk level and to complete treatment.
- Change in SAVRY risk score was also related to positive probation outcomes, such that youth who remained High Risk remained on probation longer, were more likely to have probation revoked due to misbehavior (i.e., new offense, technical violation), and had the highest six-month re-arrest rate.

All treatment options for juvenile offenders are not equal and some are even harmful (Lipsey, 1995). The current study's findings underscore the importance of continuing referrals to Brand EBP's and developing policies and practices to encourage youth to complete the treatment program. The findings also illustrate the potential utility of the SAVRY for predicting those who are most likely to have the poorest probation outcomes. However, the point of implementing a risk assessment tool is to improve case management so that higher risk youth have more successful outcomes. The somewhat small effects between the groups may indicate that risk management of high risk youth was fairly good, even though they were more likely to have poor outcomes than lower risk youth. Further, these findings highlight a necessity to tie these two facets of intervention together. Specifically, it is efficacious for standardized risk screening instruments, such as the SAVRY, to be linked to services that can offer intervention and potential reduction of delinquency risk.

The etiology of delinquent behavior has been shown to be affected by risk factors, such as those captured by the SAVRY, and decreasing those risks have been shown to reduce the likelihood of re-offending (Catalano & Hawkins, 1995; Wasserman et al., 2003; and Zahn, Hawkins, Chiancone, & Whitworth, 2008).

Treatment Referral and Six-Month Recidivism

- Several interventions were associated with lower rates of recidivism; most notably, Functional Family Therapy (Brand EBP) and Family Therapy (Generic EBP).

Prior research suggests that when family issues remain unaddressed, there is a significant correlation between youth experiencing family conflict and poor outcomes such as further delinquency and violence (Thornberry, 1994). The results of the current study are consistent with the literature showing the effectiveness of Functional Family Therapy in reducing recidivism (Alexander et al. 2000; Sexton & Alexander, 2000). In the broader sense, various forms of family therapy have been shown to produce better outcomes for youth when compared with other treatment types (Chamberlain & Rosicky, 1995; Henggeler et al. 1993). The results of the current study support the focus of the Jefferson Parish Probation Department to increase the use of EBPs as part of the youth's probation as a way of increasing public safety (i.e., reducing risk for recidivism). They may also suggest that Jefferson Parish increase the utilization of available family-based interventions for Moderate and High Risk youth on probation.

Limitations

All of these results need to be interpreted in light of several limitations. First, since the time period included in this study overlapped with the implementation of the SAVRY, the number of youth with both SAVRY administrations was quite low. To add to this, collection

of valid treatment data, particularly treatment completion and number of sessions was difficult to obtain. DJS does not have a centralized location for storing treatment information. The treatment data included in this study was obtained from a variety of sources and was not always readily available. The combination of incomplete treatment information and a small sample of youth with both SAVRYs resulted in the inability, in some cases, to conduct valid statistical comparisons or reduced the power to detect statistical significant associations. As a result, treatment referral information, instead of treatment completion, was relied upon for many of the analyses. This is not ideal because treatment referral does not necessarily mean that the youth engaged in treatment. The more appropriate way to measure the effectiveness of treatment programs is to measure whether the youth engaged and/or completed the program. In addition, fidelity of the treatment services offered to youth included in this study was not assessed. Thus, these findings should be considered preliminary and interpreted with caution.

Based on these limitations, a number of recommendations for next steps are provided. First, it is critical that the Jefferson Parish Probation Department improves the current system for tracking treatment information, particularly session and completion information. Second, continued data collection is recommended so that this study can be replicated in the future when there is a larger sample to examine and improved quality of treatment information. If the findings of this study are replicated on a larger sample with improved data quality, the effectiveness of the use of the SAVRY and referrals to Brand EBPs in producing positive youth outcomes should not be ignored. Finally, it is also recommended that DJS examine the match between dynamic risk factors measured in the SAVRY and service referrals. Regardless of the overall risk level, probation officers are encouraged by the court to make service referrals based on criminogenic need.

Additionally, during the time period covered in the current study, Jefferson Parish was involved in several juvenile justice reform efforts including a Probation Review which examined the current practices in the probation department, implementation of alternatives to detention, and efforts to reduce disproportionate minority contact. Thus, without controlling for these reform efforts in the current analyses, it is difficult to conclude that the findings of this study can be attributed solely to the implementation and use of the SAVRY. It is possible that the all of the different reform efforts that are currently underway has led to a positive change in the working culture within the probation department, which in turn, may also be influencing these results.

OVERALL CONCLUSIONS

Assessments of treatment and custody need, as well as dangerousness and risk for violence, are a critical practice in juvenile justice. At the same time, relying on treatment services that have been shown to be effective in reducing violent and delinquent behavior among juvenile offenders is also a key element to a successful juvenile justice system. The Jefferson Parish Probation Department has recently embraced these practices with the use of the SAVRY and increased use of evidence-based treatment services. The results of this study underscore the importance of the sustained use of the SAVRY for informing treatment and custody need as well as Brand EBPs for reducing future violence and delinquent behavior.

This study laid the groundwork for a process of data collection that should be continued in Jefferson Parish and replicated in other jurisdictions. The implementation of the SAVRY and use of EBPs is just one component to providing effective treatment services and producing positive outcomes for youth involved in the juvenile justice system. The continual monitoring of the effective use of the tool and positive treatment outcomes is also a critical component to sustaining a successful juvenile justice system.

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LOUISIANA
Models for Change
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For more information, contact:
Institute for Public Health and Justice
S59-LSU Law Center
Baton Rouge, LA 70803-1000
Phone: 225-578-7646