EVALUATION OF FEMALE-SPECIFIC SERVICES: TRANSFORMING THE JUVENILE JUSTICE APPROACH TO GIRLS

December 2014 Outcome Evaluation Report

Jill D. Sharkey, Ph.D.
Michela Lenzi, Ph.D.
Rebecca Parker, B.S.
Allie Wroblewski, M.Ed.

In collaboration with the following partners:

Santa Barbara Probation Department

Santa Barbara County Alcohol, Drug, and Mental Health Program

Santa Barbara County Education Office

University of California Santa Barbara

UCSB

UNIVERSITY OF CALIFORNIA
SANTA BARBARA

COUNTY OF SANTA BARBARA · CALIFORNIA ·

Table of Contents

INTRODUCTION

EVALUATION OF FEMALE-SPECIFIC SERVICES: TRANSFORMING THE JUVENILE JUSTICE APPROACH TO GIRLS

Goal

The purpose of this project is to develop and implement treatment and evaluation procedures that will inform Probation's transformation of the juvenile justice approach to girls in Santa Barbara County in order to better meet their needs. The goal is to use a comprehensive set of evaluation procedures to evaluate what aspects of their program help them achieve a turning point away from crime and towards productive engagement in their communities. These youths often have histories of trauma, which highlights the need for the girls in-custody program[1], a trauma-informed therapeutic approach to developing skills and thereby reducing recidivism. As services are for a small number of females on probation with intensive supervision and treatment needs, the evaluation activities are designed to help Probation set up a comprehensive intervention plan with embedded process and outcome measures that will help inform the effectiveness of the program on into the future.

Accomplishments

Through a one-year evaluation contract, in collaboration with the Santa Barbara County Probation Department (Probation) and Santa Barbara County Alcohol, Drug, and Mental Health Services (ADMHS), UCSB engaged in several activities designed to inform the girls in-custody program and program evaluation. These activities, further detailed in this report, included:

a) identification of existing data elements within Probation and ADMHS and historical analysis of screening, mental health, intervention, probation success, and recidivism data to inform intervention and evaluation development;
b) literature reviews of evidence-based assessments and interventions;
c) collaboration meetings with the girls in-custody work group to develop the program and evaluation protocol;
d) on-site visits at the SMJH to identify strengths and needs through tours, observations, and meetings with Probation, ADMHS, and school personnel;
e) documentation of a pilot implementation of the girls groups;
f) meetings with ADMHS staff to further develop and document the girls in-custody curriculum; and
g) consultation and applications with UCSB and the California Department of Corrections and Rehabilitation (CDCR) to obtain rigorous approval to conduct research with incarcerated individuals.

[1] Official name selection for the girls in-custody program is pending. As such, the girls in-custody name will be used broadly throughout this report to describe the current gender-specific programming efforts at the Santa Maria Juvenile Hall.

HISTORICAL ANALYSIS

The current evaluation examined historical data on a group of girls and boys who have already been through the probation system. The historical data analysis had three main aims:

1. To examine rates of recidivism and probation completion status for probation clients prior to service transformation;
2. To identify factors associated with a higher risk of recidivism and a lower likelihood of successful probation completion;
3. To evaluate if programs are related to lower rates of recidivism and higher rates of probation successful completion (after controlling for risk factors).

Recidivism, program successful completion rates, risk factors, and programs were examined with a strong focus on gender differences, in order to identify potential areas of intervention that seem to be particularly relevant for girls.

Characteristics of the Sample

Data for the current evaluation were derived from two different sources: Probation and ADMHS. Participants were girls and boys who exited probation anytime in the two-year period between January 1, 2011 and December 31, 2012. The sample includes 1,122 clients (24.6% girls; 77.0% minority) aged between 9.3 and 17.9 years (mean age= 15.9, *SD*= 1.4). In the total sample, 33.7% of clients were designated as being associated with a gang (37.9% among boys, 20.7% among girls). Probation data were queried for each participant based on their probation period, defined as the time between their beginning and end dates on probation. We excluded youth over age 17 years. Probation requested the ADMHS data for these 1,222 participants and UCSB matched the data based on their unique probation identification number.

Variable Definitions

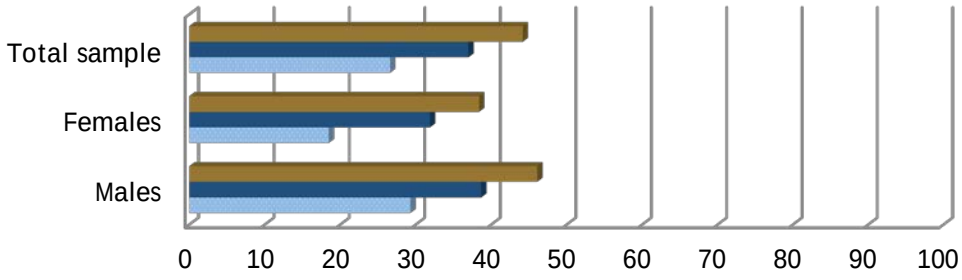
Exit Status	*Description*
Successful Probation Completion	Having no major violations and successfully completing the terms of probation as specified during disposition.
Unsuccessful Probation Completion	Includes anyone with new law violations or violations of probation resulting in additional adjudication at the conclusion of their probation period.
Successful Program Exit Status	Successful exit from a program is defined completing the assigned program(s) within the probation period. This includes consistent and high levels of participation and attendance, and completion of all major aspects of coursework and achievement of program milestones.
Unsuccessful Program Exit Status	Unsuccessful exit from a program is defined as removal from the program due to refusal to participate or a violation that results in a consequence that prohibits completion.

Recidivism	In this report, recidivism is defined as the youth being referred to the criminal justice system for a new misdemeanor, felony, and/or both.

Recidivism Rates and Probation Completion

Felonies, misdemeanors, and combined indicators of recidivism

The first aim of the historical analysis was to examine recidivism rates and probation completion status (definitions are provided on page 5) of youths who were clients of Santa Barbara County Probation prior to any changes made related to the girls in custody program; this analysis provides a basis to evaluate how the new services implemented might impact youth recidivism and probation completion.

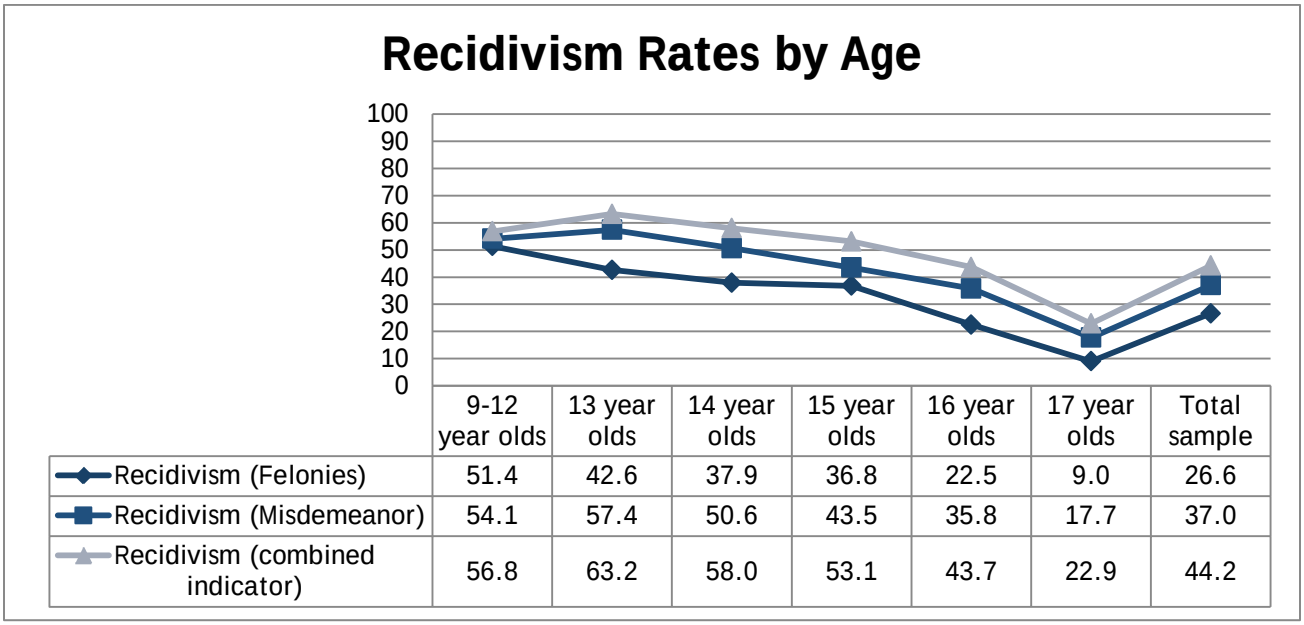


	Males	Females	Total sample
Recidivism (combined indicator)	46.1	38.4	44.2
Recidivism (Misdemeanor)	38.7	31.9	37.0
Recidivism (Felonies)	29.3	18.5	26.6

Figure 1. Recidivism rates in girls and boys.

Figure 1 shows that, overall, females tend to have lower levels of recidivism when compared to males. However, a considerable portion of the females included in the sample committed either a felony or a misdemeanor[2] (more than one third). Similarly to what happens for boys, misdemeanors were more frequent than felonies (31.9% vs. 18.5%). Gender differences in recidivism rates were statistically significant.

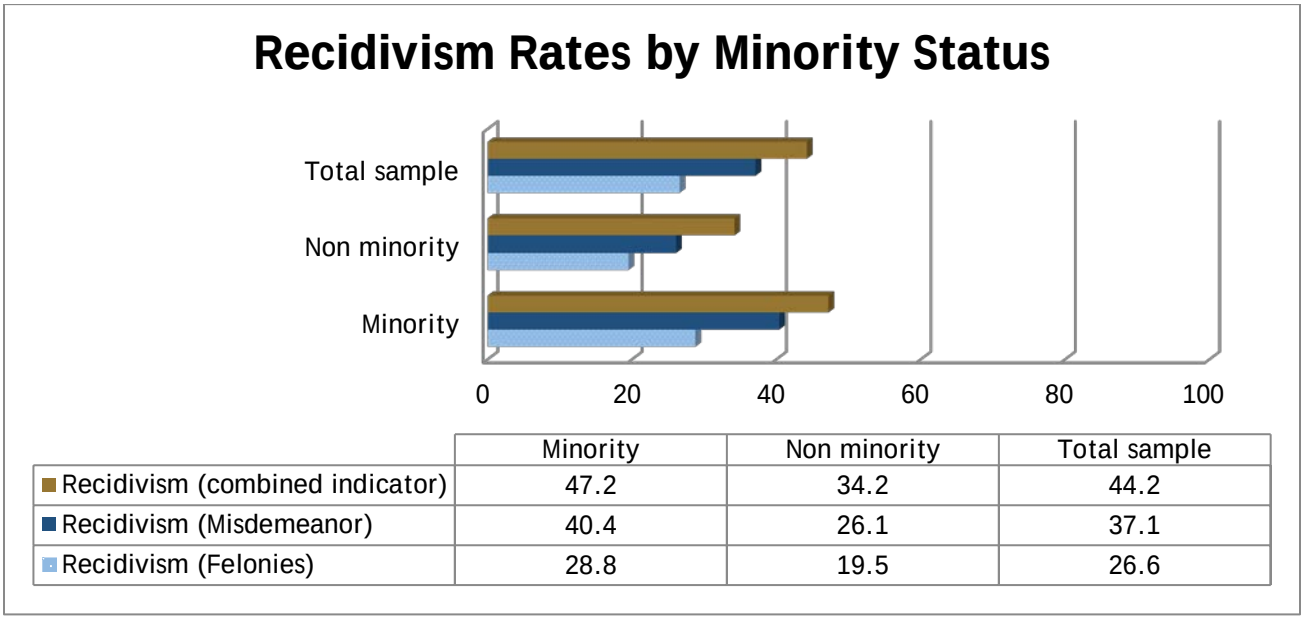
[2] The combined indicator including both felonies and misdemeanors will be the outcome examined for the analyses included in the Report.



	9-12 year olds	13 year olds	14 year olds	15 year olds	16 year olds	17 year olds	Total sample
Recidivism (Felonies)	51.4	42.6	37.9	36.8	22.5	9.0	26.6
Recidivism (Misdemeanor)	54.1	57.4	50.6	43.5	35.8	17.7	37.0
Recidivism (combined indicator)	56.8	63.2	58.0	53.1	43.7	22.9	44.2

Figure 2. Recidivism rates in females and males.

Figure 2 shows recidivism rates in youth of different ages: referrals for felonies and misdemeanors tended to be more common among younger youths; recidivism rates decreased as the age of youths increased.



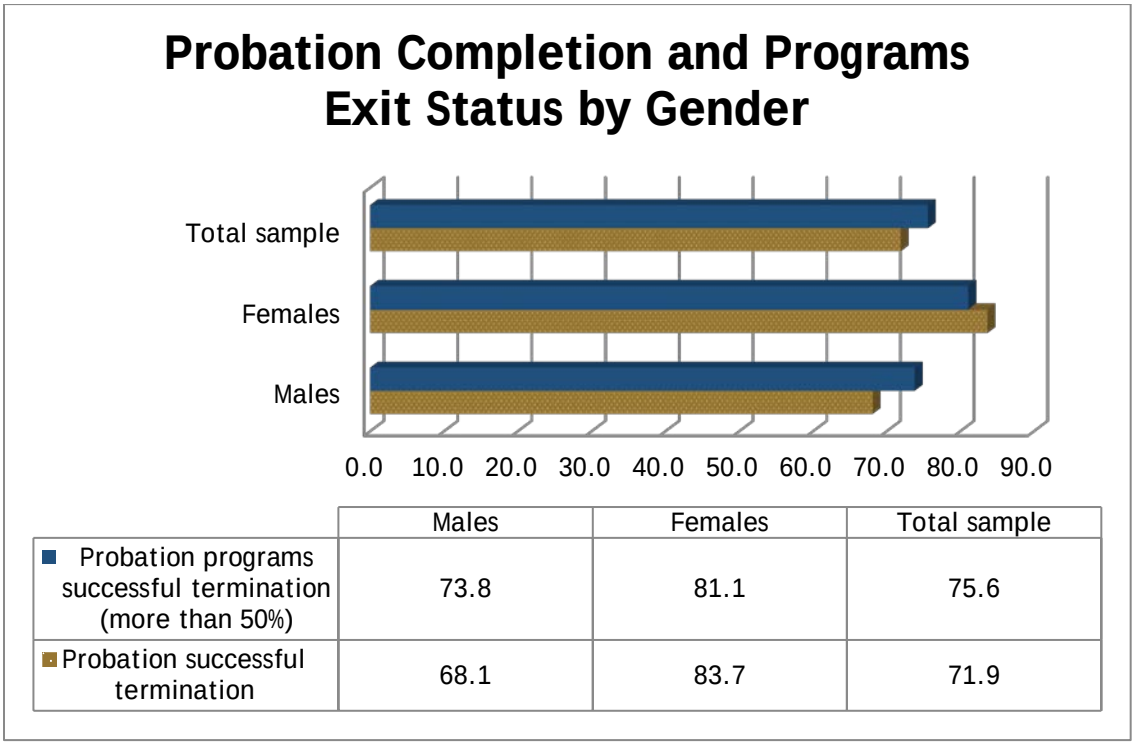
	Minority	Non minority	Total sample
Recidivism (combined indicator)	47.2	34.2	44.2
Recidivism (Misdemeanor)	40.4	26.1	37.1
Recidivism (Felonies)	28.8	19.5	26.6

Figure 3. Recidivism rates and minority status.

Figure 3 shows that recidivism rates were higher in youths who were part of a minority group as compared youths who are White.

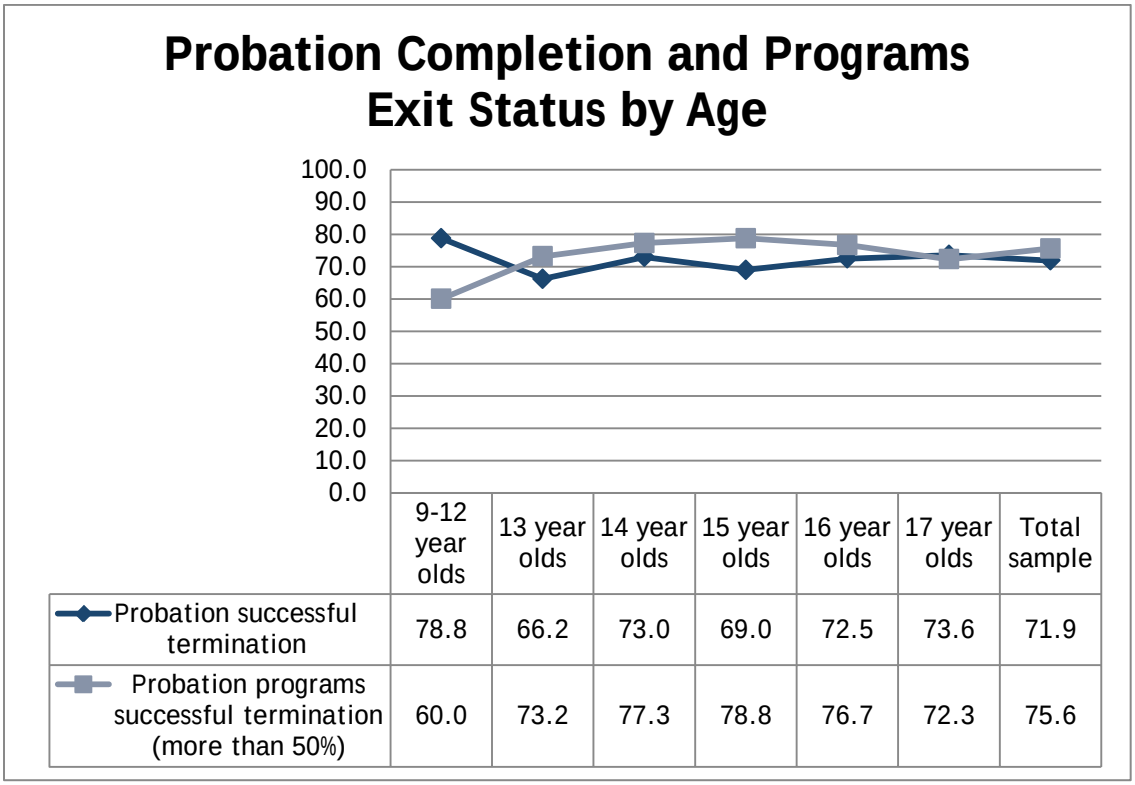
Probation completion and program exit status

Besides recidivism rates, another way to evaluate the success of youth on probation is to examine their probation completion status and program completion status (see page 5 for completion status definitions and Table 13 for a complete list of probation programs). As shown in Figure 4, more than 4 out of 5 girls completed probation with a successful exit status, and a similar percentage successfully completed more than half of the programs provided by probation. A lower proportion of boys (versus girls) completed probation successfully and completed more than 50% of probation programs with a successful exit status.



	Males	Females	Total sample
Probation programs successful termination (more than 50%)	73.8	81.1	75.6
Probation successful termination	68.1	83.7	71.9

Figure 4. Probation and programs exit status for females and males.

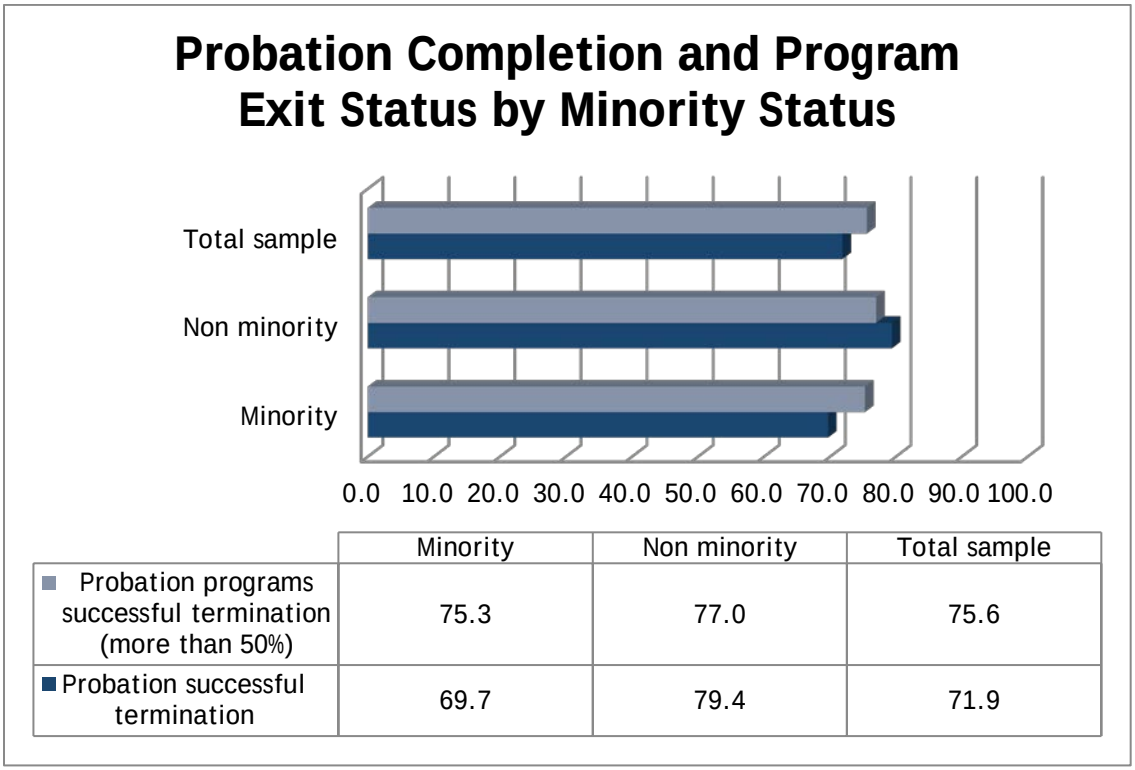


	9-12 year olds	13 year olds	14 year olds	15 year olds	16 year olds	17 year olds	Total sample
Probation successful termination	78.8	66.2	73.0	69.0	72.5	73.6	71.9
Probation programs successful termination (more than 50%)	60.0	73.2	77.3	78.8	76.7	72.3	75.6

Figure 5. Probation completion and program exit status by age group.

Completing probation and programs successfully does not appear to be associated with age: looking at Figure 5, the highest proportion of youth terminating probation with a successful exit status occurred among youth aged 9-12, while 15-year-olds seem to have the highest likelihood of completing probation programs with success. However, a clear trend in probation completion across ages was not identified.

Finally, Figure 6 shows that the proportion of youths from an ethnic minority background successfully completing most of probation programs in youth is similar to the proportion observed among white youths. However, a lower percentage of minority youths obtained a successful probation exit status (69.7% vs. 79.8%).



	Minority	Non minority	Total sample
Probation programs successful termination (more than 50%)	75.3	77.0	75.6
Probation successful termination	69.7	79.4	71.9

Figure 6. Probation completion and program exit status by minority status.

Risk Factors for Recidivism and Unsuccessful Probation Completion: Individual Characteristics

How are individual characteristics, minority status, and gang membership associated with recidivism and probation completion?

After examining the association between youth demographic characteristics, recidivism rates and probation completion status, a more complex model was evaluated through logistic regression. Logistic regression is a statistical analysis that permits simultaneous measurement of the association between multiple factors ("predictors;" see Appendix) and a target event. We used this analysis to test how different individual characteristics (demographics, gang membership) and characteristics of programs (probation programs and mental health services) are associated with recidivism rates and probation completion status. The main advantage of this analysis is that by simultaneously evaluating the effect of multiple factors, each association with recidivism is estimated for its own unique association with the outcome (taking into account the influence of any other variables).

The findings described in Table 1 represent odds ratios (ORs): they quantify the strength of the association between the predictors and the outcomes (recidivism rates and probation completion status). When an odds ratio is lower than 1, it means that this factor is associated with a lower probability of recidivism. When the odds ratio is higher than 1, the factor is associated with a higher likelihood of recidivism.

Demographic Factors related to Recidivism (at least one felony or misdemeanor)		
	MODEL 1	**MODEL 2 (adds Gang Membership)**
Gender (female)	.70 (.53-.94)*	1.00 (.73-1.37)
Age	.68 (.62-.75)***	.72 (.65-.79)***
Minority	1.58 (1.17-2.14)**	.72 (.51-1.00)
Gang membership		8.21 (5.99-11.26)***

Table 1. Regression model predicting recidivism from gender, age, minority status and gang membership[3].

In MODEL 1 (left column of Table 1), the demographic characteristics examined in the descriptive analyses were included (gender, age, minority status). The ORs showed that, above and beyond the influence of age and minority status, being a female on probation is associated with a 30% lower likelihood of recidivism; in other words, girls on probation are 1.4 times less likely than boys to commit a felony or a misdemeanor. At the same time, age seems to be a protective factor for recidivism, with older youths having a lower likelihood of recidivism: for every 1-year increase in age, youths on probation have a 32% lower likelihood of recidivating. On the other hand, being a minority was associated with a higher likelihood of recidivism, with minority youths on probation 1.6 times more likely than White youths on probation to have committed a felony or a misdemeanor.

In MODEL 2 (right column of Table 1), gang membership was added as a predictor of recidivism and this significantly affected the associations between variables: youths on probation who belonged to gangs were more than eight times more likely than non-gang members to recidivate. It is worth noting that once we included gang membership as a predictor, boys and girls had the same odds of recidivating (as shown by the OR= 1.00, non significant). Similarly, being part of a minority was no longer a risk factor for recidivism, probably because of the overlap between minority status and gang membership (with a large proportion of gang members belonging to an ethnic minority group).

In order to evaluate if the associations observed between predictors and recidivism were different in boys and girls, we tested the interactions (see Appendix) between gender, age, minority status, and gang membership. None of these interactions were significant, meaning these predictors are associated with recidivism in a similar way for both boys and girls (i.e., the strength of the association is the same). In other words, being part of a gang seems to be associated with a similar increase in the likelihood of recidivism for boys and girls.

[3] * p<.05; ** p<.01; *** p<.001

Demographic Factors related to Successful Probation Completion		
	MODEL 1	**MODEL 2 (adds Gang Membership)**
Gender (female)	2.38 (1.68-3.39)***	1.99 (1.38-2.85)***
Age	.99 (.90-1.09)	.92 (.83-1.02)
Minority	.60 (.43-.84)**	.98 (.68-1.42)
Gang membership		.30 (.22-.41)***

Table 2. Regression model predicting probation successful completion from gender, age, minority status and gang membership.

In Table 2, a regression model with the same predictors was tested with probation completion as an outcome. The results of MODEL 1 (left column) show that being a female was associated with being twice as likely to complete probation successfully. On the other hand, being part of an ethnic minority group was associated with a 40% reduction in the likelihood of completing probation with a successful exit status. Age was not significantly associated with probation exit status.

In MODEL 2, gang membership was included as a predictor and showed a negative association with successful exit status: gang members were more than 3 times less likely to successfully complete probation. Being a female remained significantly associated with a higher likelihood of successful probation completion, whereas minority status was no longer associated with probation exit status. Similarly to what was observed in the model predicting recidivism, this could be due to the fact that a large proportion of gang members are part of ethnic minority groups. The same interactions (gender and age, gender and minority, gender and gang membership) were tested; none of them were significant, underlining that the association between these predictors and probation completion is similar in girls and boys.

In the following sections, the role of other predictors of recidivism and probation completion are evaluated. In order to estimate the independent association of each predictor to recidivism and probation completion above and beyond demographic characteristics and gang membership, the predictors examined in Table 1 and 2 will be included in the following analyses.

Mental Health Status

Youth mental health status: descriptive statistics

Overall, 32.3% of the 1,122 client sample has had at least one admission to mental health services (35.1% females and 31.3% males) and a slightly lower percentage (28.9) had at least one admission to substance use intervention (28.6% females, 29.0% males). An admission refers to ADMHS accepting into a program a client who is either new and/or been reopened to a particular program.

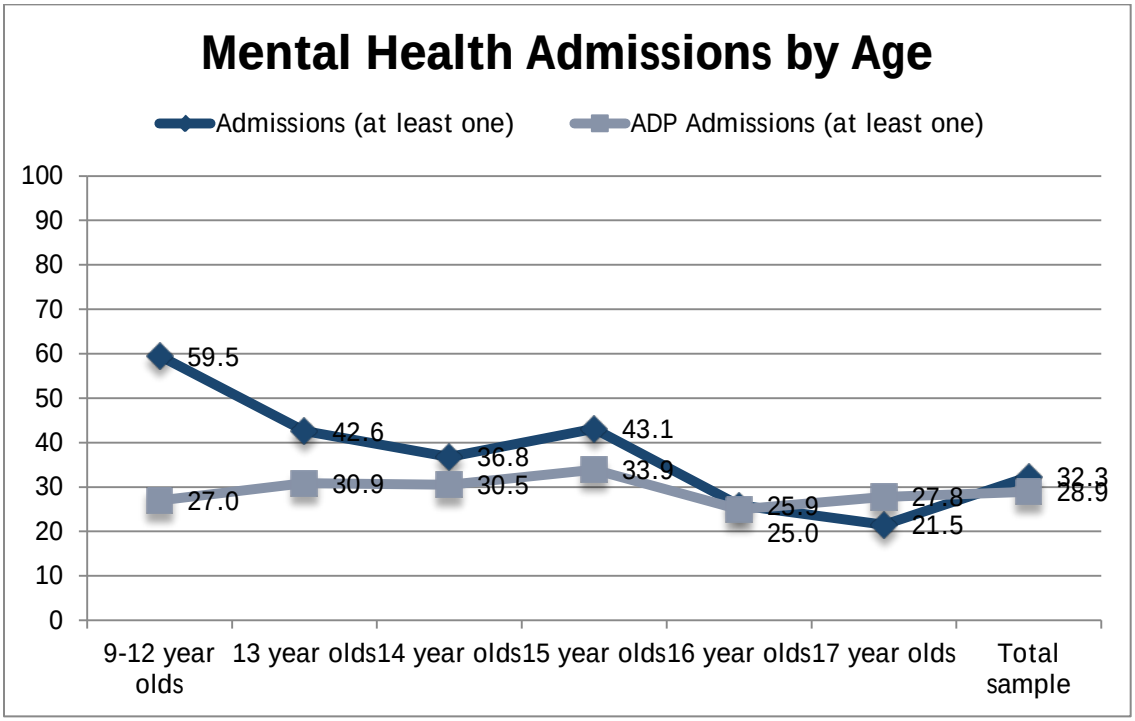


Figure 7. ADMHS admissions by age.

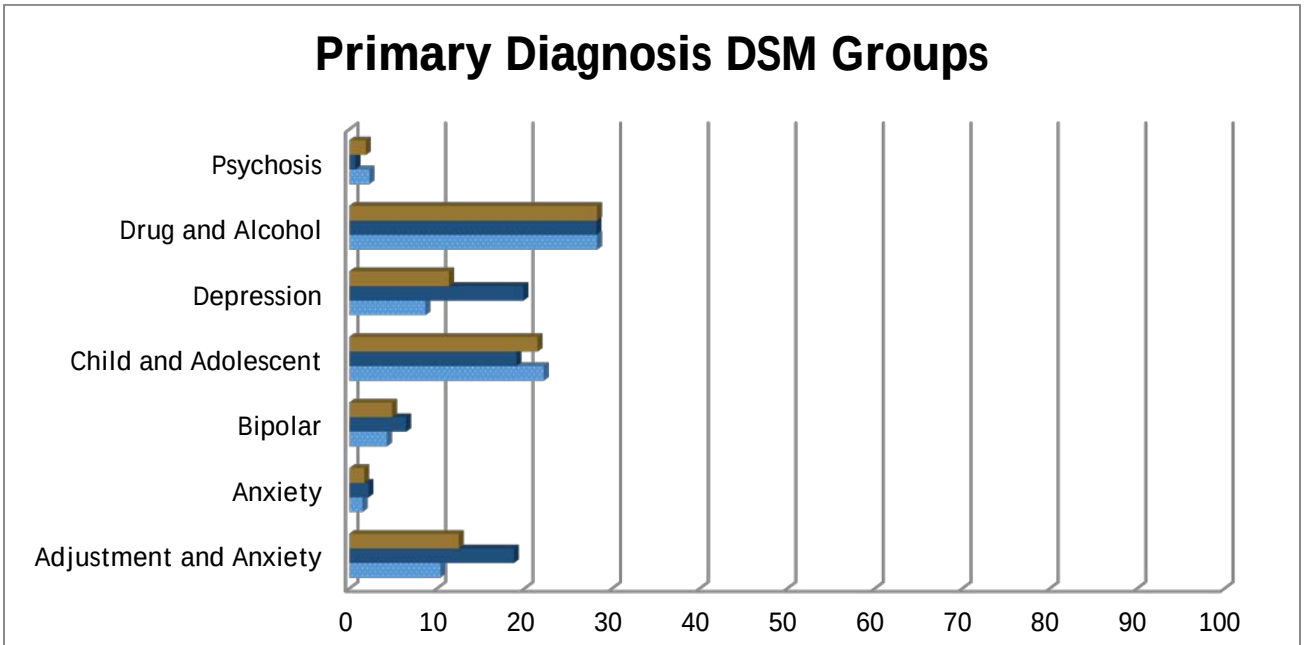
Figure 7 shows that the proportion of youths with at least one admission in the Mental Health Department is particularly large (almost reaching 60%) for youth aged between 9-12. After that age the percentage decreases, being about 40% for 13-15 year olds and about 25% for 16-17 year olds. The proportion of youths with Alcohol and Drug Program (ADP) admissions was similar across ages.

During their contact with Mental Health Services, several youths received a DSM diagnosis (see *Table 3* below for a description of most frequent DSM-V disorders/groups within the sample). In the current evaluation, we focused on diagnosis groups and specific diagnoses that were frequent enough to be the object of relevant statistical analyses.

The following diagnosis (DSM) groups were analyzed.

DSM-V Diagnoses	DSM-V Diagnostic Symptoms (American Psychiatric Association, 2013)
Psychosis: Schizophrenia	Delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior, negative symptoms (i.e. flat affect or withdrawal). Also categorized by markedly lower functioning in one or more major areas, such as work, interpersonal relations or self-care.
Drug and Alcohol: Substance Use Disorder (SUD)	Missing school, work, or other responsibilities due to substance use; building up a physiological tolerance to the effects of a substance; craving the substance; failing to quit using despite multiple attempts to do so.
Depression: Major Depressive Disorder	Depressed or irritable or loss of interest or pleasure in daily activities or both for at least 2 weeks. Symptoms must be distinct from previous functioning. Additional signs include marked weight loss or weight gain; sleeping too much or too little; restlessness or lethargy; fatigue, feelings of worthlessness or excessive or inappropriate guilt; cloudy or indecisive thinking; and a preoccupation with death, plans of suicide, or an actual suicide attempt.
Child & Adolescent	This category reflects disorders that are usually first diagnosed in infancy, childhood, or adolescence and include attention-deficit/hyperactivity disorder, communication disorders, disruptive behavior disorder (e.g., conduct disorder, oppositional defiant disorder), learning disorders, mental retardation, motor skills disorders, and stuttering.
Bipolar: Bipolar Disorder	Presence of a manic episode, which includes a sustained period of abnormally and persistently elevated, expansive, or irritable mood in a distinct shift from normal functioning (pattern of behavior). The following symptoms are usually present: grandiosity; decreased need for sleep; increased talkativeness, racing thoughts; scattered attention; drive to achieve goals; and risk-taking behavior. During a major depressive episode, child may display either depressed or irritable mood most of the time, or loss of interest or pleasure in things once enjoyed. May include other symptoms of Major Depressive Disorder.
Anxiety: Childhood Anxiety	In generalized anxiety disorder (GAD), child's anxiety is beyond control and is focused on a number of different activities and causes significant distress or impairment for at least 6 months. Child may also have the following symptoms: loss of focus, irritability, muscle tension, fatigue or trouble sleeping. Children suffering from post-traumatic stress disorder (PTSD) may experience intrusive memories, avoidance and numbing, and increased arousal (irritability, guilt, or fearful behavior). Somatic complaints such as stomachaches and headaches are also common.
Adjustment and Anxiety: Adjustment Disorder	Child has experienced a stressful event that leaves them abnormally upset and unable to cope. Distress must be more severe than would normally be expected from such an event, and cause significant impairment in academic or social activities. Symptoms must be present for more than 6 months after the event.

Table 3. DSM-V diagnoses and descriptions



	Adjustment and Anxiety	Anxiety	Bipolar	Child and Adolescent	Depression	Drug and Alcohol	Psychosis
Total sample	12.5	1.7	4.9	21.5	11.4	28.3	1.9
Females	18.8	2.2	6.5	19.1	19.9	28.2	0.7
Males	10.4	1.5	4.3	22.2	8.7	28.3	2.3

Figure 8. Percentages of primary diagnoses by DSM groups

Diagnosis DSM Groups

Age	Adjustment & Anxiety	Anxiety	Bipolar	Child & Adolescent	Depression	Drug & Alcohol	Psychosis
9-12	29.7	0.0	8.1	45.9	13.5	27.0	0.0
13	17.4	4.3	7.2	33.3	18.8	30.4	7.2
14	9.7	1.7	4.0	27.4	12.6	30.9	2.3
15	17.4	1.7	7.1	27.0	16.2	33.6	1.7
16	10.3	1.6	2.8	15.7	10.3	24.5	1.6
17	9.0	1.4	4.8	13.8	5.9	26.2	1.4
Total	12.5	1.7	4.9	21.5	11.4	28.3	1.9

Table 4. Prevalence of DSM diagnosis groups

Frequencies of Diagnoses Received by Youths from ADMHS (*n*=1,122)				
Diagnosis	**Males (%)**	**Females (%)**	**Chi-square**	**Total sample (%)**
Adjustment Disorder Unspecified	2.1	5.4	7.973**	2.9
Alcohol Abuse	12.8	15.2	n.s.	13.4
Amphetamine Abuse	3.1	5.8	4.285*	3.7
Amphetamine Dependence	2.8	5.1	n.s.	3.4
Attention-Deficit/Hyperactivity Disorder Combined Type	4.3	2.9	n.s.	3.9
Cannabis Abuse	18.4	17.4	n.s.	18.2
Cannabis Dependence	10.8	9.4	n.s.	10.4
Conduct Disorder, Adolescent Onset Type	6.9	5.8	n.s.	6.6
Depressive Disorder NOS	6.0	13.8	17.070***	7.9
Diagnosis or Condition Deferred on Axis I	5.9	4.7	n.s.	5.6
Disruptive Behavior Disorder NOS	8.2	8.7	n.s.	8.3
Mood Disorder NOS	3.3	5.8	3.417*	3.9
Oppositional Defiant Disorder	6.4	8.7	n.s.	7.0
Parent-child Relational Problems	0.8	5.1	20.419***	1.9
Polysubstance Dependence	3.0	5.8	4.774*	3.7
Posttraumatic Stress Disorder	2.1	9.1	27.120***	3.8

Table 5. Prevalence of DSM Diagnoses

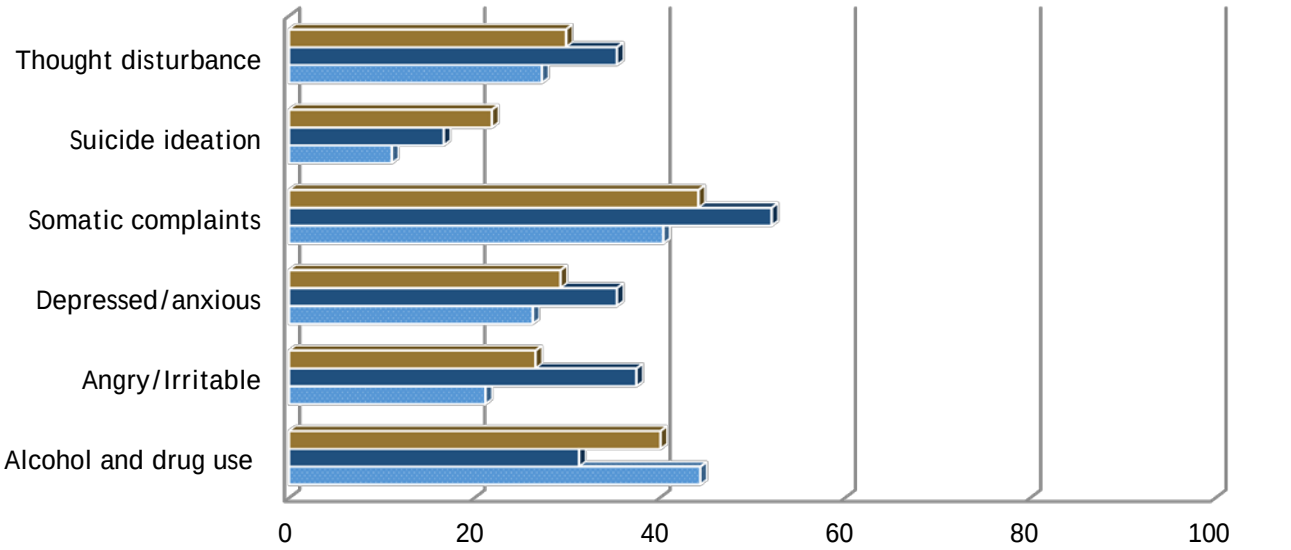
Table 4 shows the frequencies of the different diagnoses received by youths from ADMHS. They represent the percentage of youths having received the specific diagnosis (at least one) either as first or second diagnosis. Cannabis abuse was the most common diagnosis: in the current sample, this diagnosis was given to about one out of five youths, and the frequency was similar in girls and boys. Alcohol abuse was the second most frequently received diagnosis, followed by cannabis dependence, disruptive behavior disorder, and depressive disorder.

Gender differences were found in the frequencies of some of the diagnoses (in red), with a higher prevalence of disorders among girls. The gender differences were particularly pronounced in relation to posttraumatic stress disorder; this diagnosis was given to girls more than twice as frequently as to boys. Girls were also most likely to be diagnosed with depressive

disorder, adjustment disorder, amphetamine abuse, mood disorder, parent-child relational problems, and poly-substance dependence.

From the original sample of 1,122 clients, we were able to locate and match Massachusetts Youth Screening Instrument II (MAYSI) scores for 145 youth (97 males; 48 females). The MAYSI II is a computer-based self-report inventory of 52 questions designed to assist juvenile justice facilities in identifying youths who may have immediate mental health needs. Youths provide answers about their mental health needs by responding “yes” or “no” to each item that has been true for them "within the past few months." The items refer to seven main areas: traumatic experiences, thought disturbance, suicide ideation, somatic complaints, depressed/anxious symptoms, angry/irritable feelings, and alcohol and drug use.

Because of the small size of the sample, statistical significance was not taken into account in this specific analysis and the results have to be considered only at a descriptive level (also due to the fact that the 145 youth with matching information might not be representative of the whole population).



	Alcohol and drug use	Angry/Irritable	Depressed/anxious	Somatic complaints	Suicide ideation	Thought disturbance
Total sample	40.1	26.6	29.3	44.2	21.9	29.9
Females	31.3	37.5	35.4	52.1	16.7	35.4
Males	44.4	21.2	26.3	40.4	11.1	27.3

Figure 9. Percentage of youth categorized in the “caution” or “warning category” on the MAYSI II score by gender.

Figure 9 shows that a lower percentage of girls were categorized in the "caution" or "warning"[4] groups in terms of alcohol and drug use and suicide ideation. In contrast, more girls were in the "caution" or "warning" categories for all the other risk factors. No age differences were found between youth categorized as "caution" or "warning" and those with normative scores on the MAYSI II. Regarding traumatic experiences, the MAYSI II norms don't include a categorization of risk scores. In the current sample, the average number of events reported by the youths was similar in females and males: 1.21 and 1.35, respectively, meaning that on average, youths were reporting one out of the five traumatic experiences included in the questionnaire (total sample mean= 1.31, SD= 1.26). The standard deviation shows that there was a wide variation in the frequency of the experiences reported by youth. The frequencies of traumatic experiences tended to increase with age, with 17 year olds reporting a higher number of events (MEAN= 1.72, SD= 1.26).

Mental Health, Recidivism, and Probation Completion

In the following section, associations between mental health status, recidivism rates, and probation completion were tested (variable definitions are provided on page 5). The main goal was to evaluate if mental health admissions and diagnoses represented a risk factor for recidivism and unsuccessful probation completion.

Table 6 shows that recidivism rates for youths who had at least one mental health admission (general or ADP admission) were almost double compared to youths who didn't have contact with mental health services. In other words, having some sort of mental health disorder (as indicated by their admission to mental health services) seems to make it more difficult to complete the probation time without committing other offenses. Similarly, a lower percentage of youths with at least one mental health admission successfully completed probation (as compared to those without a history of mental health problems).

Mental Health Status and Recidivism Rates (*n* = 1,122)

Mental Health Status	Recidivism (At least one felony or Misdemeanor)	Chi-square	Successful Probation Completion	Chi-square
MH admissions		**78.657*** **		**39.759*** **
None	**35.1**		**77.8**	
At least one	**63.3**		**59.7**	
ADP MH Admissions		**41.849*** **		**15.710*** **
None	**38.1**		**75.3**	
At least one	**59.3**		**63.6**	

[4] The "caution" and "warning" categories were merged because of the small size of the sample.

Table 6. Bivariate association between mental health admissions, recidivism rates and probation completion.

DSM Diagnosis, Recidivism, and Successful Probation Completion Rates (*n* = 1,122)				
Diagnosis DSM group	**Recidivism (At least one felony or Misdemeanor)**	**Chi-square**	**Successful Probation Completion**	**Chi-square**
Adjustment and Anxiety		**12.086*** **		**n.s.**
Yes	**57.4**		**68.8**	
No	**41.9**		**72.5**	
Anxiety		**n.s.**		**n.s.**
Yes	**47.4**		**63.2**	
No	**43.8**		**72.2**	
Bipolar		**7.576****		**n.s.**
Yes	**61.8**		**61.8**	
No	**42.9**		**72.6**	
Child and Adolescent		**105.598*** **		**67.994*** **
Yes	**72.5**		**51.0**	
No	**35.9**		**77.8**	
Depression		**45.432*** **		**3.487***
Yes	**62.0**		**65.1**	
No	**41.5**		**73.0**	
Drug and Alcohol		**13.133*** **		**16.480*** **
Yes	**59.7**		**63.4**	
No	**37.6**		**75.5**	
Psychosis		**14.680*** **		**5.423***
Yes	**81.8**		**50.0**	
No	**41.1**		**72.5**	

Table 7. Bivariate association between mental health diagnosis, recidivism rates and probation completion.

After examining mental health admissions, we evaluated whether specific diagnoses were related with a higher risk of recidivism or unsuccessful probation completion. As shown in Tables 7 and 8, there was a positive association between all diagnoses examined and recidivism except mood disorder and parent-child relational problems. The association was particularly strong for conduct disorder (adolescent onset type): having received this diagnosis was associated with a 2-times higher likelihood of recidivism, compared to youths who were not diagnosed with conduct disorder or had no diagnoses. Alcohol and cannabis abuse were also associated with recidivism, with a higher percentage of youths having received these diagnoses recidivating with respect to youths who didn't receive this diagnosis (65.3 vs. 40.9 and 63.2 vs. 40.0, respectively).

DSM Diagnosis, Recidivism, and Successful Probation Completion Rates (*n* = 1,122)				
DSM Diagnosis	**Recidivism (At least one felony or Misdemeanor)**	**Chi-square**	**Successful Probation Completion**	**Chi-square**
Adjustment Disorder Unspecified		**5.204***		**n.s.**
Yes[5]	**63.6**		**63.6**	
No	**43.6**		**72.2**	
Alcohol Abuse		**31.333*****		**7.350****
Yes	**65.3**		**62.7**	
No	**40.9**		**73.4**	
Amphetamine Abuse		**10.916****		**n.s.**
Yes	**69.0**		**59.5**	
No	**43.2**		**72.4**	
Amphetamine Dependence		**5.727***		**11.746*****
Yes	**63.2**		**47.4**	
No	**43.5**		**72.8**	
Attention-Deficit/Hyperactivity Disorder Combined Type		**17.606*****		**13.280*****
Yes	**75.0**		**47.7**	
No	**42.2**		**72.9**	
Cannabis Abuse		**36.603*****		**11.547****
Yes	**63.2**		**62.3**	
No	**40.0**		**74.1**	
Cannabis Dependence		**22.803*****		**15.571*****
Yes	**65.0**		**56.4**	
No	**41.8**		**73.3**	
Conduct Disorder, Adolescent Onset Type		**53.807*****		**18.860*****
Yes	**85.1**		**50.0**	
No	**41.3**		**73.5**	
Depressive Disorder NOS		**15.425*****		**n.s.**
Yes	**64.0**		**67.4**	
No	**42.5**		**72.3**	

[5] "Yes" indicates that the youths received this diagnosis at least once during their time on probation.

Diagnosis or Condition Deferred on Axis I		**10.065****		**7.223****
Yes	**63.5**		**57.1**	
No	**43.1**		**72.8**	
Disruptive Behavior Disorder NOS		**27.125*****		**11.203****
Yes	**69.9**		**57.0**	
No	**41.9**		**73.3**	
Mood Disorder NOS		**n.s.**		**n.s.**
Yes	**54.5**		**65.9**	
No	**43.8**		**72.2**	
Oppositional Defiant Disorder		**19.158*****		**13.569*****
Yes	**67.9**		**53.8**	
No	**42.4**		**73.3**	
Parent-child Relational Problems		**n.s.**		**3.647***
Yes	**42.9**		**90.5**	
No	**44.2**		**71.6**	
Polysubstance Dependence		**12.139*****		**9.035****
Yes	**70.7**		**51.2**	
No	**43.2**		**72.7**	
Posttraumatic Stress Disorder		**14.098*****		**4.208***
Yes	**72.1**		**58.1**	
No	**43.1**		**72.5**	

Table 8. Association between specific diagnoses, recidivism rates, and probation completion.

Findings related to probation completion were consistent to findings related to recidivism, with a lower percentage of youths having received at least one of these diagnoses successfully completing probation (with the exception of: adjustment disorder unspecified, amphetamine abuse, depressive disorder, mood disorder, which were not significantly associated with probation completion). Although a consistent negative association has been found in relation to all the diagnoses (with a lower likelihood of completing probation successfully if diagnosed with one of the disorders examined), a positive association between parent-child relational problems and successful probation completion was found. It is possible that youths who received this diagnosis also received an effective intervention that mitigated the potential negative consequences of the disorder on probation completion. However, due to the low prevalence of this diagnosis (overall, only 21 youths in the sample received this diagnosis), this result should be interpreted with caution. Overall, these findings show that youths with mental health disorders have a higher likelihood of recidivating and a lower likelihood of successfully completing probation.

Mental Health, Recidivism, and Successful Probation Completion (n = 1,122)				
Mental Health Status	**Recidivism (At least one felony or Misdemeanor)**	**Chi-square**	**Successful Probation Completion**	**Chi-square**
Alcohol and drug use		**n.s.**		**n.s.**
Caution/Warning	**66.1**		**42.4**	
No caution/warning	**63.6**		**50.0**	
Angry/Irritable		**4.135***		**n.s.**
Caution/Warning	**51.3**		**59.0**	
No caution/warning	**69.4**		**42.6**	
Depressed/anxious		**n.s.**		**n.s.**
Caution/Warning	**55.8**		**53.5**	
No caution/warning	**68.3**		**44.2**	
Somatic complaints		**n.s.**		**3.362***
Caution/Warning	**56.9**		**38.5**	
No caution/warning	**70.7**		**53.7**	
Suicide ideation		**n.s.**		**n.s.**
Caution/Warning	**52.6**		**57.9**	
No caution/warning	**66.4**		**45.3**	
Thought disturbance		**n.s.**		**3.723***
Caution/Warning	**54.5**		**59.1**	
No caution/warning	**68.9**		**41.7**	

Table 9. Bivariate associations between MAYSI II scores, recidivism, and probation completion.

The association between mental health needs, recidivism, and probation completion was also evaluated in the sub-sample of youths who received an evaluation through the MAYSI II. In relation to recidivism, only one significant association was found: a lower percentage of youths with high scores in the angry/irritable domain (i.e., “caution” or “warning” categories) committed new offenses, as compared to those with lower scores. Similarly, a higher percentage of youths with high levels of thought disturbance completed probation successfully, with respect to youth scoring lower on thought disturbance. It is possible that the youths showing high levels of angry/irritable or thought disturbance symptoms received effective interventions which reduced their risk of committing new offenses and increased their likelihood of successfully completing probation. Experiencing high levels of somatic complaints seems to reduce the likelihood of a successful termination. However, considering the small size of the sample, which reduces the statistical power of our analyses, these findings need to be interpreted with caution.

How does mental health status influence recidivism?

After examining the bivariate association between mental health status, recidivism rates, and probation completion status, a more complex model was evaluated through logistic regression. By using this statistical analysis, it was possible to test the association between mental health and probation outcomes while taking into account other individual risk factors (i.e., associations that exist after controlling for effects of gender, age, gang membership).

Mental Health Admissions, Recidivism, and Successful Probation Completion		
	Recidivism (at least one felony or misdemeanor)	Successful Probation Completion
Gender (female)	.94 (.68-1.30)	2.16 (1.49-3.12)***
Age	.74 (.66-.82)***	.88 (.79-.97)*
Minority	.77 (.54-1.08)	.91 (.62-1.32)
Gang membership	7.38 (5.35-10.17)***	.34 (.25-.47)***
Admission in MH services (at least one)	1.91 (1.35-2.69)***	.44 (.31-.62)***
ADP Admissions	1.55 (1.09-2.20)*	1.01 (.71-1.43)

Table 10. Regression analysis predicting recidivism rates and successful probation completion from mental health admissions.

Findings presented in Table 10 show that, after controlling for demographic characteristics and gang membership, mental health admissions were still positively related to recidivism: having had at least one admission was associated with an almost 2-times higher likelihood of recidivism; similarly, youths that had at least one ADP admission were about 1.5 times more likely to commit other offenses during their probation time. In relation to probation completion, youths who had at least one mental health admission were 56% less likely to complete probation with a successful exit status (while no association was found between ADP admissions and probation completion).

In order to evaluate if mental health needs constituted a comparable risk factor for recidivism and unsuccessful completion in boys and girls, the interaction between gender and mental health admission was tested. No significant interactions were found between mental health admissions (general and ADP) and gender, that is, mental health needs seem to have a similar association with risk of recidivism and unsuccessful probation completion in boys and girls.

Specific Mental Health Diagnosis, Recidivism, and Successful Probation Completion		
	Recidivism (at least one felony or misdemeanor)	Successful Probation Completion
Gender (female)	.89 (.64-1.26)	2.14 (1.45-3.16)***
Age	.74 (.66-.82)***	.87 (.78-.97)*
Minority	.72 (.51-1.03)	.90 (.61-1.32)
Gang membership	7.49 (5.37-10.44)***	.34 (.25-.47)***
Adjustment Disorder Unspecified	1.16 (.45-2.94)	1.15 (.50-2.64)
Alcohol Abuse	1.73 (1.06-2.83)*	.96 (.61-1.52)
Amphetamine Abuse	1.08 (.44-2.64)	1.22 (.57-2.58)
Amphetamine Dependence	1.13 (.45-2.86)	.50 (.22-1.13)
Attention-Deficit/Hyperactivity Disorder Combined Type	2.44 (1.00-5.95)*	.58 (.28-1.18)
Cannabis Abuse	1.08 (.69-1.68)	1.18 (.77-1.81)
Cannabis Dependence	1.88 (1.08-3.28)*	.66 (.41-1.09)
Conduct Disorder, Adolescent Onset Type	3.24 (1.51-6.92)**	.65 (.37-1.14)
Depressive Disorder NOS	1.31 (.70-2.42)	1.14 (.64-2.02)
Diagnosis or Condition Deferred on Axis I	.91 (.46-1.81)	.99 (.54-1.80)
Disruptive Behavior Disorder NOS	1.23 (.68-2.24)	.72 (.42-1.23)
Mood Disorder NOS	.72 (.33-1.59)	1.27 (.58-2.75)
Oppositional Defiant Disorder	1.64 (.86-3.16)	.50 (.28-.90)*
Parent-Child Relational Problems	.78 (.28-2.20)	3.06 (.63-14.79)
Poly-substance Dependence	.68 (.27-1.74)	.93 (42-12.03)
Posttraumatic Stress Disorder	3.36 (1.42-7.96)**	.63 (.29-1.39)

Table 12. Logistic regression predicting recidivism rates and successful probation completion from specific diagnoses.

Table 12 shows the results of a regression model we used to simultaneously evaluate the relative influence of all the diagnoses to estimate the effect of a specific disorder above and beyond the effect of other potential disorders. Findings show a strong association between post-traumatic stress disorder and conduct disorder (adolescent onset type) and recidivism: youths who were diagnosed with these disorders were more than three times more likely to commit a new offense. Having been diagnosed with attention-deficit/hyperactivity disorder, cannabis dependence, and alcohol abuse was also associated with a higher risk of recidivism. In relation to probation completion, only one significant association was found: youths who have been diagnosed with oppositional defiant disorder were 50% as likely to complete their probation time with a successful exit status. Finally, the interactions between all the diagnoses and gender were included in the model, but none were statistically significant, meaning that the association between mental health diagnosis, recidivism, and probation completion was similar for boys and girls.

Probation Programs, Placements, and Mental Health Services

Overall, 69% of the youths included in the sample attended programs provided by probation (70% girls and 68% boys), 27.7% attended between 1 and 3 programs (29.7% girls and 31.4% boys), and 41.2% attended 4 or more programs (40.9% girls and 41.3% boys). Probation provided a wide variety of program types, which for the current report were grouped in six categories based on their goals. Table 13 show the categories we created to group programs by type, the specific programs included in each category, and a brief description of each program.

Program Categories and Descriptions

Program Category	Definition	Program name	Brief description of programs
1. Cognitive-Behavioral & Behavioral Treatments	These programs are mostly aimed at modifying behaviors and/or cognitions, and emphasize psycho-education focused on the teaching of abilities such as self-control skills, coping skills and problem solving competencies (e.g., reasoning skills programs, social skills and problem-solving approaches, behavioral change). These treatments are usually highly structured and include positive reinforcement, modeling and cognitive restructuring.	*Aggression Replacement Training*	Treatment aimed at developing new skills for anger management
		Juvenile Drug Court (JDC) In Home Counseling	Substance and alcohol trainings received by a subset of Drug Court clients (usually involving family)
		Juvenile Justice Crime Prevention Act (JJCPA) Individual Counseling	Mental health counseling by community based organizations
		SB 163 Girls Group Counseling	Group counseling for high-risk girls, behavioral intervention
		YOBG Individual Counseling	Individual counseling part of the YOBG grant
		Zona Seca Lompoc	Substance and alcohol abuse trainings
2. Educational & Vocational Programs	This category includes all the programs that have the main aim to teach specific skills and competencies (not related to psycho-social competencies), such as how to conduct an online job search, how to send an application or how to dress for a job interview. Some of these programs are detention based.	*Direct Service Education*	Part of the Teen Court, single class
		Direct Service Group	Job and educational skills training in such areas as: giving speeches and presentations, print making, and environmental construction.
		Forestry	
		Print Shop	
		Toast Masters	
		Tier I	
		Wages	

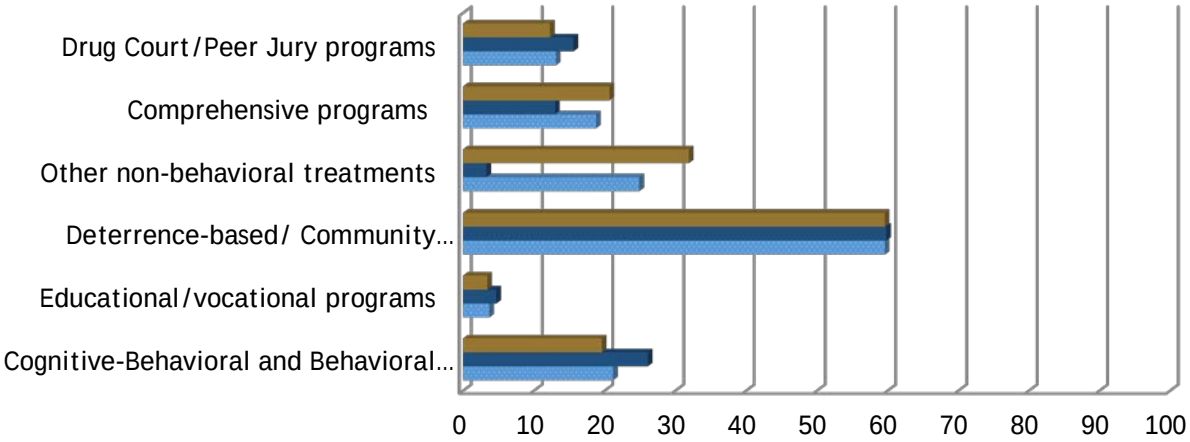
Program Categories and Descriptions Continued			
Program Category	Definition	Program name	Brief description of programs
3. Deterrence-Based/ Community Supervision Interventions	The main aim of these programs is supervision; they only use control- based strategies, not including any educational and/or therapeutic elements.	*Division of Juvenile Facilities*	State level juvenile detention that provides a comprehensive array of services, including a sex offender program.
		JJCPA Early Intervention	Enhanced supervision
		JJCPA School-Based Supervision	Enhanced supervision
		JJCPA Truancy	Supervision due to truancy
		SB/SMJH Electronic Monitoring	Youth monitored via EM in lieu of detention
		SB/SMJH Home Supervision	Youth supervised at home (home detention) in lieu of detention
		SB/SMJH House Arrest	Youth supervised at home (house arrest) in lieu of detention
		SBJH Shelter Detention	House at a youth shelter; For youth with a family dispute or run away
		SBJH/SMJH Alternative to detention	Alternative Report and Resource Center (ARRC) – programming and community service
		SB/SMJH WeCap	Alternative Report and Resource Center (ARRC) participation only during the weekends
		SMJH Weekend Work	Youth doing community service during the weekends
		YOBG Supervision	Enhanced supervision monitoring through the Community Action Comission (CAC)
4. Other Non-Behavioral Treatments	These programs are not as structured as cognitive-behavioral programs and not explicitly aimed at modifying behaviors and/or cognitions. They include various programs, such as Mentoring and Restorative Justice programs.	*Cal Grip II*	Mentoring activities
		JJCPA Mentoring	Mentoring through CAC
		Restorative Justice	*Restorative Justice* refers to reconciliation with victims as part of the rehabilitation process
		Los Compadres	*Los Compadres* is a mentoring program that works with other programs such as JJCPA and YOBG

Program Categories and Descriptions Continued			
Program Category	Definition	Program name	Brief description of programs
5. Comprehensive Programs	These programs represent a complex combination of different elements of the other programs (combining, e.g., MH and education).	*CEC*[6]	Probation school, also including MH and probation services
		Mentoring/ Counseling	Mentoring/Counseling
		SB-163 Wrap Services (Formally MISC)[6]	Multi agency strategy (MH, Social services and probation work with youths and their families).
		YOBG Institutions	Detention interventions and programs, including many different services (minimum duration 6 months, long term commitment)
		Bridges to Recovery (B2R)[6]	A reentry program that connected boys coming out of camp to comprehensive services including case management and substance abuse counseling.
6. Drug Court/Peer Jury Programs	This category includes all the Drug Court and Peer Jury programs.	*Drug Court*[6]	Drug Court for youth
		Drug Court Juvenile	Drug Court for youth
		Violation Contract LM	Teen Court Option, second opportunity to participate in TC (same services though no peer jury)
		Peer Review	Teen Court, with a jury of peers

Table 13. Probation programs types and descriptions.

It is important to note that many of the probation programs listed in *Table 13* build upon each other in order to provide a comprehensive effort at reducing recidivism within the SMJH. For instance, the JJCPA school-based supervision program typically incorporates JJCPA individual counseling and mentoring through the *Los Compadres* program. These complexities make it difficult to tease a part program effects, thus, these results should be used in conjunction with other evidence to evaluate the benefit of programs. Additional work needs to be done to define programs (e.g. Camp Family Group, Squad Counseling) and continue to evaluate them.

[6] Indicates a discontinued probation program.



	Cognitive-Behavioral and Behavioral treatment	Educational/vocational programs	Deterrence-based/ Community Supervision interventions	Other non-behavioral treatments	Comprehensive programs	Drug Court/Peer Jury programs
Boys	19.6	3.4	59.6	31.9	20.7	12.3
Girls	26.1	4.7	59.8	3.3	13.0	15.6
Total sample	21.2	3.7	59.6	24.9	18.8	13.1

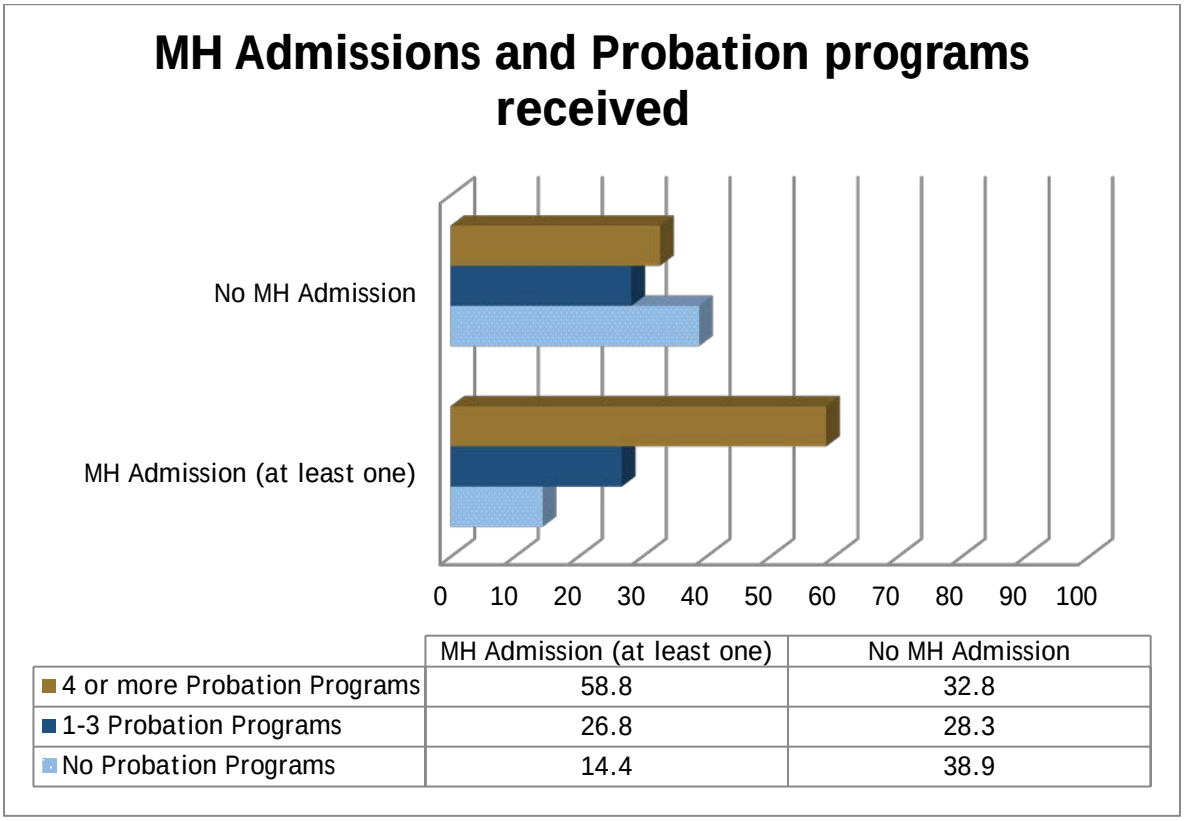
Figure 10. Youth attendance at different probation programs by gender.

In Figure 10, the percentages of girls and boys in this historical sample who attended the different program types are presented. The table shows that the programs having supervision as a main aim and using control-based strategies were the most common both among girls and boys. Almost two-thirds of the youths attended at least one of these programs. Non-behavioral programs including, for example, mentoring and restorative justice were also common: about one out of four youths attended at least one of these programs during their time on probation. Non-behavioral programs were particularly common among boys, while they were very rarely received by girls: more than 30% of the boys included in the evaluation attended at least one non-behavioral program compared to slightly more than 3% girls. About one out of four youths attended cognitive-behavioral and behavioral treatments, and a similar percentage received comprehensive treatments (21.0% and 18.7%, respectively). The first were more common among girls, whereas the second were most commonly attended by boys (26.1% vs. 19.6% and 20.7% vs. 13.0%, respectively). Drug court and peer jury programs and educational/vocational treatments were less commonly provided to youths during their probation time, and the percentage of girls and boys who attended at least one of those programs was similar.

Are probation programs provided differently to youths with mental health needs?

The next section examined whether probation and mental health services were provided differently to youths with and without mental health diagnoses. Figures 11 and 12 show the association between having had at least one admission in mental health services (thus, having some kind of mental health need) and the number of probation programs received.

Figure 11 shows that there were a higher percentage of youths with at least one admission who received a higher number of programs from probation (and conversely a lower percentage of youths not receiving any treatments). Thus, it appears that probation programs were provided especially to youths who were identified as having some kind of mental health need. Similar results were obtained when considering admissions for drug and alcohol problems (Table 10). These differences were statistically significant (Chi-square (2) = 88.465***, p< .001; Chi-square (2) = 67.808, p< .001).



	MH Admission (at least one)	No MH Admission
4 or more Probation Programs	58.8	32.8
1-3 Probation Programs	26.8	28.3
No Probation Programs	14.4	38.9

Figure 11. Percentage of clients receiving a mental health admission per number of probation programs received

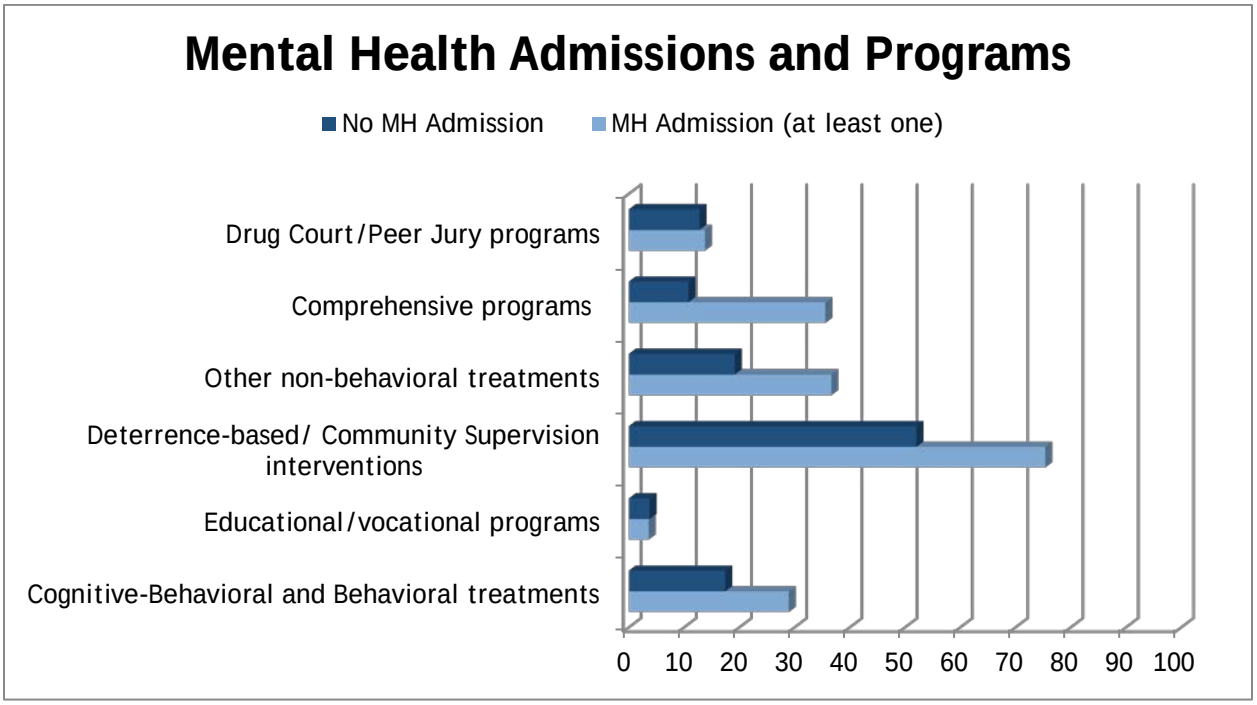


Figure 12. Association between mental health admissions and different types of probation programs.

The positive association between having mental health needs (as indicated by having had at least one admission to mental health services) and receiving programs by probation is confirmed by the results shown in figure 12: with the exception of educational/vocational programs and drug court/peer jury programs, all the types of programs were provided to a higher percentage of youths having mental health needs when compared to youths without any admission in mental health programs. The difference was particularly pronounced for comprehensive programs, with 35.5% of youths with mental health needs having received at least one of these programs (compared to 10.7% of youths without mental health needs).

Placement

During their time on Probation, 6.2% of the youths received some form of out-of-home placement, such as placement in a group or foster home. Compared to boys, a higher percentage of girls received at least one out-of-home placement while they were on probation (12.3% vs. 4.3%).

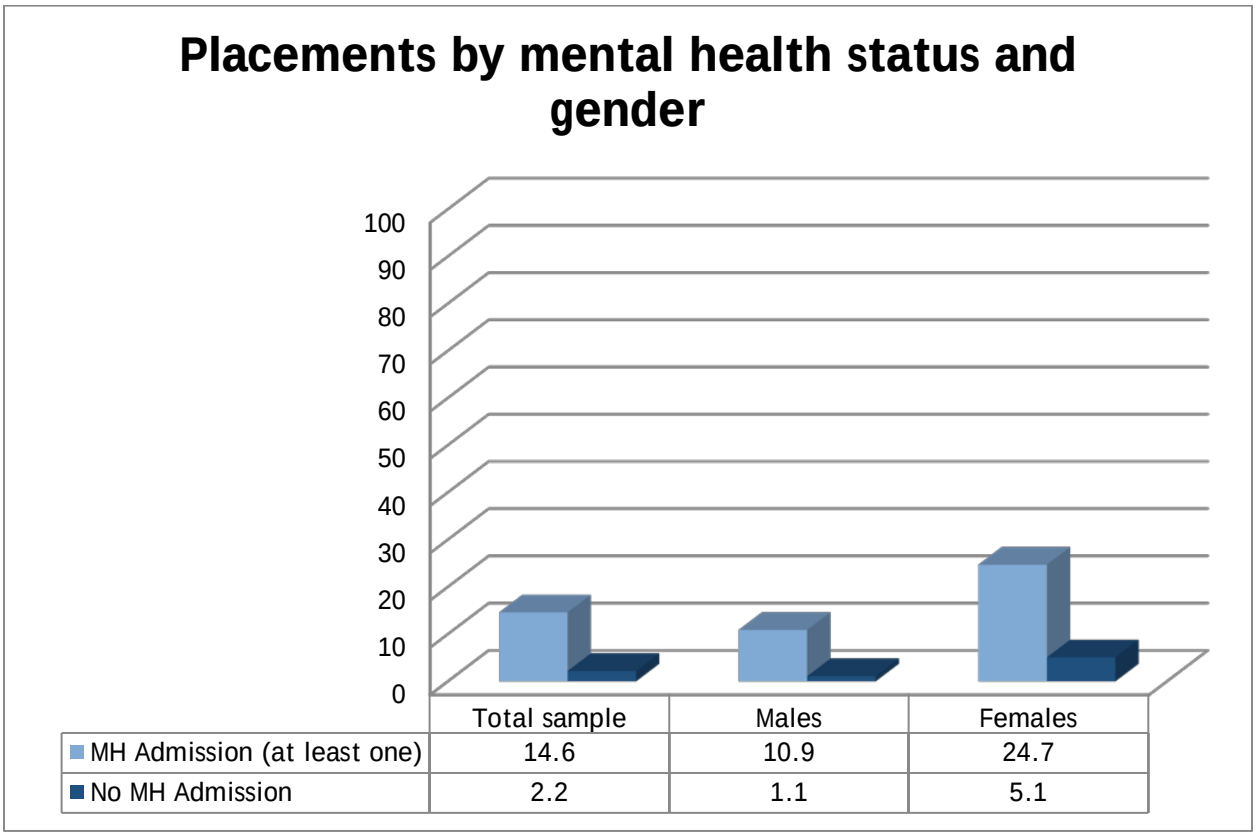


Figure 13. Association between MH admissions and placements by gender

The fact that services were generally provided to youths identified as having mental health needs was also confirmed in relation to placements: 14.6% of youths with at least one admission to mental health services received at least one placement during their time on probation, as compared to only 2.2% of youths without mental health needs. The difference in placement based on mental health status was true for both males and females (however, it was slightly more pronounced in boys).

Are these programs reducing recidivism rates?

The last aim of the historical analysis was to evaluate whether probation (and mental health) programs (including placements) were effective in reducing youths' recidivism rates and increasing the likelihood of their successfully completing probation. Since probation programs are more frequently provided to youths having multiple risk factors, to evaluate the association between program attendance and youth outcomes the following individual characteristics were included in the model: demographics, gang membership, mental health status, and Santa Barbara Asset and Risk Assessment (SBARA) score. The SBARA score was included in order to take into account multiple risk factors and assets in multiple social settings (Parent–Child Relationships, Family Criminality, Family Substance Abuse, Family Mental Health, Individual Factors, Individual Criminality, Individual Substance Use, Community Factors, Peer Factors, School Factors, Sexual Activity, and History of Trauma).

Placements, Recidivism, and Program Completion		
	Recidivism (at least one felony or misdemeanor)	Probation Successful Completion
Gender (female)	.72 (.50-1.05)	3.31 (2.12-5.18)***
Age	.74 (.66-.83)***	.85 (.76-.95)**
Minority	.81 (.55-1.19)	.86 (.57-1.30)
Gang membership	6.41 (4.55-9.01)***	.38 (.27-.53)***
MH Admission (at least one)	2.13 (1.55-2.93)***	.42 (.30-.57)***
SBARA score (high)	1.90 (1.36-2.66)***	.74 (.53-1.02)
Placements	3.26 (1.59-6.67)**	.38 (.21-.68)**

Table 14. Logistic regression predicting recidivism and probation completion from placements.

Table 14 shows a positive association between having received at least one placement and recidivism: youths who had received at least one placement were three times more likely to have committed a new offense. These results indicate that experiencing at least one placement was associated with a 62% lower likelihood of successfully completing probation. The association between placement, recidivism and probation completion was similar in boys and girls (i.e., the interaction was not significant).

Programs Attended, Recidivism, and Successful Probation Completion		
	Recidivism (at least one felony or misdemeanor)	Probation Successful Completion
Gender (female)	.82 (.54-1.24)	2.59 (1.62-4.12)***
Age	.83 (.73-.95)**	.76 (.67-.86)***
Minority	.73 (.48-1.11)	.90 (.59-1.38)
Gang membership	3.54 (2.40-5.23)***	.62 (.42-.90)*
MH Admission (at least one)	1.67 (1.16-2.40)**	.47 (.34-.66)***
SBARA score (high)	1.56 (1.07-2.25)*	.81 (.58-1.15)
Cognitive-Behavioral and Behavioral treatments	.76 (.50-1.17)	1.52 (1.03-2.25)*
Educational/vocational programs	2.32 (.89-6.05)	.79 (.33-1.89)
Deterrence-based/ Community Supervision interventions	4.96 (3.34-7.36)***	.44 (.29-.66)***
Other non-behavioral treatments	1.70 (1.10-2.62)*	.71 (.48-1.04)
Comprehensive programs	6.37 (3.52-11.77)***	.35 (.23-.53)***
Drug Court/Peer Jury programs	2.50 (1.53-4.33)***	.72 (.46-1.12)

Table 15. Logistic regression predicting recidivism and probation completion from types of programs attended.

A positive association was found between having attended the following types of programs and recidivism: comprehensive programs, deterrence-based/community supervision programs, drug court/peer jury programs and non-behavioral treatments; youths who attended at least one of these programs had a higher likelihood of recidivism compared to youths who didn't attend any program provided by probation. On the other hand, attending cognitive-behavioral and behavioral treatments and educational/vocational programs was not associated with a higher likelihood of committing a new offense. *The findings about placements and probation programs should be interpreted with caution:* foster care placement is complex and involves a range of factors dependent upon both the youth and placement family. As such, it is possible that youths attending different types of programs experienced a range of risk factors that were not possible to control for (e.g., crime rates in their neighborhood of residence)[7]. Similar findings were observed in relation to probation completion: youths who have attended at least one deterrence-based community supervision intervention or one comprehensive program had a lower likelihood of completing probation successfully. However, there was an exception worth noting: attending cognitive behavioral treatments was associated with a 1.5 times higher likelihood of completing probation with a successful exit status. We tested the interactions between gender and all the program types: since none was significant, the association between

[7] Moreover, youths had very different experiences in terms of: duration of probation, time when programs were provided, number of programs received, number of new offenses etc. Thus, it was not possible to take into account the time component in the aggregate analyses (i.e., in some cases programs might have been the reaction to a new offense, in other cases youths recidivated after attending a particular program).

program attendance, recidivism and probation completion appeared to be to be similar for boys and girls.

Probation Program Exit Status, Recidivism, and Successful Probation Completion		
	Recidivism (at least one felony or misdemeanor)	Probation Successful Completion
Gender (female)	.71 (.46-1.07)	2.50 (1.56-4.00)***
Age	.68 (.59-.79)***	.89 (.78-1.01)*
Minority	.74 (.47-1.18)	1.11 (.67-1.82)
Gang membership	4.76 (3.21-7.07)***	.43 (.29-.64)***
MH Admission (at least one)	1.82 (1.26-2.62)**	.48 (.34-.69)***
SBARA score (high)	1.36 (.93-1.99)	.96 (.66-1.39)
Probation programs successful termination (50% or more)	.43 (.27-.67)***	3.66 (2.48-5.39)***

Table 16. Logistic regression predicting recidivism and program completion from probation programs exit status.

Finally, in order to create a more comprehensive indicator of probation programs attendance, the proportion of programs completed with a successful exit status was computed. Then, youths who successfully completed 50% or more of the programs were compared with those who successfully completed less than half of the programs when they were on probation. This measure takes into account the whole range of probation programs attended by each youth and include information about the quality of their experience with those programs; the overall quality of the experience with probation programs might be more relevant in influencing recidivism and probation completion than the attendance per se. Table 16 shows that, after controlling for individual risk factors and mental health status, youths who successfully completed more than half of the programs provided by probation were less than 50% as likely to recidivate. Similarly, having completed most of the programs with a successful exit status was associated with a 3.7 times higher likelihood of successfully completing probation. Thus, besides the quantity and types of programs attended, the quality of attendance (in terms of successful termination) seemed to be critical in decreasing the likelihood of recidivating and promoting a successful completion of probation.

It is worth noting that probation has been proactive in their initiative to terminate programs, such as CEC, that were related to higher rates of recidivism. As such, our comprehensive program analyses may disproportionately present higher rates of recidivism data based on programs that are no longer in existence. Relatedly, discontinued programs might mask data from probation's programs that have been found to reduce recidivism.

Summary of Historical Analysis

Several individual factors were found to be associated with recidivism and probation completion.

Demographics

- Being a girl was associated with lower recidivism rates and higher successful completion rates.
- Minority youth were 1.6 times more likely to recidivate and less likely to be successfully terminated from probation, but were as likely to successfully complete programs as non-minority youth.
- Gang membership showed a strong association with recidivism: youths who belonged to gangs were more than eight times more likely to recidivate and frequently failed to complete probation successfully.
- Once we included gang membership in a multivariate prediction of recidivism:
    - Boys and girls had the same likelihood of recidivating,
    - Minority and nonminority youth had the same likelihood of recidivating and successful probation termination.
    - Thus, gang membership, which affects mostly minority males, appears to explain the gender and minority status differences in outcomes.
- For every one-year-older a youth was, there was a significant reduction in likelihood of recidivism.
- Overall, males and females seem to have similar risk factors for recidivism (no significant interactions were found).

Mental Health

- Mental health status, as measured by different indicators (admissions, diagnoses, MAYSI II scores) was consistently found to be a risk factor for recidivism and unsuccessful probation completion.
- Cannabis abuse was the most common substance abuse diagnosis among youths (1 out of 5) for both boys and girls. Alcohol abuse was the second most frequent diagnosis, followed by cannabis dependence, disruptive behavior disorders, and depressive disorders.
- Females showed a higher prevalence of mental health disorder(s), particularly with respect to PTSD, which girls were diagnosed with twice as frequently as boys. Girls were also more likely to be diagnosed with a depressive disorder, adjustment disorder, amphetamine abuse, mood disorder, and having relational problems with parents and/or peers.
- Positive associations were found between parent-child relational problems and successful probation completion.
- Associations between mental health status and outcomes were similar for boys and girls despite gender differences in the rates of mental health diagnoses.

Programs

- After controlling for demographics, gang membership, mental health admission, and the SBARA-2 risk score, for most probation programs, attendance was positively associated with recidivism and unsuccessful probation completion. Specifically, attendance in:
  - Deterrence-based/supervision programs was associated with five times higher recidivism, in
  - Comprehensive programs (MISC) was associated with 6.4 times higher rates of recidivism, in
  - Drug court interventions was associated with a 2.5 times higher rates of recidivism, and
  - Youths sent to placement were three times more likely to recidivate.
- However, both boys and girls who attended cognitive-behavioral treatment (CBT) programs were 1.3 times LESS likely to recidivate and 1.5 times more likely to successfully exit probation.

Conclusion of Historical Analysis

1. The findings from this report suggest that whereas males and females may have similar risk factors for recidivism (e.g., gang membership, engaging in substance use, having a mental health disorder), *females experience and react to these risk factors differently*. For instance, females in this sample were twice as likely to be diagnosed with PTSD and were categorized in the "caution" or "warning" areas on the MAYSI II to a much greater extent compared to males (with the exception of drug or alcohol abuse and suicidal ideation). Thus, probation programs specifically aimed at helping youth cope with their past trauma may be particularly beneficial for females who report histories of trauma and abuse.
2. Treatment programs that incorporate cognitive behavioral treatment approaches and work to improve family functioning (e.g. parent-child relationship workshops) may be more likely to reduce recidivism and increase successful probation completion for both males and females than other strategies implemented in the past.
3. We noted that male youths were more likely to be referred to mentoring or restorative justice programs compared to females, which may highlight a need for additional mentoring programs for females and/or revisions to the referral process for these non-behavioral programs to increase equal representation. However, probation reports that such issues as having a predominantly male gender make-up of caseloads and limited availability of funding for female mentoring programs complicates this referral process. These issues have led to the creation of more mentoring programs targeted towards males compared to females.
4. Finally, the association between various probation program strategies and recidivism warrants further scrutiny.

LITERATURE REVIEW

One aspect of the evaluation process involved conducting a literature review on issues specific to female involvement in the juvenile justice system. Conducting a literature review allowed UCSB to see what research has been conducted on how effective gender-specific programming is for girls, as well as what interventions and assessments are most useful and valid for use with this population.

A literature review of gender-specific programming in the juvenile justice setting helped identify the best practices in this field and showed which aspects of the programming have been shown to be effective in practice. Examples of best practices when working with girls in detention centers are to assess girls with reliable and valid instruments to show risk level and mental health functioning, and that changes in levels are assessed over time (Hubbard & Matthews, 2008). The programs should also focus on a variety of needs and use more rewards than punishments. Evaluation is another best practice in gender-specific programming (Hubbard & Matthews, 2008). Bloom (2001) found that effective juvenile justice programming focused on girls strengths and their unique needs, has female role models, uses gender-specific assessments, and utilizes a variety of interventions. This literature review demonstrates that SMJH is following many best practices with the Girls Inc. programming. Tables 17 and 18 show the complete list of effective practices with girls in juvenile hall.

Table 19 shows examples of specific interventions that have been shown to be effective with girls with juvenile justice involvement. Dialectical Behavior Treatment (DBT), which is currently used in the Hall, is useful in working on impulsivity, mental health, and aggression (Foley, 2008; Trupin et al., 2002). Cognitive-behavioral approaches also have empirical evidence (Deblinger, Lippman, & Steer, 1996; Cohen & Mannarino, 1996; Cohen et al., 2004). Moral Reconation Therapy (MRT) is a cognitive-behavioral therapy approach that has been found to reduce recidivism by about half (Little, 2005). MRT is also currently given in the Hall. A recent study in gender-responsive programming conducted by Day, Zahn, and Tichavsky (2014) showed that girls who displayed gender-sensitive risk factors (e.g., history of past trauma, mental health concerns such as depression/anxiety, poor emotional regulation including anger/irritability, and problems with substance abuse) had a lower risk for recidivism if they experienced gender- responsive services while in-custody.

In regards to assessments for use in juvenile justice settings, the literature search showed the assessments currently used by Probation and Mental Health Staff are reliable and valid for use with adolescent girls. The Child and Adolescent Needs and Strengths (CANS) gives information into the girls strengths and weaknesses, can aid in clinical decision-making, and shows the level of functioning of the youth (Anderson et al., 2003; Lyons et al., 2003). The Massachusetts Youth Screening Instrument-Second Version (MAYSI-2) is a mental health self-report screener that gives insight into possible clinical DSM-V diagnoses and mental health functioning based on seven scales: Alcohol & Drug Use, Angry – Irritable, Depressed – Anxious, Somatic Complaints, Suicide Ideation, Thought Disturbance (Boys Only), and Traumatic Experiences (Teplin et al., 2002; Vincent, 2012). The Santa Barbara Assets and Risks Assessment Version 2 (SBARA V2) takes into account the development of males and females, and consists of a semi-

structured interview that looks at 53 assets and risks that have been shown to lead to positive and negative developmental outcomes (Sharkey, 2010; Jimerson, Sharkey, O'Brien, & Furlong, 2004). The Social and Emotional Health Survey (SEHS) gives insight into the positive mental health functioning of the youth and has been validated for youths at the secondary level (Furlong, You, Renshaw, Smith and O'Malley 2013; You et al., 2013). Tables 20 and 21 show more assessments that have been used in juvenile justice settings.

The results of the literature search are promising because the staff of SMJH are following many of the best practices for gender-responsive programming, and are using assessments that are appropriate for this specific population. Literature on female-specific approaches to juvenile justice services demonstrates the importance of tailoring assessments and interventions to the unique needs of girls.

Females enjoying yoga at the SMJH (Photo courtesy of Juvenile in Justice, 2015)

Hubbard & Matthews, 2008, p. 230-231 What Works for Female-specific Services:
1. "Organizational culture: Effective organizations have well-defined goals, ethical principles, and a history of efficiently responding to issues that training, self-evaluation, and use of outside resources also characterize the organization."
2. "Programs are based on empirically defir program is thorough reviews of the literature (i.e., meta- analyses), undergo pilot trials, and maintain the staff's professional credentials."
3. "Management/staff characteristics: The program director and treatment staff are professionally trained and have previous experience working in offender treatment programs. Staff selection is based on their holding beliefs supportive of rehabilitation and relationship styles and therapeutic skill factors typical of effective therapies."
4. "Client risk/need practices: Offender risk is assessed by psychometric instruments of proven predictive validity. The risk instrument consists of a wide range of dynamic risk factors or criminogenic needs (e.g., antisocial attitudes and values). The assessment also takes into account the responsibility of offenders to different styles and modes of service. Changes in risk level over time (e.g., 3 to 6 months) are routinely assessed to measure intermediate changes in risk/need levels that may occur as a result of planned interventions."
5. "Program characteristics: The program targets for change a wide variety of criminogenic needs/factors that predict recidivism, using empirically valid behavior/ social learning/cognitive– behavioral therapies that are directed to higher risk offenders. The ratio of rewards to punishers is at least 4:1. Relapse prevention strategies are available once offenders complete the formal treatment phase."
6. "Core correctional practice: Program therapists engage in the following therapeutic practices: anti-criminal modeling, effective reinforcement and disapproval, problem-solving techniques, structured learning procedures for skill building, effective use of authority, cognitive self-change, relationship practices, and motivational interviewing. Interagency communication: The agency aggressively makes referrals and advocates for its offenders in order that they receive high-quality services in the community."
7. "Evaluation: The agency routinely conducts program audits, consumer satisfaction surveys, process evaluations of changes in criminogenic need, and follow-ups of recidivism rates. The effectiveness of the program is evaluated by comparing the respective recidivism rates of risk-control comparison groups of other treatments with those of a minimal treatment group."

Table 17: Summary of best practice approaches to female-specific services

Bloom, 2001, p. 8-9 Effective Gender-Responsive Interventions
1. “Theoretical perspective/s are used that incorporate girls pathways into the criminal justice system.”
2. “The programmatic approaches used are based on the theory/theories that fit the psychological and social needs of girls and reflect the realities of their lives (e.g. relational theory, trauma theory, substance abuse theory).”
3. “Program development is based on theories that are congruent, consistent and integrated.”
4. “Treatment and services are based on girls competencies and strengths and promote self- reliance.”
5. “Programs use a variety of interventions--behavioral, cognitive, affective/dynamic and systems perspectives--in order to fully address the needs and strengths of girls.”
6. “Homogeneous groups are used, especially for primary treatment (e.g., trauma, substance abuse).”
7. “Services/treatment address girls practical needs such as family, transportation, childcare, school, and vocational training and job placement.”
8. “There are opportunities to develop skills in a range of educational and vocational areas (including non-traditional vocational skills).”
9. “Staff reflects the client population in terms of gender, race/ethnicity, sexual orientation, and language (bi-lingual).”
10. “Female role models and mentors are crucial and reflect the racial/ethnicity and cultural backgrounds of the program participants.”
11. “Cultural awareness and sensitivity are promoted using the resources and strengths available in various communities.”
12. “Gender-responsive assessment tools and individualized treatment plans are utilized and match appropriate services with the identified needs/assets of each girl.”

Table 18: Summary of effective gender-responsive interventions.

Female-Specific Evidence-Based Interventions		
Study & Date	Intervention	Description & Outcomes
Stein et al., 2003 Kataoka et al., 2003	Cognitive-Behavioral Intervention for Trauma in Schools	"The CBITS intervention incorporates cognitive–behavioral therapy skills in a group format (five to eight students per group) to address symptoms of PTSD, anxiety, and depression related to exposure to violence." -http://www.crimesolutions.gov/ProgramDetails.aspx?ID=139
Liddle et al., 2001 Liddle et al., 2008 Liddle et al., 2009	Multidimensional Family Therapy	"Two intermediate intervention goals for every family: helping the adolescent achieve an interdependent, developmentally appropriate attachment bond to parents and family, and helping the adolescent build strong connections and achieve success in critical systems outside of the family, including school/vocational training, prosocial peer groups, recreational pursuits, and other positive outlets such as spiritual supports." - http://www.crimesolutions.gov/ProgramDetails.aspx?ID=267
Henggeler, Melton, & Smith, 1992 Timmons–Mitchell, Bender, Kishna, & Mitchell, 2006	Multisystemic Therapy (MST)	"MST targets youths between the ages of 12 and 17 who present with serious antisocial and problem behavior and with serious criminal offenses. The MST intervention is used on these adolescents in the beginning of their criminal career by treating them within the environment that forms the basis of their problem behavior instead of in custody, removed from their natural ecology." - http://www.crimesolutions.gov/ProgramDetails.aspx?ID=192
Lurigio et al., 2000	Project BUILD	"Project BUILD (Broader Urban Involvement and Leadership Development; now the BUILD Violence Intervention Curriculum) is a violence prevention curriculum designed to help youth in detention overcome problems they may face in their communities, such as gangs, crime, and drugs. The program is designed to intervene in the lives of youth in the juvenile justice system to reduce recidivism and diminish the prospects that youth will become adult offenders. The program began in 1993 in the Nancy B. Jefferson Alternative School of the Cook County Juvenile Temporary Detention Center in Chicago, Ill."- http://www.crimesolutions.gov/ProgramDetails.aspx?ID=335
Deblinger, Lippman, & Steer, 1996 Cohen & Mannarino, 1996 Cohen et al., 2004	Trauma-Focused Cognitive Behavioral Therapy (TF–CBT)	"Trauma-Focused Cognitive Behavioral Therapy (TF–CBT) is designed to help 3- to 18-year-olds and their parents overcome the negative effects of traumatic life events such as child sexual or physical abuse. TF–CBT aims to treat serious emotional problems such as posttraumatic stress, fear, anxiety, and depression by teaching children and parents new skills to process thoughts and feelings resulting from traumatic events." - http://www.crimesolutions.gov/ProgramDetails.aspx?ID=195
Foley, 2008; Trupin et al., 2002	Dialectical Behavior Therapy (DBT)	Effective for impulsivity, mental health, aggression
Kelly et al., 2007	Girl Talk-2	Group intervention led by peers, at 6-month follow-up, girls who had taken part in the Girl Talk-2 Intervention instead of the standard lecturer had higher communication skills to work through situations that could turn violent.

Evidence-Based Risk Assessments		
Little, 2005	Moral Reconation Therapy (MRT)	Cognitive-behavioral therapy approach popular in the correctional system. Has been shown to be effective in reducing recidivism.
Day, Zahn, & Tichavsky, 2014	Gender responsive programming	Gender responsive programming for youth in secure detention facility showed lower risk of recidivism for girls who displayed gender-sensitive risk factors (i.e. history of past trauma, mental health concerns (depression/anxiety), poor emotional regulation (anger/irritability), and problems with substance abuse

Table 19: Summary of female-specific evidenced-based interventions.

Evidence-Based Mental Health Assessments		
Study & Date	Mental Health Assessment	Description
Anderson et al., 2003 Lyons et al., 2003	Child and Adolescent Needs and Strengths (CANS),	The focus of the CANS is on clinical decision-making and the strengths of the youth. It measures symptoms, risk behaviors, functioning, care intensity and organization, caregiver capacity, and resources/strengths.
Teplin et al., 2002	Diagnostic Interview Schedule for Children version 2.3 (DISC)	Mental health assessment; "a self-report, computerized tool based on the DSM-IV that produces computer-assisted suggested diagnoses. This instrument can take up to 1 hour to complete, yet it is often classified as a screen because a follow-up assessment is recommended to confirm any diagnosis."(Vincent, 2012)
Grisso & Barnum, 2006	Massachusetts Youth Screening Instrument-Second Version (MAYSI-2).	"A 52-question self-report screening instrument that measures symptoms on seven scales pertaining to areas of emotional, behavioral, or psychological disturbance, including suicide ideation. This tool has been examined in more than 50 research studies, and it is possibly the only tool with national norms." (Vincent, 2012).
Estroff & Hoffmann, 2001	Practical Adolescent Dual Diagnosis Interview (PADDI)	"A guided interview procedure that identifies suggested diagnoses related to substance abuse and mental disorders. It can be useful in mental health clinics, private practices, courts, and juvenile justice facilities." (Vincent, 2012).
(Furlong, You, Renshaw, Smith, & O'Malley, 2013)	Social And Emotional Health Survey (SEHS)	Survey that focuses on positive mental health; contains 12 subscales that make up 4 mental health domains: Belief-in-self, belief-in-others, emotional competence, and engaged living. These domains make up on large construct called covitality, which has been shown to be "predictive of their subjective well-being (represented by measures of life satisfaction paired with positive and negative affect) and various self-reported quality-of-life outcomes, including academic achievement, school safety, depressive symptoms, and substance use (Furlong, You, Renshaw, Smith and O'Malley 2013)." p. 4

Table 20: Summary of evidenced-based mental health assessments

Evidence-Based Risk Assessments		
Study & Date	Risk Assessment	Description
Barnoski, 2009	Positive Achievement Change Tool (PACT)	The PACT assesses the different risks that the youth has, but also the strengths of the youth that the staff can use to enact lasting change in the youth's life. It also uses the technique of Motivational Interviewing
Lee, 2013	The Risk and Resiliency Checkup (RRC)	The RRC measures risk and protective factors by having the youth answer questions, with risk factors leading to a negative score, the protective scores leading to a positive score, which together lead to an overall resiliency score.
Sharkey, 2010 Jimerson, Sharkey, O'Brien, & Furlong, 2004	The Santa Barbara Assets and Risks Assessment Version 2 (SBARA V2)	The SBARA V2 is a semi–structured interview conducted with youths and their family members targeting 53 indicators selected to provide information about important assets (i.e., indicators that promote positive developmental outcomes) and risks (i.e., indicators that promote negative developmental outcomes). This assessment was designed to include indicators that reflect the unique developmental experiences of both males and females.
Meyers & Schmidt, 2008	Structured Assessment for Violence Risk in Youth (SAVRY)	Risk assessment used in juvenile justice, has strong predictive validity for violent recidivism in both one and three-year follow-ups, and strong predictive validity for non-violent recidivism at the one-year follow-up, incorporates both risk and resiliency
Nissen, Mackin, Weller, & Tarte, 2005 Mackin, Weller, Tarte, & Nissen, 2005	Youth Competency Assessment (YCA)	The YCA is a qualitative tool that has been developed particularly for use in juvenile justice settings and is used alongside of traditional risk assessments. It focuses on three domains: "repairing harm, creating a healthy identity, and forging connections" (Nissen, Mackin, Weller, & Tarte, 2005, p. 4).
Hoge & Andrews, 2006	Youth Level of Service/Case Management Inventory (YLS/CMI)	"Well-validated, comprehensive, standardized inventory for assessing risk among youth ages 12–17 involved with the juvenile court. It includes measures of static and dynamic risks that can assist with post-adjudication case planning. Created specifically for administration by probation officers, it is probably the most widely used tool by probation offices in the United States." - (Vincent, 2012)

Table 21: Summary of evidenced-based risk assessments

FALL SITE VISITS

The UCSB Team made visits to Santa Maria Juvenile Hall (SMJH) on August 21, October 2, and November 18, 2014. Goals were to tour SMJH, observe the girls unit, interview staff from each participating agency (Probation, ADMHS, Santa Barbara County Education Office [SBCEO], medical), identify possible data collection instruments and procedures, and observe and further develop intervention components.

Education

Education administrators are working with the teachers to encourage more positive behavior support. They transformed the reward system away from junk food to paper awards and club time. They have also attended professional development on brain-based approaches to closing the achievement gap.

Data available for evaluation:

1. Hall-specific transcript of what they accomplished.
2. They track school refusals internally and not on the official transcript.
3. Daily attendance report includes days enrolled, days excused/unexcused.
4. School tracks suspensions.

Education administrators have identified the following needs:

1. To formalize a positive discipline system that is consistent in school and housing settings of the SMJH institution (e.g. consistency in expectations and rules across hours and days).
2. To further develop a positive discipline and reward system within the school. Currently, students do not have incentives such as a reward for exhibiting positive behavior within the classroom. As a result, students who exhibit disruptive behavior are removed from the classroom and sent back to their unit. Missed class time further hinders these students' performance in the academic program and increases their risk for academic dropout.
3. Support teachers and probation staff to work together to support positive student behavior.
4. Implement restorative approaches to solve discipline problems.
5. Training for teachers when they are assigned to the SMJH in strategies that support students in that environment.
6. Developing a system to extract school data and connect it with Probation and ADMHS data. School data needs include broader SBCEO data, data contained within SMJH, and data about individual student special education needs and services.
7. Possibly include SMJH training and program development in the Local Control and Accountability Plan (LCAP).
8. Having greater consistency and communication in decision-making between education staff and probation staff would strengthen relationship building between officers and teachers, as well as with students.

Challenges

1. Students come and go daily. This creates a rotating class roster where learning goals and interventions must be continuously evaluated.
2. Probation shifts make personnel inconsistent over the course of the school day and week.
3. Excluding students from school as a punishment for incomplete work reduces academic time for students who need it most. An alternative strategy would be to require students to finish their work in lieu of bonus/club time.

Probation

SMJH data available for evaluation:

1. In addition to the variables Probation regularly provides to UCSB, SMJH keeps track of Workers Special Report (WSRs), which are the incident reports. These can range from neutral contact with youths, such as walking them to a medical appointment, to very serious incidents such as suicide attempts.

Probation staff members have identified the following needs:

1. A fully developed girls-in custody program curriculum is necessary in order for stakeholders to commit girls to participate in custody programming at SMJH for the time needed to impact behavior with the intent that they receive specific gender-responsive treatment.
2. Over time, probation staff have identified that it might be helpful to develop data-based criteria to specify who will benefit most from the girls in custody program versus who might benefit most from an out-of-state therapeutic placement, which are less expensive.
3. In order for WSR data to be informative, the WSRs need to be coded and referenced consistently, and each WSR should be entered into the Probation database in a way that promotes ease of data-based decision making and understanding to the degree possible.
4. Gather data on the level system in addition to WSRs for evaluation purposes.

Challenges

1. Staffing levels are determined at the beginning of each year so needs must be anticipated well in advance.
2. Extra programming requires additional probation staff, which is expensive and increasingly difficult to provide as the number of juveniles on probation continues to decline.
3. Inconsistency in staffing throughout days due to people out for unanticipated reasons such as being sick, on extended medical leave, or for injuries.
4. Probation staff members have various views on maintaining facility safety and security while also providing meaningful sanctions and therapeutic interventions. Some prefer familiar historical approaches while others embrace alternatives.

ADMHS/Medical

ADMHS/Medical data available for evaluation:

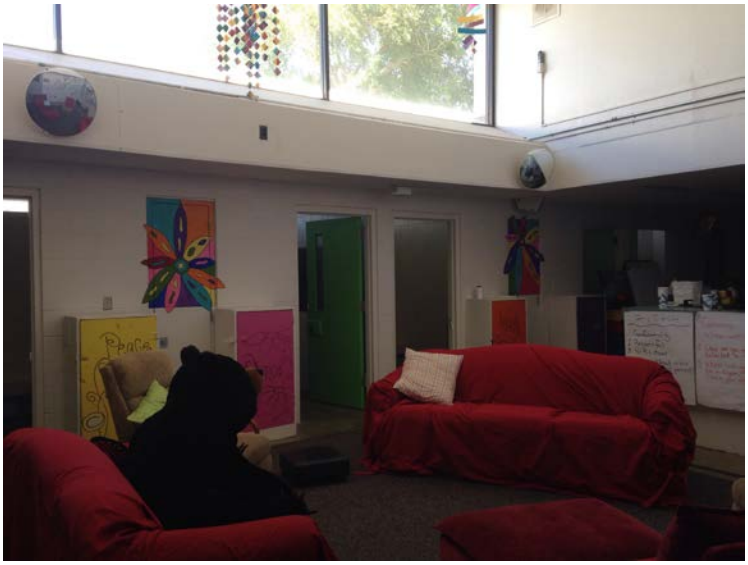
1. ADMHS keeps track of attendance of girls in therapy groups and what they learned.
2. Medical staff collects consent forms and health risk data.
3. Risk and strength assessments for SMJH are collected for each youth upon entry or when they have stabilized.

ADMHS/Medical staff members have identified the following needs:

1. The success of the groups are dependent on probation staff availability to provide oversight in the girls in-custody unit, and if the staff member is comfortable with the relaxed nature of the group in what is otherwise a structured secure environment.
2. In order to provide consistent groups on a daily basis, ADMHS has developed a wellness component to the girls in-custody group, which can be led by a paraprofessional. Probation staff can be trained to implement the wellness component in case ADMHS staff is unable to provide therapy services (mental health crisis; staff illness/vacation).

Challenges:

1. Probation staff is at times unavailable to escort group due to other operational needs.
2. Probation staff is required to maintain safety and security in the hall while also balancing their participation and support of a therapeutic program. As a result, probation staff may feel pulled at times to balance these priorities, which differ compared to mental health staff.
3. Staffing services cannot be provided if there are coincident staff vacation/sick days.
4. ADMHS staffing is limited to two full time staff, which is not adequate for covering the mental health needs of SMJH in general plus the group facilitation, curriculum development, risks and needs assessments, and evaluation protocols of the girls in custody program.



The girls in-custody unit (Photo courtesy of UCSB Research Team, October 2014)

GIRLS PROGRAM PILOT AND IMPACT

Girls in-custody Program Pilot Summary

The girls in-custody Program Pilot was implemented from August 28, 2014 to October 3, 2014[8]. ADMHS staff implemented two-hour group sessions on 16 days during this time period in the Girls Unit. A total of ten girls came in and out of the girls group during this time. The Girls Unit is a newly renovated unit in the SMJH that has brightly colored walls, comfortable couches, and positive decorations (e.g., flowers, peace signs, words of encouragement). Sessions focused on building the girls strengths first by building a safe and caring climate; e.g., one activity was for the girls to be served and drink tea while getting to sit together on couches. Group sessions also included therapeutic interventions such as acceptance, distress tolerance, therapy interfering behaviors, and mindfulness. In addition, girls were engaged in wellness activities such as hip-hop dance and journaling.

Girls Program Pilot Description

Girls Group Pilot Dates	# Of Participants	Summary of Lesson/Topic Covered
8/28	4	Established group rules and "check ins." Discussed psycho-educational topics that will be covered in Girls Group (e.g., 'Mindfulness) and brainstormed additional topics of interest. Interactive icebreaker activity and "check outs."
9/2	5	Group rules reviewed and "check ins." Intervention topic: *Accepting Reality and Developing Acceptance of Reality in order to Increase Distress Tolerance.* Journaling/creative writing and affirmation statement created. Wellness and Mindfulness activity at the end of session, followed by "check outs."
9/4	5	Conducted "check ins" at the beginning of session. Discussed *"Leap of Faith"* as it relates to change and healing. Journaling/creative writing and affirmation statement created. Wellness and Mindfulness activity at the end of session, followed by "check outs."
9/9	7	Conducted "check ins" and discussed "*Therapy Interfering Behaviors"* and reviewed "*Leap of Faith.*" Each youth identified at least one of her *Therapy Interfering Behaviors.* Wellness and Mindfulness activity provided as well as music for relaxation. "Check outs" at the end of session.
9/10	7	Conducted "check ins" and reviewed therapy interfering behaviors from previous session. Discussed *Distress Tolerance Skills* and concept of *Radical Acceptance.* Journaling and Creative Writing at the end of session, followed by "check outs."
9/11	7	Conducted "check ins" and reviewed therapy interfering behaviors from previous session. Discussed "*Thinking Errors"* and each youth identified her most common *Thinking Errors* and thoughts to challenge them. Creative Journaling and Affirmation statement created. "Check outs" at the end of session.

Mental Health Providers Out 9/15-9/19

[8] The girls in-custody program is scheduled to resume in January of 2015.

9/22	N/A	No group held.
9/23	7	Conducted "check ins" and reviewed therapy interfering behaviors from previous session. Identified qualities and benefits of Mindfulness. Discussed "*Dialectical Thinking/Open-minded thinking*" as it relates to increasing Distress Tolerance. Guided Progressive Relation intervention facilitated followed by "check outs."
9/24	7	Conducted "check ins" and reviewed therapy interfering behaviors from previous session. Identified qualities and benefits of Mindfulness. Continued to discuss /reviewed "*Cognitive Distortions/Thinking Errors*" and *Guided Progressive Relaxation* intervention facilitated followed by "check outs."
9/25	6	Conducted "check ins" and continued to discuss and review topic of "*Cognitive Distortions/Thinking Errors*." Topic of *Radical Acceptance* introduced. Creative Journaling and Affirmation statement created followed by "check outs."
9/26	*Not available*	Hip Hop dance conducted by probation staff and dance instructors (mental health team not present during group).
9/29	6	Conducted "check ins" and continued to discuss and review topic of "*Cognitive Distortions/Thinking Errors*." Topic of *Radical Acceptance* continued. Creative Journaling and Affirmation statement created followed by "check outs."
9/30	6	Conducted "check ins" and continued to discuss and review "Therapy Interfering Behaviors." Introduced Present Centered Approaches/ De-escalation Techniques aimed at increasing Distress Tolerance. Mindfulness activity provided to enhance Wellness. Creative Journaling and Affirmation statement created followed by "check outs" at the end of session.
10/1	4	Conducted "check ins" and discussed Core Mindfulness Skills/Techniques aimed at increasing Distress Tolerance. Identified concept of Reasonable Mind/Emotion Mind/and Wise Mind and the distinction between Thoughts/Emotions/Behaviors. Mindfulness activity provided to enhance Wellness followed by "check outs."
10/2	6	Conducted "check ins" and discussed Self-Esteem Building (e.g. identifying and challenging negative Self Talk; replacing negative self-defeating thoughts with positive affirmations). Mindfulness activity provided to reduce distress followed by "check outs" at the end of session.
10/3	7	Conducted "check ins" and promoted wellness through dance and movement activity (e.g. Hip Hop dance). "Check outs" at the end of session.

Table 22: Summary of Girls Program pilot study

In order to evaluate the girls program pilot, we queried WSRs (i.e., incident reports) and daily attendance rates tracked by Probation from before (July 3 to August 27, 2014), during (August 28 to October 3, 2014), and after (October 4 to November 30, 2014) the pilot.

When interviewed, Probation and ADMHS staff independently noted the impression that the climate at the SMJH and particularly in Unit 4, was calmer when the girls group was running than before or after the group had started. In order to try to test this impression, we gathered WSRs as an indicator of behavior issues in the SMJH.

We chose to focus on WSRs with incident types and exclude WSRs without an incident type because WSRs are informational and "can cover virtually any issue or incident and will often address a visit with a family member that ended poorly, refusing their daily exercise, cheeking

medication, etc." (Brian Swanson personal communication, December 9, 2014). Since the coded behaviors were for more serious incidents (e.g., assault, suicide attempt, escape attempt, contraband), they seemed to be more likely to reflect significant misbehavior rather than a smaller issue and to be more consistently applied across individuals and time.

Figure 14 depicts weekly numbers of WSRs divided by the daily attendance in Unit 4, where all girls are housed. Unit 4 also houses vulnerable or young male youth, and on occasion is used to further classify youth with security issues that prevent housing on one of the other two units. Not surprisingly, this creates behavioral issues at times in which increased incidents may occur. Thus, analyses regarding WSRs should take into account not only internal factors that may dictate a girl's behavior relative to what she may have learned in the group, but also external factors that occur in the environment of Unit 4 where they spend a majority of their time. The results show that it is difficult to discern any consistent pattern. Although WSRs may be a naturally existing mechanism to gauge program improvements, more information is needed about how reliable and valid this measure is to fully understand behavioral growth or regression of juveniles in custody. In particular, in Unit 4 the girls are housed with high need male youth, which likely impacted the WSRs. Although WSRs hold promise for evaluating overall trends as well as individual success while in the hall, work needs to be done to make sure they are applied consistently and coded accurately.

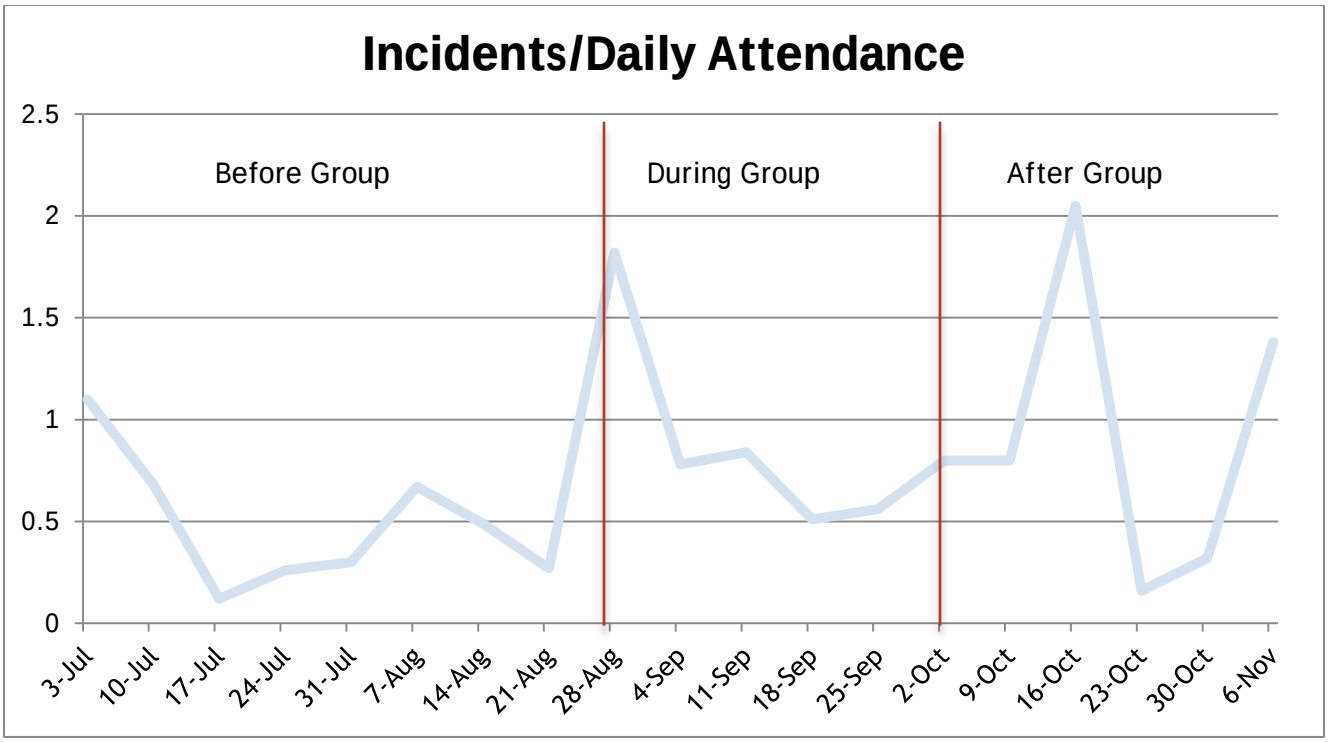


Figure 14. Number of weekly coded incidents (WSRs) divided by the unit's daily attendance before, during, and after the girls program pilot.

PROPOSED GIRLS PROGRAM

There are several components that need to be in place before an intervention can be evaluated:

a) What curriculum or strategy is implemented?
b) How frequently is each aspect of the program implemented?
c) Are components of the program implemented with fidelity?
d) Are program process data (attendance, fidelity) tracked?

To address (a), the UCSB team has been working with Lisa Conn, MA, MFT, and Supervisor of Juvenile Justice Mental Health, to detail her ideas that have been implemented in the girls in-custody program. This work is still in progress but Ms. Conn has developed various modules that can be implemented for girls based on their level of progression. See Figure 15 for a detailed summary of program components. Once the components have been detailed, we can further detail (b), (c), and (d). The GIRLS INC name for the girls in-custody program is a temporary placeholder until the program is formally named. The name will not include the words "in custody" due to the girls discomfort with this label.

First block: Stabilization (Basic component of Dialectical Behavior Therapy)

The first block is designed for girls when the first come to juvenile hall and are experiencing high levels of distress and difficulty engaging with therapy.

Second block: Developing Coping Strategies

The second block is designed to build the girls coping strategies now that they have learned some basic skills and behaviors for engaging with therapy.

Third block: Resiliency

The third block is designed to help girls build strengths to promote resiliency. This includes building relationship skills and trauma focused family therapy.

Fourth block: Leadership

The fourth block is designed for girls to practice their skills in mentor and leadership positions within the group and the unit. They continue to learn skills to gain more advanced interpersonal skills.

Wellness Day

The wellness unit is designed to provide the girls with activities as a break from the more therapy-focused modules. This module can be implemented by probation staff or another paraprofessional who has received training in wellness activities (e.g., meditation, journaling) when a licensed professional is not available.

Figure 15. Girls group programming *Girls in Custody Curriculum and Graphic Developed by Lisa Conn, MA, MFT, Supervisor, Juvenile Justice Mental Health, ADMHS*

PROPOSED GIRLS IN CUSTODY PROGRAM EVALUATION

The proposed girls in-custody evaluation plan is depicted in a flow chart in Figure 16. The girls will take the Social Emotional Health Survey (SEHS) during the initial health screening with the pediatrician at SMJH. The girls will also take the Child and Adolescent Needs and Strengths Survey (CANS) and the Massachusetts Youth Screening Instrument (MAYSI-II) at initial intake (admission) regardless of program involvement. This assessment will help determine what modules of the program are needed and if any accommodations need to be made. If any of these assessments shows that the girls likely need additional mental health services, the girls will receive additional risk assessments and mental health interventions from the Alcohol Drug, and Mental Health Services (ADMHS) team.

The girls in custody program consists of a therapeutic group based on several therapeutic technics including Dialectical Behavior Therapy (DBT) and focuses on cultivating mindfulness, emotion regulation, conflict resolution, and managing PTSD symptoms. DBT is an evidenced-based approach to reducing recidivism among youth in juvenile detention centers and has been shown to be effective at replacing negative thinking behaviors and behavior patterns with positive and skillful behaviors (Quinn & Shera, 2009). All interventions provided in the girls in custody program are trauma-informed. All services are also strengths-based and focus on the resiliency of the girls, meaning that Probation and ADMHS staff aims to build on character strengths as opposed to focusing on weaknesses. The girls will also have the opportunity to participate in therapeutic activities such as dance, art, and gardening.

ADMHS staff is working with UCSB to adapt and document their program (and fidelity to the program) and progress-monitoring tools to monitor the girls progress over the course of their stay in the program. Mental Health staff will then send these measures to UCSB. UCSB will also conduct focus groups paired with anonymous online surveys to obtain feedback from the girls about what they like or think needs to be improved about the program.

Upon leaving the girls in custody program, participants will take the consumer survey, CANS, and SEHS. Mental Health and Probation staff will send these measures de-identified to UCSB.

Ideally we would implement random assignment to be able to determine if the girls in custody program is superior to other probation programs. One example is for girls to be placed randomly in either the girls in custody program or an alternative placement and these two groups would be compared on outcomes. A less robust but also rigorous design would be to determine criteria for assigning girls to the in custody program or alternative placements, use the same measures with both groups, and control for those criteria in our analyses.

In addition to the girls in-custody program evaluation, UCSB worked with Probation to examine strengths for all their clients. When youths (both boys and girls) enter probation, they are administered the SEHS upon intake and every six months thereafter via the Probation Kiosk system. This will allow Probation to continuously monitor the strengths of their clients and provide a measure of progress/outcome in addition to standard program completion and recidivism measures.

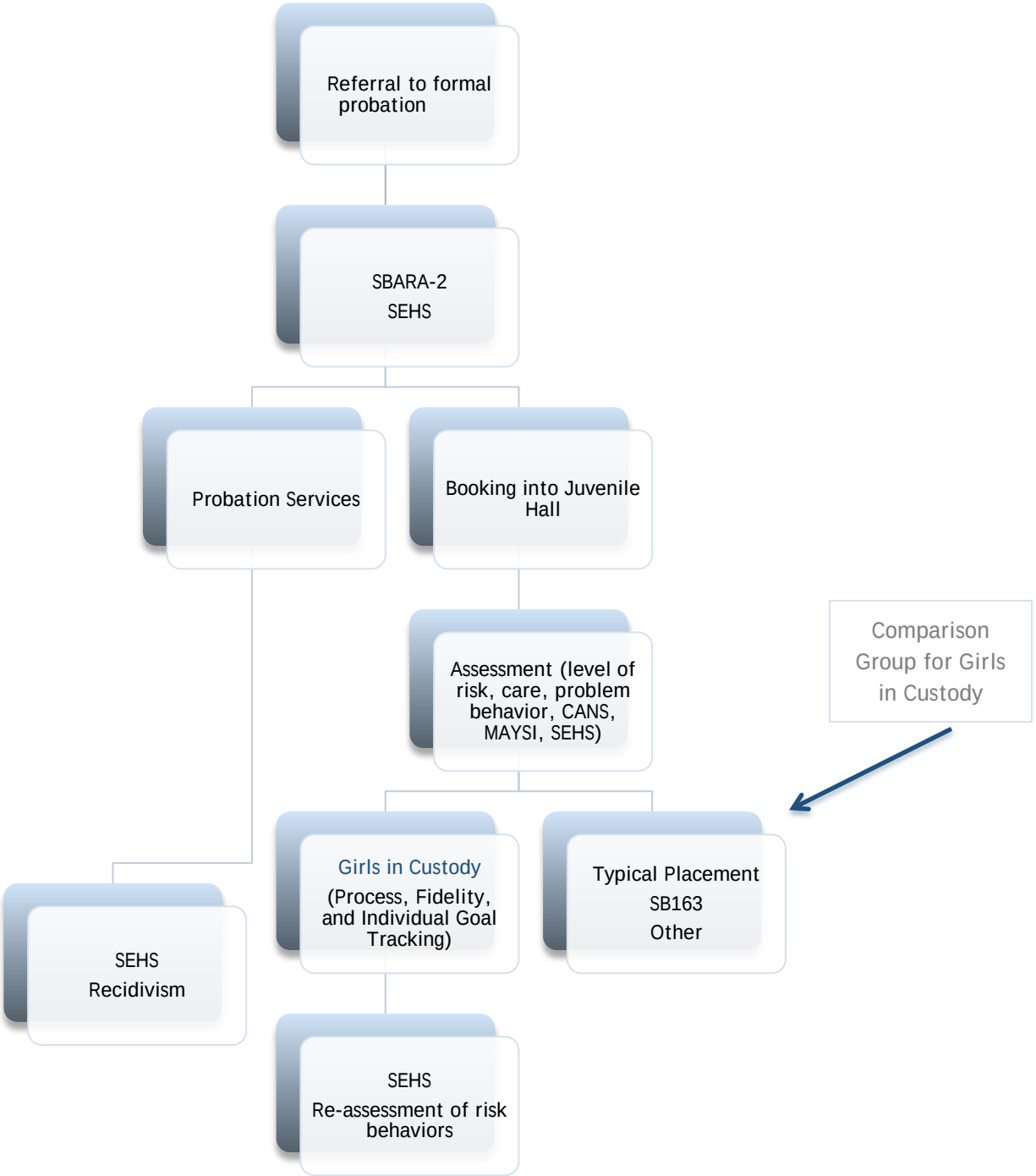


Figure 16. Visual diagram of the evaluation proposal

FUTURE DIRECTIONS

Moving forward with the evaluation, there are several recommended future directions for collaboration between UCSB and Santa Barbara County Juvenile Justice in 2015. These include further integration of systems (school, mental health, probation) within the juvenile hall, systematic access and use of available data collected, considerations for additional data collection procedures, and assigning the girls to programming in a way that allows for a more rigorous research design. Each of these recommendations serves to improve the effectiveness and understanding of female-specific programming at SMJH aimed at improving girls health and reducing their recidivism. Program feedback is also provided at the end of this report, which highlights both strengths and areas for growth for the girls in custody program.

Integrating Systems within the Juvenile Hall

- Collaborate and consult with Probation, ADMHS, Medical and SBCEO staffs to develop and implement an integrated positive reward system to reinforce appropriate behavior among youths.
- Provide implementation support for using a restorative justice approach to improve relationships between youths and staff in the hall.
- Develop and refine evaluation questions together with all partners. For example, determining which programs are particularly effective or well implemented and more or less effective in reducing recidivism. The knowledge that Probation and the ADMHS department have about the processes characterizing youths experience on probation (e.g., why and how some youths are referred to specific programs and why others are not) is fundamental to develop and test program elements, thus advancing our knowledge about what strategies are effective with all youths on probation (and, in turn, enhancing programs and interventions).

Systematic use of Available Data

- Work closely with ADMHS to document specific treatment goals and objectives of the girls in-custody program and in further developing the curriculum and program implementation.
- Create a comprehensive data manual, including a description of all the variables and their values/labels (e.g., a description of probation programs and mental health services and a clear description of what “successful exit status” means for probation completion and for probation programs completion).
- Actively match data between systems as data are collected to prevent losing or overriding old data. In the future it will be very helpful to systematically verify and account the temporal order (dates and timing) of assessments and interventions. In particular, for the MAYSI II, SBARA2, IST, and CANS.
- Work with SBCEO to identify and collect educational data on participants of the girls in custody program.

Additional Data Collection Procedures

- Collect additional data on youth's well-being besides recidivism rates and probation completion status (e.g. self-reported information on relationships with staff, peers, and parents). For example, although it is true that committing a new offense and not completing probation represents negative outcomes for youths, this does not automatically mean that a particular program was not effective: a youth could have developed higher levels of self-esteem or more supportive relationships due to his/her time on probation which may not be evident if only looking at recidivism rates (for additional felonies, misdemeanors, or both) and probation completion. Additional areas of data collection may include educational gains, development of life skills, and employment readiness. Such procedures may ultimately provide a comprehensive bio-psychosocial review of approaching youth treatment in the halls.
- Focus more broadly on the entire juvenile detention system for girls on probation. One way to accomplish this is to look at SBARA-2, SEHS data, placement decisions, and outcomes for girls over time.
- Conduct focus groups with participants in the girls in custody program in order to better understand their perspectives on why they are involved with the juvenile justice system and what could help them successfully complete probation and enter the community as a productive citizen.
- Conduct consumer surveys with each participant in the girls in custody program before leaving the juvenile facility. The data should be analyzed and reported with findings that may enhance service delivery.
- Observe or look into other promising gender-responsive juvenile detention facilities around the country to obtain information about similar programs and how they operate, e.g. the Los Angeles Girls Camp (Los Angeles, CA).

The girls in-custody unit
(Photo courtesy of UCSB Research Team, October 2014)

Girls in Custody Program Feedback

Strengths

- A particular strength of the girls in-custody program is that mental health staff is providing youths who have mental needs with a wide variety of services (e.g., outpatient and inpatient services, crisis interventions, individual and group therapy) that are tailored in innovative ways to their unique needs.
- Use of evidenced-based intervention programs and mental health assessments by probation and mental health staff.
- Piloting of the girls in-custody program with documented session goals and activities.
- Support for the program from all agencies and disciplines and of its non-traditional approaches to working with youths in a juvenile detention setting.

Areas for Growth

- Consistency in programming and intervention referral for the girls in-custody program needs to be documented and streamlined in order to evaluate its effectiveness. A brief manual including a description of the services, their objectives, their main target population and a categorization of grouping services with similar goals would allow evaluators to test whether these services are reaching their goals by reducing youth recidivism rates and promoting successful completion of probation.
- Reduce potential barriers to implementation of the girls in-custody program through consistency of referral and advocacy for girls needs within the probation, mental health, medical, and education system.
- Foster an improved system of communication between partner agencies (probation, mental health, and education staff) through electronic notes, regular meetings, or daily/weekly reports so that important information is shared frequently and consistently.
- Allow each department to provide regular input and feedback for the girls in-custody program (e.g., what is and is not working and collaborative problem-solving). Such feedback could be incorporated into regularly scheduled rounds with ADMHS, Probation, and medical staff. Programming meetings should include positive behavior system meetings.
- All staff involved should get trained in trauma and trauma-informed approaches.

References

Anderson, R. L., Lyons, J. S., Giles, D. M., Price, J. A., & Estle, G. (2003). Reliability of the child and adolescent needs and strengths-mental health (CANS-MH) scale. *Journal of Child and Family Studies*, *12*(3), 279-289. doi: http://dx.doi.org/10.1023/A:1023935726541

Barnoski, R. (2009). Positive Achievement Change Tool, Pre-Screen Instrument. Tallahassee, FL: Florida Department of Juvenile Justice . http://www.assessments.com/catalog/PACT_Pre_Screen.htm.

Bloom, B., & Covington, S. (2001). Effective gender-responsive interventions in juvenile justice: Addressing the lives of delinquent girls. *Annual meeting of the American Society of Criminology, Atlanta, GA*.

Borduin, C.M., Mann, B.J., Cone, L.T., Henggeler, S.W., Fucci, B.R., Blaske, D.M., & Williams, R.A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology, 63*(4), 569–78.

Cohen, J.A., Deblinger, E., Mannarino, A.P. & Steer, R.A. (2004). A multisite randomized trial for children with sexual abuse–related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 393–402. doi: http://dx.doi.org/10.1097/00004583-200404000-00005

Cohen, J. A. & Mannarino, A.P. (1996). A treatment outcome study for sexually abused preschool children: Initial findings. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*(1), 42–43.

Day, J. C., Zahn, M. A., & Tichavsky, L. P. (2014). What Works for Whom? The Effects of Gender Responsive Programming on Girls and Boys in Secure Detention. *Journal of Research in Crime and Delinquency*. doi: http://dx.doi.org/10.1177/0022427814538033

Deblinger, E., Lippman, J., & Steer, R.A. (1996). Sexually abused children suffering from posttraumatic stress symptoms: Initial treatment outcome findings. *Child Maltreatment, 1*, 310–21.

Estroff, T. W. & Hoffmann, N. G. (2001). *PADDI: Practical Adolescent Dual Diagnosis Interview*. Smithfield, RI: Evince Clinical Assessments.

Foley, A. (2008). The current state of gender-specific delinquency programming. *Journal of Criminal Justice, 36*(3), 262-269. doi: http://dx.doi.org/10.1016/j.jcrimjus.2008.04.007

Furlong, M. J., You, S., Renshaw, T. L., Smith, D. C., & O'Malley, M. D. (2014). Preliminary development and validation of the Social and Emotional Health Survey for secondary school students. *Social Indicators Research, 117*(3), 1011-1032. doi: http://dx.doi.org/10.1007/s11205-013-0373-0

Grisso, T., & Barnum, R. (2006). Massachusetts Youth Screening Instrument—Version 2: User's manual and technical report. Sarasota, FL: Professional Resource Press.

Henggeler, S.W., Melton, G.B., & Smith, L.A. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology, 60*(6), 953–61.

Hoge, R. D., & Andrews, D. A. (2006). *Youth Level of Service/Case Management Inventory: User's manual*. North Tonawanda, NY: Multi-Health Systems. doi: http://dx.doi.org/10.1037/t05078-000

Hubbard, D. J., & Matthews, B. (2008). Reconciling the differences between the "gender-responsive" and the "what works" literatures to improve services for girls. *Crime & Delinquency, 54*(2), 225-258. doi: http://dx.doi.org/10.1177/0011128706296733

Jimerson, S. R., Sharkey, J. D., O'Brien, K. M., & Furlong, M. J. (2004). The Santa Barbara Assets and Risks Assessment to predict recidivism among male and female juveniles: An investigation of inter-rater reliability and predictive validity. *Education and Treatment of Children*, *27*(4), 353-373.

Kataoka, S.H., Stein, B.D., Jaycox, L.H., Wong, M., Escudero, P., Tu, W., ... Fink. A. (2003). A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*(3), 311–18. doi: http://dx.doi.org/10.1097/00004583-200303000-00011

Kelly, P. J., Owen, S. V., Peralez-Dieckmann, E., & Martinez, E. (2007). Health interventions with girls in the juvenile justice system. *Women's Health Issues, 17*(4), 227-236. doi: http://dx.doi.org/10.1016/j.whi.2007.03.005

Lee, S. (2013). Testing psychometric properties and the cross-ethnic construct validity of the risk and resiliency checkup. *Youth Violence and Juvenile Justice, 11*(2), 165-177. doi: http://dx.doi.org/10.1177/1541204012460875

Liddle, H.A., Dakof, G.A., Parker, K., Diamond, G.S., Barrett, K., & Tejeda, M. (2001). Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. *American Journal of Drug and Alcohol Abuse, 27*(4), 611–88. doi: http://dx.doi.org/10.1081/ada-100107661

Liddle, H. A., Dakof, G.A., Turner, R.M., Henderson, C.E., & Greenbaum, P.E. (2008). Treating adolescent drug abuse: A randomized trial comparing multidimensional family therapy and cognitive behavior therapy. *Addiction, 103*, 1660–70. doi: http://dx.doi.org/10.1111/j.1360-0443.2008.02274.x

Liddle, H.A., Rowe, C., Dakof, G.A., Henderson, C.E., & Greenbaum, P.E (2009). Multidimensional family therapy for young adolescent substance abuse: Twelve-month outcomes of a randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *77*(1),12–25. doi: http://dx.doi.org/10.1037/a0014160

Lurigio, A., Bensinger, G., Thompson, S.A., Elling, K., Poucis, D., Selvaggio, J., & Spooner, M. (2000). *A process and outcome evaluation of Project BUILD: Years 5 and 6*. Unpublished Report. Chicago, Ill.: Loyola University.

Lyons, J. S., Griffin, G., Quintenz, S., Jenuwine, M., & Shasha, M. (2003). Clinical and forensic outcomes from the Illinois mental health juvenile justice initiative. *Psychiatric Services, 54*(12), 1629-1634. doi: http://dx.doi.org/10.1176/appi.ps.54.12.1629

Mackin, J. R., Weller, J. M., Tarte, J. M., & Nissen, L. B. (2005). Breaking new ground in juvenile justice settings: Assessing for competencies in juvenile offenders. *Juvenile and Family Court Journal, 56*(2), 25-37. doi: http://dx.doi.org/10.1111/j.1755-6988.2005.tb00104.x

Meyers, J. R., & Schmidt, F. (2008). Predictive validity of the structured assessment for violence risk in youth (SAVRY) with juvenile offenders. *Criminal Justice and Behavior, 35*(3), 344-355. doi: http://dx.doi.org/10.1177/0093854807311972

Nissen, L. B., Mackin, J. R., Weller, J. M., & Tarte, J. M. (2005). Identifying strengths as fuel for change: A conceptual and theoretical framework for the Youth Competency Assessment. *Juvenile and Family Court Journal, 56*(1), 1-15. doi: http://dx.doi.org/10.1111/j.1755-6988.2005.tb00099.x

Sharkey, J. D**.** (2011). Taking the SBARA-2 to Ventura and beyond. *Probation Today, 7*(6), 1.

Stein, B.D., Jaycox, L.H., Kataoka, S.H., Wong, M., Tu, W., Elliot, M.N., & Fink, A. (2003). A mental health intervention for schoolchildren exposed to violence. *Journal of the American Medical Association, 290*(5), 603–11. doi: http://dx.doi.org/10.1001/jama.290.5.603

Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A. A. (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry, 59*(12), 1133-1143. doi: http://dx.doi.org/10.1001/archpsyc.59.12.1133

Timmons–Mitchell, J., Bender, M.B., Kishna, M.A., & Mitchell, C.C. (2006). An independent effectiveness trial of multisystemic therapy with juvenile justice youth. *Journal of Clinical Child and Adolescent Psychology, 35*, 227–36. doi: http://dx.doi.org/10.1207/s15374424jccp3502_6

Trupin, E. W., Stewart, D. G., Beach, B., & Boesky, L. (2002). Effectiveness of dialectical behaviour therapy program for incarcerated female juvenile offenders. *Child and Adolescent Mental Health, 7*(3), 121-127. doi: http://dx.doi.org/10.1111/1475-3588.00022

Vincent, G. M. (2012). Screening and assessment in juvenile justice systems: Identifying mental health needs and risk of reoffending. *National Youth Screening & Assessment Project*.

Appendix

***Chi-square* (χ^2):** chi-squared test is a statistical test applied to sets of categorical data to evaluate how likely it is that any observed difference between the sets happened by chance.

Interaction: In statistics, an interaction may arise when considering the association among three or more variables, and describes a situation in which the simultaneous influence of two variables on a third is not additive. Most commonly, interactions are considered in the context of regression analyses. The presence of interactions have important implications for the interpretation of statistical models: if two variables of interest interact, the association between each of the interacting variables and a third "dependent variable" depends on the value of the other interacting variable (e.g., in a regression analyses predicting recidivism rates, a positive interaction between the predictors "being female" and "being a gang member" would mean that being in a gang is a stronger risk factor for recidivism in females).

***Logistic regression*:** In statistics, logistic regression is a type of probabilistic statistical classification model. It is generally used to predict a binary response from based on one or more predictor variables. The probabilities describing the possible outcomes of a single trial are modeled, as a function of the explanatory (predictor) variables, using a logistic function.

***Standard deviation* (*SD*):** in statistics, SD shows how much variation or dispersion from the average exists on a particular measure. A low standard deviation indicates that the data points tend to be very close to the mean (also called expected value); a high standard deviation indicates that the data points are spread out over a large range of values.

Statistical significance: statistical significance is the probability that an effect is not due to just chance alone. In statistics, a result is considered significant not because it is important or meaningful, but because it has been predicted as unlikely to have occurred by chance alone.