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## **MAYSI~2 Screening – California Report on MARIN COUNTY**

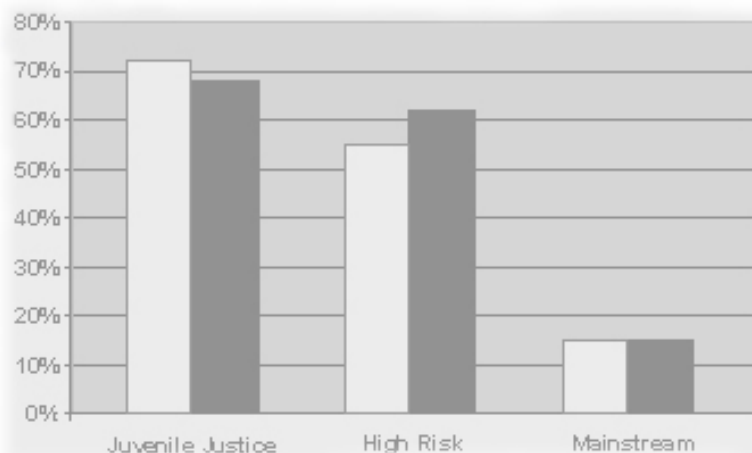
**Description of Alcohol / Drug Use & Mental Health Symptoms  
Among Youth as Identified by the Massachusetts Youth Screening  
Instrument~2**

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## Introduction

Between January 16 and February 13, 2006, a total of 163 youth at 9 juvenile justice and “high risk” sites across Marin County, CA were screened using the Massachusetts Youth Screening Instrument – Version 2 (MAYSI~2)<sup>1</sup>. The MAYSI-2 is a brief screening instrument designed to assist juvenile justice facilities in identifying youths 12-17 years old who may have alcohol/drug problems or other mental health issues (e.g., depression, thought disturbance, etc.) in the past few months. The number of youths who participated in this screen within each type of location is listed below:

- Juvenile Justice Halls or Ranch Programs (“JJ” youth) – N = 37 youth (23%)
- High Risk Youth (“HR” youth - e.g., continuation schools, group homes, etc.) – N =126 (77%)

## Sample Demographics

The ethnic and gender composition of the Marin sample is described in tables 1 and 2. Whites made up the majority of the high risk sample while Hispanics were the most represented in the juvenile justice samples. More males than females were screened in both settings. No youth were screened in mainstream facilities.

**TABLE 1**

Ethnic and Gender Breakdown of Youth by Setting				
	Ethnicity	Male	Female	Total
High Risk	Hispanic	19	10	29
	White	43	17	60
	African American	15	3	18
	Asian/Pacific Islander	5	1	6
	Mixed Race	4	4	8
	Total	86	35	121
Juvenile Justice	Hispanic	14	0	14
	White	7	2	9
	African American	10	0	10
	Asian/Pacific Islander	0	0	0
	Mixed Race	0	1	1
	Total	31	3	34
All Settings		117	38	155

*Note:* This table excludes youth who did not self-identify as any of these ethnic categories.

<sup>1</sup> For details about the MAYSI~2, see Appendix B

**TABLE 2**  
Ethnic Breakdown by Setting

Ethnicity	High Risk	Juvenile Justice
African American	18 (15%)	10 (29%)
Asian/Pacific Islander	6 (5%)	0 (0%)
Hispanic	29 (24%)	14 (41%)
Mixed Race	8 (7%)	1 (3%)
White	60 (50%)	9 (26%)
Total	121 (100%)	34 (100%)

*Note.* Number in parentheses is the percent of that ethnic group within the setting. Columns total to 100%. This table excludes youth who did not self-identify as any of these ethnic categories.

## Results

Youth in high risk settings did not endorse any items significantly different on any of the subscales of the MAYSI~2 than did youth in juvenile justice settings. The subscale on which high risk youth differed the most from juvenile justice youth was the Traumatic Experiences (Females) subscale, where the mean for juvenile justice youth was 1.64 higher than the mean for high risk youth, although this difference was not statistically significant. Mean comparisons for high risk versus juvenile justice youth are presented in Table 3 and Figure 1.

**TABLE 3**  
Average Score on MAYSI~2 Subscales by Setting

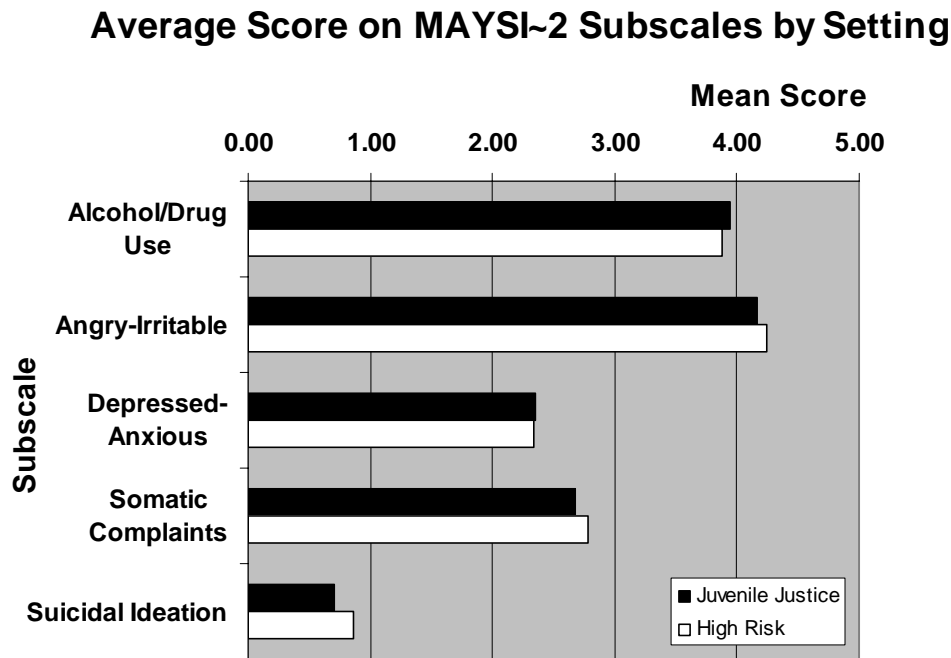
Subscale	Setting	
	High Risk (N=126)	Juvenile Justice (N=37)
Alcohol/Drug Use	3.88 (2.67)	3.95 (2.83)
Angry-Irritable	4.25 (2.67)	4.16 (2.69)
Depressed-Anxious	2.34 (2.12)	2.35 (1.87)
Somatic Complaints	2.78 (1.91)	2.68 (1.65)
Suicidal Ideation	0.87 (1.46)	0.70 (1.39)
Thought Disturbance <sup>a</sup>	0.84 (1.10)	0.44 (0.86)
Thought Disturbance <sup>2a</sup>	0.49 (0.85)	0.24 (0.55)
Traumatic Experiences (Males) <sup>a</sup>	1.64 (1.16)	1.79 (1.30)
Traumatic Experiences (Females) <sup>b</sup>	2.36 (1.78)	4.00 (1.00)

*Note.* All of the means were tested and none were found to be significantly different (although the difference in Thought Disturbance neared significance ( $p=.057$ ). Standard deviations are presented in parenthesis.

<sup>a</sup> Calculated only for males. <sup>b</sup> Calculated only for females.

<sup>2</sup> The modified version of the Thought Disturbance subscale was created excluding MAYSI~2 item # 26 because an unusually large proportion of youth endorsed it. Because the clinical cut-off score on this scale is low (1), the heavy endorsement of item 26 led to unreasonably high estimates for the prevalence of thought disturbance in this sample. Both versions of the Thought Disturbance subscale are included in the analyses.

FIGURE 1



In high risk settings, females scored higher, on average, on every (gender non-specific) MAYSI~2 subscale except Alcohol/Drug Use and Angry-Irritable—males' scores on Alcohol Drug use were higher than females'. The scores for females in the juvenile justice settings were not reported because too few youth were screened. Gender comparisons for youth in high risk and males in juvenile justice settings are presented in Table 4 and figures 2 and 3 respectively.

**TABLE 4**  
Average Score on MAYSI~2 Subscales: Males vs. Females by Setting

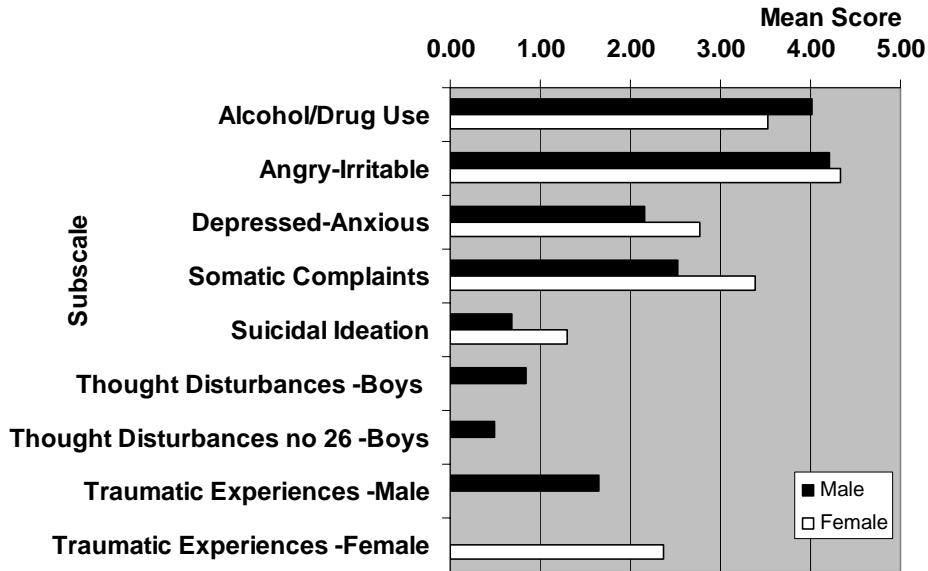
Subscale	Setting			
	High Risk		Juvenile Justice	
	Male (N=90)	Female (N=36)	Male (N=34)	Female (N=3) <sup>a</sup>
Alcohol/Drug Use	4.02 (2.76)***	3.53 (2.46)	3.68 (2.79)	
Angry-Irritable	4.21 (2.55)	4.33 (2.99)	4.06 (2.78)	
Depressed-Anxious	2.17 (1.90)	2.78 (2.58)**	2.09 (1.68)	
Somatic Complaints	2.53 (1.84)	3.39 (1.98)***	2.41 (1.44)	
Suicidal Ideation	0.69 (1.30)	1.31 (1.74)**	0.53 (1.26)	
Thought Disturbances -Boys	0.84 (1.10)		0.44 (0.86)	
Thought Disturbances no 26 -Boys	0.49 (0.85)		0.24 (0.55)	
Traumatic Experiences -Male	1.64 (1.16)		1.79 (1.30)	
Traumatic Experiences -Female		2.36 (1.78)		

Note. Asterisks indicate that the scores are significantly different at \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Standard deviations are presented in parenthesis

<sup>a</sup> Not reported because there were too few youth screened.

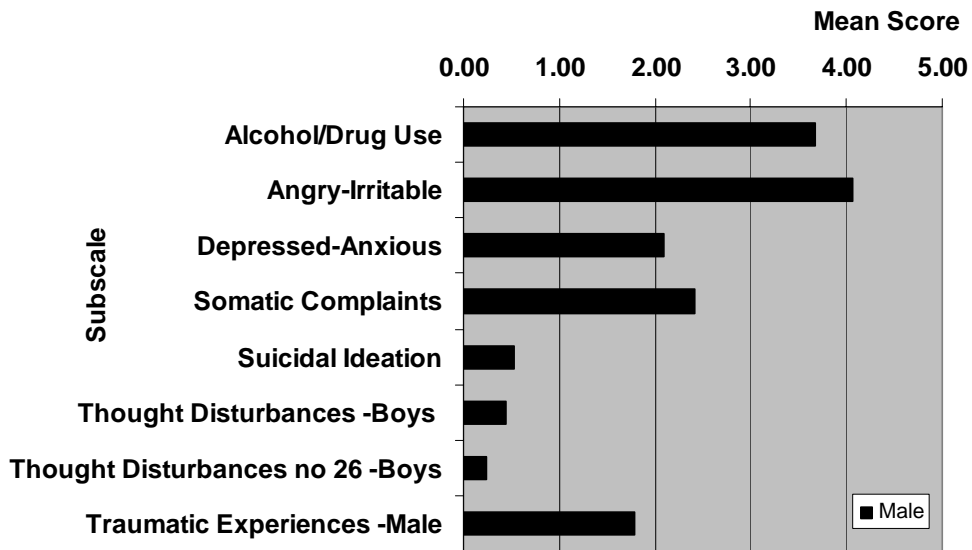
**FIGURE 2**

**Average Subscale Scores for Males and Females in High Risk Settings**



**FIGURE 3**

**Average Subscale Scores for Males in Juvenile Justice Settings**



Another way to examine MAYSI~2 data is by examining the percentages of youth that score above the clinical “Caution” cut-off on the subscales. Youth that endorse enough items to score above the Caution cut-off would probably score high enough on other, more extensive tests of adolescent disturbances to require special attention of some kind.

In the Marin sample, high risk youth were not more or less likely than juvenile justice youth to score in the Caution range with the exception of the original Thought Disturbance subscale on which high risk youth were significantly more likely than juvenile justice youth to score in the Caution range (see Table 5 and Figure 4).

**TABLE 5**  
Percent of Youth Scoring in the Caution Range on  
MAYSI~2 Subscales by Setting

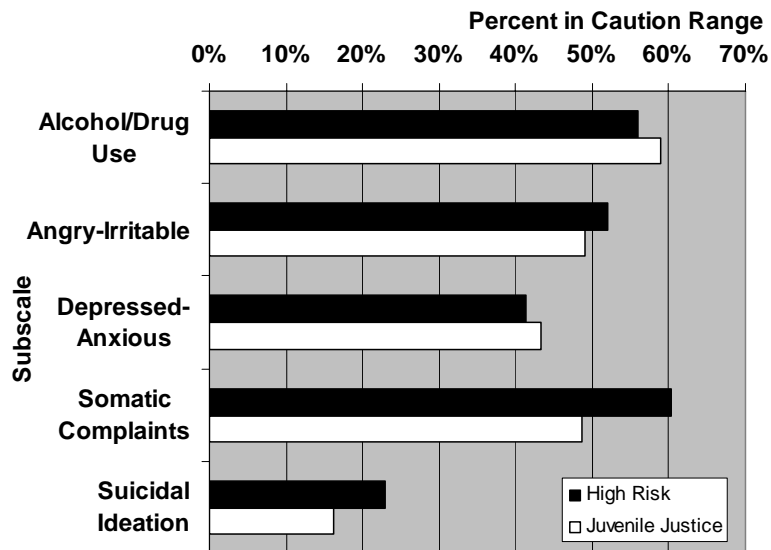
Subscale	High Risk (N=126)	Juvenile Justice (N=37)
Alcohol/Drug Use	56%	59%
Angry-Irritable	52%	49%
Depressed-Anxious	41%	43%
Somatic Complaints	60%	49%
Suicidal Ideation	23%	16%
Thought Disturbance <sup>a</sup>	49%*	26%
Thought Disturbance2 <sup>a</sup>	31%	18%
Traumatic Experiences (Males) <sup>a</sup>	23%	38%
Traumatic Experiences (Females) <sup>b</sup>	53%	67%

Note. Asterisks indicate that the mean scores are significantly different at \*  $p < .05$ .

<sup>a</sup> Calculated only for males. <sup>b</sup> Calculated only for females.

**FIGURE 4**

**Percent of Youth Scoring in the Caution Range  
on MAYSI~2 Subscales by Setting**



In high risk settings, girls were more likely to score in the caution range than boys on every subscale except Alcohol/Drug Use. None of the differences in the high risk setting were found to be statistically significant. Percentages for juvenile justice females were not reported because too few youth were screened. Gender comparisons for caution-range scores by setting are presented in Table 6 and Figures 5 and 6.

**TABLE 6**

Percent Scoring in the Caution Range on the MAYSI-2 Subscales: Males vs. Females by Setting

Subscale	Setting			
	High Risk		Juvenile Justice	
	Male	Female	Male	Female <sup>a</sup>
Alcohol/Drug Use	59%	50%	56%	
Angry-Irritable	50%	56%	44%	
Depressed-Anxious	40%	44%	38%	
Somatic Complaints	57%	69%	44%	
Suicidal Ideation	19%	33%	12%	
Thought Disturbances -Boys	49%		26%	
Thought Disturbances no 26 -Boys	31%		18%	
Traumatic Experiences -Female		53%		
Traumatic Experiences -Male	23%		38%	

*Note.* All of the means were tested and none were found to be significantly different. <sup>a</sup> Not reported because there were too few youth screened.

**FIGURE 5**

### Percent of High Risk Males and Females Scoring in the Caution Range

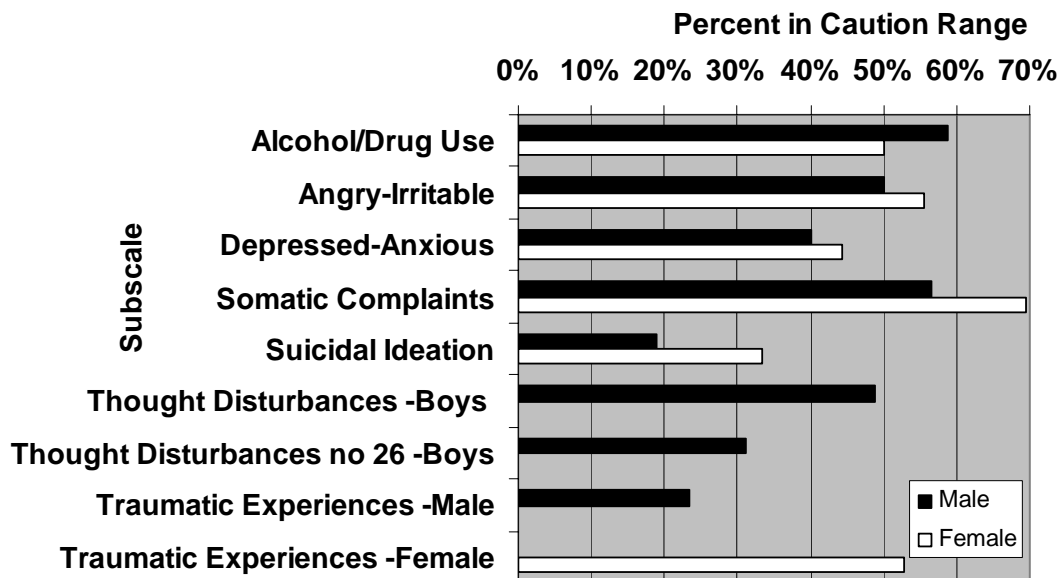
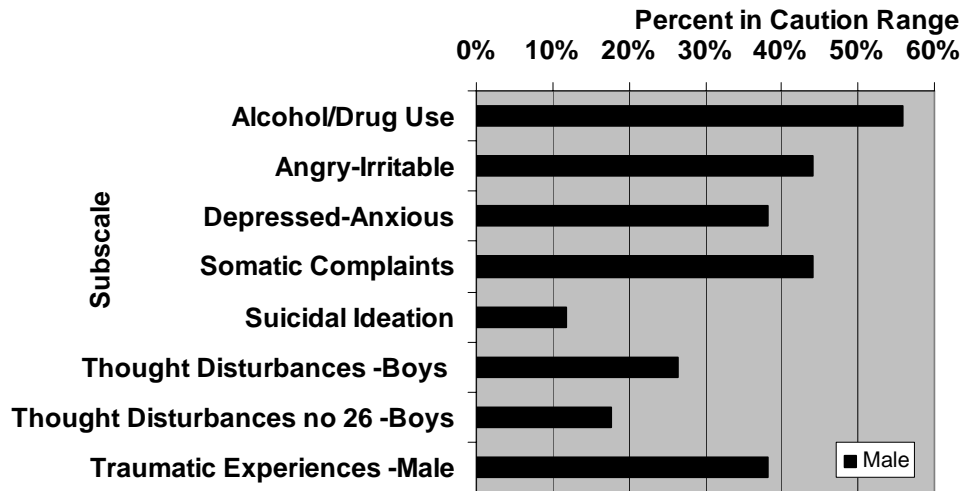


FIGURE 6

### Percent of Juvenile Justice Males Scoring in the Caution Range



Tables presenting demographic information, mean scores and percentages scoring in the caution range at each participating site in Marin County may be found in Appendix A.

#### Appendix A

**TABLE 7**  
Demographic Breakdown of Youth Screened at Each Site

Site	Ethnicity	Male	Female	Total
03-01 Juvenile Hall	Hispanic	14	0	14
	White	7	2	9
	African American	10	0	10
	Asian/Pacific Islander	0	0	0
	Mixed Race	0	1	1
	Total	31	3	34
03-02 Juvenile Probation	Hispanic	2	1	3
	White	22	8	30
	African American	2	2	4
	Asian/Pacific Islander	2	0	2
	Mixed Race	0	0	0
	Total	28	11	39
03-03 County Community School	Hispanic	8	1	9
	White	4	1	5
	African American	7	0	7
	Asian/Pacific Islander	1	1	2
	Mixed Race	2	0	2
	Total	22	3	25
03-04 Huckleberry Youth Programs	Hispanic	1	7	8
	White	3	4	7
	African American	2	1	3

	Asian/Pacific Islander	0	0	0
	Mixed Race	0	2	2
	<b>Total</b>	<b>6</b>	<b>14</b>	<b>20</b>
03-05 Center Point Residential	Hispanic	5	0	5
	White	2	0	2
	African American	2	0	2
	Asian/Pacific Islander	1	0	1
	Mixed Race	1	0	1
	<b>Total</b>	<b>11</b>	<b>0</b>	<b>11</b>
03-06 Center Point Outpatient	Hispanic	0	0	0
	White	3	2	5
	African American	1	0	1
	Asian/Pacific Islander	0	0	0
	Mixed Race	0	0	0
	<b>Total</b>	<b>4</b>	<b>2</b>	<b>6</b>
03-07 Ohlhoff	Hispanic	2	0	2
	White	3	0	3
	African American	0	0	0
	Asian/Pacific Islander	0	0	0
	Mixed Race	0	0	0
	<b>Total</b>	<b>5</b>	<b>0</b>	<b>5</b>
03-08 BACR	Hispanic	0	0	0
	White	2	0	2
	African American	0	0	0
	Asian/Pacific Islander	0	0	0
	Mixed Race	1	2	3
	<b>Total</b>	<b>3</b>	<b>2</b>	<b>5</b>
03-09 Phoenix Academy	Hispanic	1	1	2
	White	4	2	6
	African American	1	0	1
	Asian/Pacific Islander	1	0	1
	Mixed Race	0	0	0
	<b>Total</b>	<b>7</b>	<b>3</b>	<b>10</b>

**TABLE 8**

## Average Scores on MAYSI~2 Subscale by Site

Site		Alcohol/ Drug Use	Angry- Irritable	Depressed -Anxious	Somatic Complaints	Suicidal Ideation	Thought Disturbances - Boys	Thought Disturbances no 26 -Boys	Traumatic Experiences - Male	Traumatic Experiences - Female
03-01 Juvenile Hall N = 37	Mean	3.95	4.16	2.35	2.68	0.70	0.44	0.24	1.79	4.00
	Std. Dev.	(2.83)	(2.69)	(1.87)	(1.65)	(1.39)	(0.86)	(0.55)	(1.30)	(1.00)
03-02 Juvenile Probation N = 40	Mean	3.23	4.03	1.53	2.65	0.70	0.66	0.24	1.17	1.55
	Std. Dev.	(2.57)	(2.48)	(2.00)	(1.75)	(1.30)	(0.81)	(0.51)	(0.97)	(1.51)
03-03 County Community School N = 25	Mean	2.88	3.88	2.60	3.00	0.96	1.09	0.73	1.91	2.67
	Std. Dev.	(2.80)	(2.89)	(2.27)	(2.10)	(1.51)	(1.41)	(1.16)	(1.27)	(2.52)
03-04 Huckleberry Youth Programs N = 21	Mean	3.00	3.52	2.29	2.67	0.95	0.33	0.17	1.00	2.47
	Std. Dev.	(2.32)	(2.96)	(2.35)	(2.18)	(1.56)	(0.52)	(0.41)	(0.89)	(2.00)
03-05 Center Point Residential <sup>a</sup> N = 13	Mean	6.46	6.08	3.62	2.69	0.23	1.08	0.77	1.85	
	Std. Dev.	(1.27)	(2.22)	(1.26)	(1.06)	(0.44)	(1.26)	(1.01)	(0.99)	
03-06 Center Point Outpatient <sup>a</sup> N = 6	Mean	5.00	3.67	1.83	2.17	0.50	0.25	0.25	1.75	
	Std. Dev.	(2.76)	(3.20)	(2.71)	(2.32)	(1.22)	(0.50)	(0.50)	(0.96)	
03-07 Ohlhoff <sup>a</sup> N = 5	Mean	4.60	4.20	2.40	2.40	0.40	1.80	1.00	2.00	
	Std. Dev.	(1.14)	(2.49)	(1.52)	(1.82)	(0.89)	(1.30)	(1.00)	(1.00)	
03-08 BACR <sup>a</sup> N = 5	Mean	4.40	4.40	2.20	3.20	0.60				
	Std. Dev.	(2.07)	(2.19)	(1.30)	(1.48)	(1.34)				
03-09 Phoenix Academy <sup>a</sup> N = 11	Mean	6.00	5.36	3.64	3.36	2.36	0.88	0.50	2.63	
	Std. Dev.	(2.32)	(2.16)	(1.75)	(2.16)	(2.06)	(0.99)	(0.76)	(1.51)	

Note. <sup>a</sup>Missing data was not reported because there were too few youth screened.

**TABLE 9**

## Percent of Youth Scoring in the Caution Range by Site

Site	Alcohol/ Drug Use	Angry- Irritable	Depressed -Anxious	Somatic Complaints	Suicidal Ideation	Thought Disturbances - Boys	Thought Disturbances no 26 -Boys	Traumatic Experiences - Male	Traumatic Experiences - Female
03-01 Juvenile Hall <sup>a</sup>	59%	49%	43%	49%	16%	26%	18%	38%	
03-02 Juvenile Probation	40%	50%	20%	63%	20%	48%	21%	14%	36%
03-03 County Community School <sup>a</sup>	44%	40%	52%	68%	24%	50%	36%	27%	
03-04 Huckleberry Youth Programs	43%	38 %	24 %	43%	24%	33%	17%	0%	47%
03-05 Center Point Residential <sup>a</sup>	100%	85%	85%	62%	0%	62%	46%	23%	
03-06 Center Point Outpatient <sup>a</sup>	67%	33%	17%	50%	17%	25%	25%	25%	
03-07 Ohlhoff <sup>a</sup>	80%	60%	60%	60%	20%	80%	60%	40%	
03-08 BACR <sup>a</sup>	80%	40%	40%	80%	20%				
03-09 Phoenix Academy <sup>a</sup>	91%	82%	82%	64%	64%	50%	38%	63%	

Note. <sup>a</sup>Missing data was not reported because there were too few youth screened

## Appendix B

### *Description of the MAYSI~2*

- Consists of 52 items
- Time frame is current – “within the last few months”
- Yes/No response format
- Administered in 10-15 minutes via computer for automatic scoring
- Does not require clinical expertise to administer or score

The MAYSI-2 is a brief screening instrument designed to assist juvenile justice facilities in identifying youths 12-17 years old who may have alcohol/drug problems or other mental health issues (e.g., depression, thought disturbance, etc.). It is intended for use at any entry or transitional placement points in the juvenile justice system (e.g., intake probation, pretrial detention, state youth authority reception centers).

The MAYSI-2 is a self-report inventory of 52 questions that inquire about a youth’s behaviors, feelings and experiences, mostly referring to “the past few months.” It can be administered by computer or using paper and pencil. The computer self-administered version was used in the California Window Study. In the computer self-administered version, the questions are presented, one at a time, on the computer monitor. Simultaneously, the youth hears a vocal recording of the questions read out loud (through headphones) and can repeat the recording by clicking on the written question. A staff member is needed to introduce the program to the youth initially and to ensure that identification codes are entered properly. Administration requires about 8-10 minutes and is accomplished individually. Youths’ answers contribute to 7 scales for boys and 6 scales for girls (*see below*). Each scale has 5-9 items. Scores are calculated and summarized automatically by the MAYSI-2 software program.

### **MAYSI~2 SCALES**

<b><i>Alcohol/Drug Use (8)</i></b> <i>Cut-off score = 4</i>	- Frequent use of alcohol/drugs - Risk of substance abuse or psychological reaction to lack of access to substances
<b><i>Angry-Irritable (9)</i></b> <i>Cut-off score = 5</i>	- Experiences frustration, lasting anger, moodiness - Risk of angry reaction, fighting, aggressive behavior
<b><i>Depressed-Anxious (9)</i></b> <i>Cut-off score = 3</i>	- Experiences depressed and anxious feelings - Risk of impairments in motivation, need for treatment
<b><i>Somatic Complaints (6)</i></b> <i>Cut-off score = 3</i>	- Experiences bodily discomforts associated with distress - Risk of psychological distress not otherwise evident
<b><i>Suicide Ideation (5)</i></b> <i>Cut-off score = 2</i>	- Thoughts and intentions to harm oneself - Risk of suicide attempts or gestures

**Thought Disturbance (6)** - (Boys only) Unusual beliefs and perceptions  
*Cut-off score = 1* - Risk of thought disorder

**Traumatic Experiences (5)** - (Gender specific) Lifetime exposure to traumatic events  
*Cut-off score = 3* (e.g., abuse, rape, observed violence). Questions refer youth to  
 “ever in the past,” not “past few months.”  
 - Risk of trauma-related instability in emotion/perception

### *Scoring and Interpretation of the MAYSI~2*

Scoring requires a count of the “yes” responses to the items that contribute to a given scale. There is no MAYSI~2 “total score.” Scores on each scale are compared to cut-off scores that are suggested in the manual or that have been decided as a matter of policy by an agency or juvenile justice system. Scores above a scale’s cut-off suggest that the youth may be in need of closer attention by staff, precautionary monitoring, brief counseling, or referral for mental health services (depending on policies set by one’s agency).

The Scoring Summary indicates whether the youth’s score is above either of two critical scores, called the “**Caution**” and “Warning” cut-off scores. When a youth scores above the Caution cut-off score on a given scale, *the* youth has scored at a level that can be said to have “**possible clinical significance.**”

To set the Caution cut-off scores, the MAYSI~2 was administered to a large number of youths, who also completed additional measures of adolescent mental and emotional disturbances (the Millon Adolescent Clinical Inventory, and the Child Behavior Checklist-Youth Self Report). These comparison measures had certain scales that were intended to identify the same disturbances as the MAYSI~2 scales, but they had been more extensively developed than the MAYSI~2. So, for each MAYSI~2 scale, we found the score that came closest to the “clinical significance” cut-off score on the parallel scale on one of these other more extensive measures. For example, if a youth scores 4 or greater on the MAYSI~2 *Alcohol/Drug Use* scale, it is very likely that youth would have scored in the “clinically significant” range on the Substance Abuse Proneness scale of the Millon Adolescent Clinical Inventory.

The Caution cut-off scores, therefore, simply mean that youths scoring above the MAYSI~2 cut-off would probably score high enough on other tests of similar adolescent disturbances to require special attention of some kind.

In contrast, the “Warning” scores result from an arbitrary cut point. Warning cut-off scores are meant to capture youth with extremely high (90th percentile) scores on subscales. Because, unlike the caution cut-offs, warning cut-offs are not based on any other established measure of disturbance, warning scores were not included in the current report.