

Mental Health Needs in Pennsylvania's Secure Juvenile Detention Population: A statewide study implementing the automated Massachusetts Youth Screening Instrument, Version 2

Juvenile Detention Centers Association of Pennsylvania

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I. Executive Summary

There is increasing evidence to suggest that youth who come into contact with the juvenile justice system are far more likely than their non-delinquent peers to have substance abuse and mental health problems. Detained youth may be three times as likely as non-detained youth to have a diagnosable mental health or substance use disorder. Past research has found that a large majority of youth in the juvenile justice system (70-99%) have a diagnosable mental or behavioral disorder and as many as 20% suffer from a serious mental illness.

In 1999, the Pennsylvania Commission on Crime and Delinquency's (PCCD) Juvenile Advisory Committee (currently the Juvenile Justice Delinquency Prevention Committee) selected juvenile detention as their primary project and convened a Detention Subcommittee. After working closely with the subcommittee, the Juvenile Detention Centers Association of Pennsylvania (JDCAP) wrote a proposal to address the mental health needs of detained youth. The proposal was approved by PCCD and the Mental Health Assessment of Youth in Detention project began in January 2000. The intent of the project was to assess the climate in Pennsylvania's secure detention facilities around the mental health needs of detained youth particularly establishing the prevalence of mental illness symptoms. The JDCAP convened an Advisory Board comprised of representatives from diverse child-serving systems to guide the project. After reviewing the available instruments, the Board selected the Massachusetts Youth Screening Instrument, Version 2 (MAYSI~2) as the project's screening and data collection tool. On a daily basis, the MAYSI~2 is used to help aid secure detention centers in identifying, managing, and triaging youth with potential mental health problems.

The MAYSI~2 is a self-report questionnaire designed to identify potential instances of mental and emotional disturbance or distress. It consists of 52 items in a yes/no response format. It takes 10 -15 minutes to administer via a computer, and all the questions are at a 5th grade reading level. This mental health screen does not require clinical expertise to administer or score. Youths' scores on the MAYSI~2 are divided into 7 subscales (Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, suicide ideation, Thought Disturbance, and Traumatic Experiences), and facility staff are alerted to higher-scoring youths via caution ("clinically-significant score") and warning ("highest 10% scoring in the subscale") cut-off scores.

Approximately 82% of total cases screened by the project from April 2000 to October 2004 are male. The majority of cases are split between African American and Caucasian races/ethnicities (45% and 40% for males, 38% and 48% for females). Most detained youths are between 16 and 17 years old (mean age 15.7 years). Approximately half of the total youths screened have been admitted to detention before.

On the gender neutral subscales (all but Thought Disturbance and Traumatic Experiences), 71% of the cases scored into the caution (that is, "clinically significant") range of the MAYSI~2 subscales, while 30% scored into the warning (that is, "top ten percent") range of the screen. Results for caution and warning range by subscale are as follows:

- Alcohol / Drug Use (8 items):
 - 34% of cases scored into the caution range
 - 9% scored into the warning range
- Angry-Irritable (9 items):
 - 42% of cases scored into the caution range
 - 13% scored into the warning range
- Depressed-Anxious (9 items):
 - 38% of cases scored into the caution range
 - 11% scored into the warning range
- Somatic Complaints (6 items):
 - 46% of cases scored into the caution range
 - 8% scored into the warning range
- Suicide Ideation (5 items):
 - 20% of cases scored into the caution range
 - 14% scored into the warning range
- Thought Disturbance (5 items):

- 37% of cases scored into the caution range
- 13% scored into the warning range
- Traumatic Experiences (5 items):
 - 28% of cases scored into the caution range
 - 12% scored into the warning range

Pennsylvania's secure juvenile detention youths' results to date are broken down into the following sections:

MAYSI~2 by Gender:

- Girls are more likely to present with mental health symptoms than boys, regardless of age and race.
- The observed gender differences on the Depressed-Anxious, Somatic Complaints, and Suicide Ideation subscales are not surprising, since previous research among adolescent girls has shown that girls are more likely than boys to suffer from *internalizing* disorders.
- Noteworthy are the observed differences between males and females on the Alcohol/Drug Use and Angry-Irritable subscales. While previous research has shown that boys generally exhibit externalizing problems more frequently than girls, this study appears to corroborate recent evidence that detained girls are not only more likely than detained boys to internalize their problems, but they are also more likely to externalize.

MAYSI~2 by Age:

- As expected, youths endorse significantly more Alcohol / Drug Use Items and Traumatic Experiences as they get older.
- Noteworthy are results which indicate that younger youths (aged 10 to 13 years) are significantly outscoring their older counterparts (that is, they are endorsing more of the items, more of the time) on the Angry-Irritable, Depressed-Anxious, and Thought Disturbance subscales.
- Significant also is that they are scoring in the caution and warning ranges of these subscales more often.

MAYSI~2 by Race/Ethnicity:

- African American youths report significantly less mental health symptoms than white and Hispanic youths.
- Research indicates that white juvenile offenders are more likely to be labeled "mentally disturbed", while African American offenders are more likely to be labeled "disorderly".
- Research also indicates that minority youths are more likely to under-report mental health symptoms and issues, and that a significant stigma is associated with mental health issues among minority populations.

II. Introduction

II.A. Mental Health Disorders in the Juvenile Justice System: A National Perspective

In the 1990s, there was a nation-wide collapse in funding for public mental health services for children and youths, as well as a closure of many residential facilities for youths with mental health disorders (Grisso, 2004). As a result of these cuts in mental health services for youths, many juveniles with mental health disorders were referred to the Juvenile Justice System for treatment, making juvenile detention the new “crisis center.” Given this relatively recent transplanted public mental health services for children and youths, there is now a greater need to obtain and disseminate valid and reliable prevalence rates of mental illness among youths who have been placed in the Juvenile Justice System. However, current estimates of the prevalence of mental illness among youths within the Juvenile Justice System vary significantly from study to study (Otto et al., 1992; Teplin et al., 2002; Wasserman et al., 2002). The inconsistency of reported rates of mental illness makes it difficult for policy makers to effectively provide funding and services to incarcerated youths with mental health problems. In an effort to uncover the “true” state of mental health issues within the juvenile justice system, research projects need to explore what factors can serve to complicate the search (such as the youths’ age, gender, race/ethnicity, etc.), as well as explore the efficacy of using the first-line informant on the matter: the youths themselves.

While the variation in reported prevalence rates has been attributed to research sampling techniques, differences in geographic locales, and inconsistencies in assessment techniques, it is generally accepted that the rates of disturbance among youths in the juvenile justice system are exceptionally high (Otto et al., 1992; Teplin et al., 2002). While the prevalence of any mental disorders among community samples of adolescents has been estimated at approximately 20% (Kazdin, 2000), the rate among juvenile offenders is substantially higher, at over 66%. Furthermore, a significant number of youths in the juvenile justice system do not currently receive treatment for their disorders, and the factors that are most closely associated with receiving treatment are largely unrelated to need. Given the disparity between the need for and the availability of mental health treatment services, a systematic approach to identifying those possibly needing treatment is necessary.

The difficulty of uncovering accurate prevalence rates of mental health issues within the system is particularly salient—and complicated—for the juvenile justice facilities themselves, which are short on funds for increased mental health staff and programs to go along with the perceived demand of these services. Outside of the importance of reliable research on the subject, juvenile justice facilities need a reliable means of identifying youths in need quickly *and* cost-effectively.

It is therefore important to consider whether or not youths, who are the first-line, and perhaps *only*, informants on their own experiences and issues within the juvenile justice facilities, are reliable reporters of their own disorders. In the absence of trained psychological / psychiatric support staff within resource-stretched juvenile justice facilities, and minus the ability to draw on other informants, such as the youths’ families, teachers, or other contextual sources, it is often the case that facility staff needs to assess

the youths with a minimum of outside information. Thus, self-reports of dysfunction or impairment need to be obtained in a manner that serves both the research and practical agendas.

To address the needs of the many youths with mental disorders entering the juvenile justice system, facilities need an efficient way to identify these youths reliably, as well as an understanding of the prevalence of mental health problems in their populations, by type and severity. Among delinquent populations, externalizing disorders are often labeled as “behavior problems,” with the result that the underlying causes of the behaviors in question go untreated. Furthermore, when treatment is allocated as a reaction to attention-drawing behavior within a facility (the “squeaky wheels”), youths with internalizing disorders are inadvertently left untreated. With better information, agencies can begin to identify, implement, and evaluate programs and services intended to reduce mental health-related behavior problems and to improve rehabilitative efforts by alleviating these barriers to treatment. The use of a state-wide, comprehensive screening tool has the potential to reduce bias in the assessment and treatment of mental health problems in juvenile justice facilities, as well as to improve our understanding of how mental health problems differ as functions of race, gender, and age.

II.B. Service provision

The high rate of mental health problems among juvenile offenders, combined with the growing recognition that a better understanding of the underlying causes of delinquency will allow the development of more directed treatment strategies, has emphasized the need for tools to identify mental health problems among juvenile populations. In order to address the needs of the significant population of youths with mental disorders entering the juvenile justice system, it is essential that juvenile justice facilities have systematic and feasible means to identify these youths reliably, and that they have a clear picture of the prevalence of mental health problems in their populations, by type and severity.

The National Center for Mental Health and Juvenile Justice (NCMHJJ) has outlined progress made to date, including screening and assessment tools that have been specifically designed for use with youth in the juvenile justice system. For example, the development of the MAYSI-2, a 52 item self-report screening tool, and the V-DISC, a computer operated, voice-activated diagnostic assessment tool, are being used in numerous states and juvenile justice settings across the country. (As of July 2005, the MAYSI-2 is being used in 45 states and in 36 of those states being used system-wide in juvenile detention or corrections programs—including Pennsylvania. The V-DISC is now in 15 states with plans for expansion).

Further, there are now improved psychosocial approaches being implemented in several systems, such as cognitive behavioral therapy and dialectical behavior therapy, which are both showing tremendous promise. There is also increasing reliance on evidence-based practices, such as multisystemic therapy (MST) and functional family therapy (FFT), which are community-based interventions. Numerous reviews (Elliott, 1998) have consistently found positive outcomes associated with their use with youths in the juvenile justice system, including reduced long-term rates of re-arrest, improved family functioning and school performance, decreased substance use and psychiatric symptoms, reduced rates of out of home placement, and significant cost savings (Aos et al., 2001).

While not "evidence-based," there has also been the development of promising interagency collaborative models involving the mental health and juvenile justice systems including the System of Care models that target youth in the juvenile justice system such as WrapAround Milwaukee and Project Hope, RI. Also, diversion collaboratives such as New York State's P.I.N.S. (Person In Need of Supervision) diversion program and Texas' Special Needs Diversionary Program have been employed, along with university partnerships such as the Prime Time program in Seattle involving the University of Washington and King County.

Currently Pennsylvania is involved in a Models For Change: Systems Reform in Juvenile Justice Initiative supported by the John D. and Catherine T. MacArthur Foundation. Pennsylvania was the first state selected to participate in this initiative for three reasons: Pennsylvania is considered as a "bellwether" state in juvenile justice; Pennsylvania has a favorable reform climate; and Pennsylvania is in a position to become an exemplary system. Reform efforts in Pennsylvania will focus on bringing about change in three

areas: coordination of the mental health and juvenile justice systems; system of aftercare and supports; and disproportionate minority contact within the juvenile justice system.

One of the goals of the coordination of the mental health and juvenile justice system includes improving access to mental health services. It is the hope of the Juvenile Detention Centers Association of Pennsylvania (JDCAP) and the Mental Health Assessment of Youth in Detention Advisory Board that the findings within this report support the efforts of this initiative. The JDCAP membership strives to have juvenile detention viewed as a partner in the process of serving youth and not just a “place” for youth in Pennsylvania’s juvenile justice system.

Since the state-wide implementation of the MAYSI~2 in Pennsylvania, many of the Commonwealth’s detention centers have been able to obtain funding and create services specifically from the needs evidenced by the project. Some examples reported by the centers include Berks County Youth Center provides mental health services on site for youth identified as in need; Chester County Juvenile Detention Center has access to two Master level therapists that administer group activities and conduct individual therapy sessions with youth; and Montgomery County Youth Center contracts with their Base Service Unit for a 20 hour per week Master’s level Mental Health Caseworker.

II.C. JDCAP's Mental Health Grant

The Pennsylvania Commission on Crime and Delinquency's (PCCD) Juvenile Advisory Committee (JAC) [currently the Juvenile Justice and Delinquency Prevention Committee] selected juvenile detention as the committee's primary project for 1999. The JAC convened a Detention Subcommittee that was responsible for devising the best strategy to address the most pressing concerns of detention administrators. In March 1999, all detention administrators were invited to a meeting to discuss their most urgent needs in providing secure detention services. Health concerns, more specifically mental health concerns, quickly emerged as an area of urgency that needed to be addressed.

The JAC, Detention Subcommittee, and JDCAP worked closely to write a proposal to address the mental health needs of youth within detention. The proposal was submitted to PCCD for funding consideration in fall 1999. Funding was approved and the first phase of the Mental Health Assessment of Youth in Detention Project was initiated in January of 2000. At that time, JDCAP convened an Advisory Board (see Appendix A) comprised of representatives from diverse child-serving systems to guide the project and determine future direction. After reviewing the available screening instruments, the Massachusetts Youth Screening Instrument, Version 2 (MAYSI-2) was selected as the project's screening and data collection tool. The Board also selected Dr. Elizabeth Cauffman as the project's consulting psychologist because of her mental health expertise, experience with youth in the juvenile justice system, as well as her familiarity with the MAYSI-2.

Since 2000, the project has received funding for an additional three phases. At the time of this report, the project is in its fourth and final phase which mainly consists of an evaluative component. Over the four phases, the following objectives have been at the core of the project:

- Determine the prevalence of mental health issues among detained youth in Pennsylvania.
- Promote continued awareness of the mental health needs of youth within juvenile detention.
- Develop a reliable system of mental health and juvenile justice data on youth in Pennsylvania's detention centers.
- Increase the competency level of the juvenile justice employees to work with youth with mental health issues.

Although the project will be formally concluding, Pennsylvania detention centers have incorporated mental health screening into their intake processes and will continue to use the MAYSI-2 as a means of identifying, managing, and triaging youth.

III. The Screening Tool: Massachusetts Youth Screening Instrument, Version 2 (MAYSI~2)

III.A. Overview

The MAYSI~2 was selected as the project's screening and data collection tool. On a daily basis, the MAYSI~2 is used to help aid secure detention centers in identifying, managing, and triaging youth with potential mental health problems. Additionally, the MAYSI~2 affords individual detention centers and JDCAP the ability to quantify the number of detained youth experiencing mental health distress and associated symptoms.

III.B. Description of the MAYSI~2

The Massachusetts Youth Screening Instrument – Version 2 (MAYSI~2) was designed to assist juvenile justice facilities in identifying youths 12-17 years old who may have special mental health needs (Grisso, et. al, 2001). 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 does not provide psychiatric diagnoses, and its content was not selected to correspond to specific DSM-IV diagnostic criteria. Rather, the MAYSI~2 is intended to serve primarily an “alerting function” for staff as to the youth's potential mental/emotional distress and certain behaviors that might require an immediate response such as monitoring, secondary screening, request for a clinical consultation or further detailed assessment. This method of identifying “red flags” that signify possible mental health problems may thus allow the juvenile justice system to allocate limited resources more effectively, allowing treatment based on level of individual need rather than on the extent to which an offender's behavior calls attention to itself.

Results of preliminary analyses indicate that youths' scores are relatively stable over time (two administrations one week apart) (Grisso et al., 2001), however, correlations tend to decline over longer (>87 days) periods of time (Cauffman, 2004). Additionally, in preliminary benchmarking, the MAYSI~2 has been found to be correlated ($r > .45$) with both the Millon Adolescent Clinical Inventory (MACI), and the Child Behavior Checklist – Youth Self-Report (CBCL-YSR) (Grisso et al., 2001).

A comprehensive study using Pennsylvania's MAYSI~2 detention data highlighted the value of using the screen as a triage tool for emergent risk (Cauffman, 2004). Dr. Cauffman notes that the use of the screen may reduce bias in the provision of treatment resources (i.e., by providing a method of assessment for the potential seriousness of both externalizing and internalizing behaviors), as well as improve our understanding of the nature of mental health problems in delinquent populations (see Appendix B).

Dr. Cauffman's work with JDCAP's MAYSI~2 data thus far indicates marked differences in the MAYSI~2 scores by gender and race/ethnicity. The initial results of this data will be presented in the specific sections below.

MAYSI-2 Synopsis

The MAYSI-2:

- Identifies mental and emotional disturbance or distress
- Self-report questionnaire
- Consists of 52 items
- Time frame is current – “within the last few months” (except Traumatic Experiences subscale)
- Yes/No response format
- Administered in 10-15 minutes via computer for automatic scoring
- Written at 5th grade reading level
- Does not require clinical expertise to administer or score
- Spanish version available

III.C. MAYSI~2 Subscales

The MAYSI~2 (Grisso & Barnum, 2000) is a 52-item self-report questionnaire. Youths' scores are automatically tallied at the end of administration by the computer. The results are presented in the form of *Subscale Scores*, each made up of a certain number of items / questions. Each subscale is presented below, with the total number of questions per scale, as well as an overview of the scale's particular items of interest. Total subscale scores are made up of the number of items a youth endorses during the screen (total number of "Yes" responses).

▷ *Alcohol/Drug Use*

- 8 Questions
- Clinical Cut-offs
 - Caution: 4
 - Warning: 7
- Screen for:
 - Alcohol/drug use and frequency
 - Risk of substance abuse
 - Psychological reaction to lack of access to substances

▷ *Angry-Irritable*

- 9 Questions
- Clinical Cut-offs
 - Caution: 5
 - Warning: 8
- Screen for:
 - Experiences of frustration, lasting anger, moodiness
 - Risk of angry reaction, fighting, aggressive behavior

▷ *Depressed-Anxious*

- 9 Questions
- Clinical Cut-offs
 - Caution: 3
 - Warning: 6
- Screen for:
 - Experiences of depressed and anxious feelings
 - Risk of impairments in motivation, need for treatment

▷ *Somatic Complaints*

- 6 Questions
- Clinical Cut-offs
 - Caution: 3
 - Warning: 6
- Screen for:
 - Experiences of bodily discomforts associated with distress
 - Risk of psychological distress not otherwise evident

▷ ***Suicide Ideation***

- 5 Questions
- Clinical Cut-offs
 - Caution: 2
 - Warning: 3
- Screen for:
 - Thoughts and intentions to harm oneself
 - Risk of suicide attempts or gestures

▷ ***Thought Disturbance (Males Only)*****

- 6 Questions
- Clinical Cut-offs
 - Caution: 1
 - Warning: 2
- Screen for:
 - Unusual beliefs and perceptions
 - Risk of thought disorder

▷ ***Traumatic Experiences (Gender Specific)*****

- 5 Questions
- No established clinical cut-off, however, score of 3 has been used for research purposes
- Screen for:
 - Lifetime exposure to traumatic events, such as abuse, rape, observed violence
 - Questions refer youth to answer in the context of “ever in the past,” not “past few months.”
 - Risk of trauma-related instability in emotion/perception

****A note about subscales:**

- The Thought Disturbance Subscale is currently only used as a component for the screening of males. Research is still being conducted on whether and how this subscale can be used for females. At present, there is not enough evidence to indicate that females are responding to the items that make up this subscale in the same way as their male counterparts. Thus, it is not recommended that facilities use this scale when screening females. Results of the Thought Disturbance subscale will be presented in this report for research purposes only. However, facilities are still discouraged from using the results for females for practical purposes.
- The Traumatic Experiences subscale is unique for several reasons. First, it is a *lifetime* scale (respondents are asked to answer the questions in the context of “Ever” instead of “In the past few months”). Additionally, this subscale did not originally include cut-off scores for caution and warning ranges (*see explanation of caution and warning ranges in the next section*). However, in an effort to make this subscale useful for triage, Dr. Cauffman created cut-off scores specific to Pennsylvania. Finally, the Traumatic Experiences subscale is gender specific given the differential response bias on trauma items.

III.D. 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 MAYSI-2 User’s Manual or that have been decided on as a matter of policy by an agency or juvenile justice system. Scores above a subscale’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. The following discussion describes what these mean.

Caution 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) (Grisso et al., 2001). 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, researchers 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.

Warning Cut-Off Scores

Warning cut-off scores are intended to alert staff that the youth has scored *exceptionally high* in comparison to other youths in the juvenile justice system. The warning cut-off scores were set at the point that identifies approximately the top 10% of youths on a given MAYSI~2 scale. For example, a youth who scores 7 or higher on the Alcohol/Drug Use scale has scored in the top 10% of boys (or the top 12% of girls) in juvenile justice settings in other MAYSI-2 studies.

Warning cut-off scores are higher than caution cut-off scores. In other words, they identify a subset of youths in the caution zone who are the most in need of attention. They should be considered most likely to be in need of attention for mental health problems because they are reporting problems at a level that far exceeds the average for youths in juvenile justice settings. In a system that must prioritize cases to which it will respond with intervention, warning cut-off scores identify youths whose mental health needs should be given highest priority.

Scoring Synopsis

- Caution and warning cut-off scores should be utilized by a state or facility in a way that is specific to their service capabilities and limitations.
- Youths scoring above the caution cut-off on any MAYSI-2 subscale would probably score high enough on other more extensive assessments to require clinical attention. Thus, further evaluation is recommended for these youth.
- “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. Unlike the caution cut-offs, warning cut-offs are not based on any other established measure of disturbance. However, given that resources (staff and services) can be limited, warning range scores can be useful in determining which youths need attention most urgently.

III.E. Limitations of the MAYSI~2

The MAYSI~2 is a screen only; it does not provide a clinical diagnosis. For instance, if a youth scores in the caution range of the Alcohol / Drug Use subscale, it indicates only that staff should identify that youth for further assessment related to the items the youth endorsed on the subscale. It does not indicate that the youth definitively abuses or is dependent on alcohol or other substances. The MAYSI~2 does, however, serve as an effective tool for identifying youths that may need urgent clinical attention or further assessment. It aids facilities in making decisions about how to allocate resources, both immediately and in the long-term.

Stress is placed on the distinction between the use of the MAYSI~2 as a screening tool versus a more comprehensive psychiatric assessment due to a recent study which examined the MAYSI~2's validity in relation to psychiatric diagnosis (Wasserman et al., 2003). Specifically, the MAYSI~2 was compared with the Diagnostic Interview Schedule for Children-Present State Voice Version (DISC-IV). The findings of the Wasserman et al. (2003) study suggest that scores that reach the clinical cutoff on any MAYSI-2 subscale will identify youth with diagnosed psychiatric disorders, but that there are often discrepancies between the disorder "suggested" by an elevated score on a MAYSI~2 subscale and the disorder diagnosed by the DISC-IV. This may be a reflection of the high rates of *comorbidity* (i.e., the simultaneous appearance of two or more psychiatric illnesses) common in young offenders, as well as the lack of direct alignment between MAYSI-2 scales and diagnostic categories. Thus, while scores on the MAYSI~2 are loosely related to more rigorously derived diagnoses, the MAYSI~2 has difficulty discriminating between highly comorbid disorders. This further suggests that the MAYSI~2 is best used as a triage tool for emergent risk, rather than a definitive measure of specific disturbances (Grisso et al., 2001; Wasserman et al., 2003).

Dr. Elizabeth Cauffman is currently conducting a project looking at the effectiveness of the MAYSI~2 in "predicting" DSM-IV-related diagnoses using the Kiddie - Schedule for Affective Disorders—Youth Present and Lifetime Version (K-SADS-PL). The preliminary results of this work are presented in Section X. This study differs from Wasserman's work in that it compares youth self-report (via the MAYSI~2) to a diagnostic instrument which requires clinical evaluation and judgment from an expert rater. Dr. Wasserman's study, on the other hand, compares the screen to diagnosis, but both pieces of information are obtained from the youth rather than an outside source. Results of Dr. Cauffman's study will be quite useful in determining how well the MAYSI~2 subscale scores indicate areas for further assessment.

IV. Administration of the MAYSI~2 in Pennsylvania Secure Detention Centers

IV.A. The Sites

Since May 2000, the MAYSI~2 has been implemented in the following 21 detention centers throughout Pennsylvania:

- Shuman Juvenile Detention Center, Allegheny County
- Lancaster County Youth Intervention Center
- Allencrest Juvenile Detention Center, Beaver County
- Luzerne County Juvenile Center
- Berks County Youth Center
- Montgomery County Youth Center
- Blair County Juvenile Detention Home
- Northampton County Juvenile Justice Center
- Bucks County Youth Center
- Northwestern Academy, a private facility
- Central Counties Youth Center, Centre County *
- PA Childcare, a private facility
- Chester County Juvenile Detention Center
- Youth Study Center, Philadelphia County
- Cornell Abraxas, a private facility
- Tioga County Detention Center
- Herbert Schaffner Youth Center, Dauphin County
- Westmoreland County Regional Youth Center
- Delaware County Juvenile Detention Center
- York County Youth Development Center
- Edmund L Thomas Adolescent Center, Erie County

IV.B. Pennsylvania's Administration Procedures

As a matter of policy, all youths admitted to Pennsylvania detention centers should be screened. Youth who have been previously admitted are re-screened at each new admission since the MAYSI~2 provides a "snapshot" of emotional and behavioral distress at that point in time. Based on previous research by Drs. Grisso and Cauffman, youths in Pennsylvania should be administered the MAYSI~2 within 24 – 48 hours of their arrival to the facility. This time frame was chosen to allow youths time to stabilize after arrival at the facility, but early enough in their stay to ascertain their mental health needs.

Youth are screened by trained staff in a quiet, private environment. In centers where complete privacy cannot be provided, headphones are utilized. The MAYSI~2 is administered via a computerized program. Prior to beginning the actual screen, youths provide information on their age, race, gender, and time of administration. The youth's detention number or identification number is also entered so that each MAYSI~2 profile can be identified with the youths' records at the facility.

After brief instructions for completing the screen are given to the youth, a practice question is asked to make sure the youth understands how to respond on the computer (e.g., "Have you ever used a computer before?"). The computer then reads the MAYSI~2 questions aloud and the youths respond by selecting "yes" or "no" via either the keyboard or the click of the mouse. Youths can click on the question to hear it again and can go backwards to change a response if needed. The computer automatically scores the MAYSI~2 and identifies whether or not the youth meets the caution or warning cut-off. If the youth is identified as meeting the warning cut-off for a particular scale, the items endorsed on that scale are displayed.

As part of the project, JDCAP requires that detention centers, at a minimum, follow-up on a caution or warning on the Suicide Ideation scale and 2 or more warnings on any combination of scales. These criteria were selected by the project's Advisory Board in consultation with Dr. Cauffman. Each center is required to establish a protocol that outlines how the center will respond to elevated scores prior to use of the MAYSI~2. The center determines its own follow-up policies and procedures based upon available resources.

The Mental Health Assessment of Youth in Detention project guidelines concerning administration and follow-up are outlined in the JDCAP's Massachusetts Youth Screening Instrument Version 2 (MAYSI~2) Policies and Procedures Manual.

V. Results

V.A. JDCAP MAYSI~2 Overall Results

The MAYSI-2 data presented here consists of a total of 22,516 detention cases from April 2000 to October 2004 at 21 centers. It should be noted that these are *cases*, not individuals. This means that a single youth could have contributed multiple MAYSI~2 scores to this dataset due to repeat admissions to a facility and thus repeat administrations of the MAYSI~2. It should also be noted that not all youths are screened using the MAYSI~2 at every admission. Due to the established screening timeframe of 24 to 48 hours after admission, youths may be released from the facility prior to taking the MAYSI~2. Also, some youths may have refused the screening (the MAYSI~2 is a voluntary screen, and youths are able to refuse to participate).

Of those cases screened by the MAYSI~2 during this timeframe, approximately 82% are male. The majority of cases are split between African American and white races/ethnicities¹ (45% and 40% for males, 38% and 48% for females), with Hispanic youths making up approximately 10% of the screened population. Most screened youths are 16 or 17 years old (mean age 15.7 years); approximately 8% are 13 years old and under, and an additional 7% are 18 years old and over. Approximately half of the total youths screened have had a previous detention admission.

The table below (Table V.A.1.) gives an overview of MAYSI~2 subscale scores, as well as the caution and warning range scores, for all cases screened. Please note that the percentages given for caution range scores include cases in the warning range (since the warning range is the uppermost 10% of the caution range). Additionally, as noted in Section III on the MAYSI~2, the Thought Disturbance subscale is only to be used for males. Results for this subscale are presented for both genders in this report for research purposes only, and are included in an effort to increase understanding of the ways in which females are endorsing these items.

¹ MAYSI~2 Self-Report Racial / Ethnic categories are as follows: Asian American, African American, Hispanic, white, and Other (which includes bi-racial, Native American, Pacific Islander, Indian, etc.)

Table V.A.1. Means, Standard Deviations, Percent Caution and Warnings of MAYSI-2 Subscales for All Cases

	Mean	Standard Deviation	% of Cautions	% of Warnings	Explanation of Results
Any Caution ¹	.71	.452	71		71% of cases scored into the caution range (AKA “clinically significant range”) on at least one subscale
Any Warning ¹	.30	.460		30	30% of cases scored into the warning range (AKA “top ten-percent”) on at least one subscale
Alcohol/ Drug Use (8 items)	2.47	2.521	34	9	34% of cases scored into the caution range; 9% scored into the warning range of the Alcohol/Drug Use subscale
Angry-Irritable (9 items)	3.87	2.795	42	13	42% of cases scored into the caution range; 13% scored into the warning range of the Angry-Irritable subscale
Depressed-Anxious (9 items)	2.27	2.228	38	11	37% of cases scored into the caution range; 11% scored into the warning range of the Depressed-Anxious subscale
Somatic Complaints (6 items)	2.48	1.903	46	8	46% of cases scored into the caution range; 8% scored into the warning range of the Somatic Complaints subscale
Suicide Ideation (5 items)	.8	1.462	20	14	20% of cases scored into the caution range; 14% scored into the warning range of the suicidal ideations subscale
Thought Disturbance (5 items) (Boys Only)	.57	.923	37	13	37% of cases scored into the caution range; 13% scored into the warning range of the Thought Disturbance subscale
Traumatic Experiences (5 items)	1.84	1.425	28	12	28% of cases scored into the caution range; 12% scored into the warning range of the traumatic events subscale

Note: ¹“Any Caution” and “Any Warning” are calculated only for the gender nonspecific subscales: Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints and Suicide Ideation

V.B. The Gender Issue in Juvenile Justice

According to the National Mental Health Association (NMHA, 2004), adolescence is a time of increased vulnerability for girls—especially minority youth and girls from socioeconomically disadvantaged backgrounds—with many experiencing psychological crises and adverse experiences that may place them at increased risk for contact with the juvenile justice system.

Although juvenile arrest rates for violent and property offenses have been on the decline in the U.S. for over a decade, arrest and incarceration rates for adolescent girls have been increasing. For example, while most girls are arrested for non-violent offenses, including property and drug-related crimes, arrest rates of juvenile females for aggravated and simple assault have increased by about 10% over the last 25 years, while arrest rates among juvenile boys have declined (Snyder & Sickmund, 2006).

Female offenders are disproportionately likely to have histories of physical and sexual abuse; to have had academic difficulty; to come from poor neighborhoods; to be an ethnic minority; to abuse alcohol and drugs; and to have a chronic health problem, such as a sexually transmitted disease (OJP, 1998).

A number of prevalence studies conducted in state juvenile justice systems indicate that females tend to have higher rates of mental health problems than their male counterparts. Teplin et al. (2002) found that about three quarters of incarcerated females had a diagnosable psychiatric disorder. In another study of juvenile offenders in Georgia Youth Detention Centers, nearly 60% of girls met criteria for an anxiety disorder (in contrast to 32% among boys); 59% of girls had a mood disorder (versus 22% of boys) (Marsteller et al., 1997). Suicide attempts and self-mutilation by girls are particular problems in juvenile facilities and may be exacerbated by characteristics of the detention environment, such as conflict with staff and isolation (NMHA, 2004).

In the state of Pennsylvania, females are the fastest growing segment of the juvenile justice population. According to the National Center for Juvenile Justice, girls now account for approximately 25% of all juvenile arrests, approximately 18% of detention admissions, and approximately 20% of delinquency cases disposed. Further, while instances of males perpetrating violent crimes are down in the state (down 26% between 1994 and 2003), the violent crime rate for females has increased (up 11% during the same period) (Bender and Griffin, 2005).

Girls involved in the juvenile justice system are very likely to have substance abuse treatment needs. Arrests of adolescent females for drug abuse violations increased markedly during the 1990s, but had held steady at about 200 arrests per 100,000 since 1997 (Snyder, 2005). Furthermore, in many areas, a majority of young women test positive for drugs at the time of arrest (NIJ, 1998). Teplin et al. (2002) found that close to half of incarcerated females were using substances in ways consistent with diagnostic criteria for abuse or dependence. It has been hypothesized that these adolescents may be self-medicating in order to cope with stress or psychopathology; research confirms a correlation between exposure to traumatic life experiences (e.g. sexual abuse and family violence) and substance use among girls (NMHA, 2004).

Prevalence rates of abuse and trauma among incarcerated girls are appallingly high (70%)—much higher than rates reported by their male counterparts (Evans et al., 1996). These experiences include sexual abuse, corporal punishment resulting in injury, and witnessing the homicide of a close friend or relative (NMHA, 2004). Correspondingly with the self-reported rates of repeated exposures to abuse and trauma among adolescent girls in the juvenile justice system, research finds high prevalence rates

of Posttraumatic Stress Disorder (PTSD) in this population, with nearly 50% meeting diagnostic criteria for the disorder (Cauffman et al., 1998).

Improving Care for Girls in the Juvenile Justice System

The needs of incarcerated adolescent girls differ from those of male detainees. As a result, interventions for female delinquents should be tailored to address the problems—psychological, behavioral, and health-related—that are peculiar to these youths. However, most facilities and programs have been designed to focus on the needs of male delinquents. Programs that would be beneficial to young female offenders should, according to NMHA (2004) emphasize building relationships and addressing victimization because these youth have “complex and sometimes troublesome relationships with family members, boyfriends/relationship partners, and children which present special challenges for their reintegration and rehabilitation.” (p.11)

According to PCCD’s Juvenile Justice and Delinquency Prevention Female Services Subcommittee, Pennsylvania counties are in the process of responding to the unique needs of the growing female detention population. Currently, educational efforts have been made to train probation officers to recognize the signs of sexual abuse, as well as the risk and protective factors for their female cases. Further, gender-specific programs are becoming more accessible to staff and residents through the probation department, or as contracted services within the counties (Bender and Griffin, 2005).

Girls in Pennsylvania's Juvenile Detention

Girls in Pennsylvania detention facilities consistently score significantly higher than their male counterparts on all of the MAYSI~2 subscales (see Table V.B.1.), even across different ethnicities (see Appendix C). Further, they score into the caution and warning range on every subscale more often than males. What is even more striking is that this characterizes a trend noted throughout the JDCAP project: while girls have been traditionally thought of as internalizers (and would therefore be expected to evidence high scores on the depression and anxiety subscale), in juvenile detention they not only score high on the internalizing scales, but also report significant levels of behaviors and emotions that may be related to externalizing (measured by the Angry-Irritable and Alcohol/Drug Use subscales). Thus, the population of girls in Pennsylvania's juvenile detention centers is not just different from their male counterparts in detention, but these girls are also evidencing behavior that is different from what is expected in more "typical" adolescent female populations.

Table V.B.2. displays the percentages of youth (by gender) that scored in the caution ("clinically significant") range on each MAYSI~2 subscale, meaning that they should be further screened for possible disorders, and those that scored in the more extreme warning ranges, meaning that they are likely in need of immediate attention. Table V.B.3 Shows those youth (split by gender) required by JDCAP policy to receive follow up because they scored in the caution or warning range on suicide ideations or had 2 warnings on any combination of MAYSI~2 subscales (excluding Traumatic Experiences).

According to Cauffman (2004), there are several possible reasons for the gender differences observed in this study and others. It may be, for example, that law enforcers and judges are less likely to send females to detention, and that those girls who are sent to detention are therefore those with the most serious behavioral problems. In addition, it may be that female delinquency itself is a symptom of significant mental health problems. Additional filtering out of all but the most visibly troubled girls by police and judges could understandably result in a population of detained females with significantly higher levels of disturbance than their male counterparts (who need not be as "troubled" to engage in illegal behavior, and who need not appear as "troublesome" to be detained). Because female offenders make up a rapidly growing percentage of the population of incarcerated youths, this population poses significant challenges to juvenile justice system.



Gender Synopsis

- Girls are more likely to present with mental health symptoms than boys, regardless of age and race.
- The observed gender differences on the Depressed-Anxious, Somatic Complaints, and Suicide Ideation subscales are not surprising, since previous research among adolescent girls has shown that girls are more likely than boys to suffer from *internalizing* disorders.
- Noteworthy are the observed differences between males and females on the Alcohol/Drug Use and Angry-Irritable subscales. As noted above, while previous research has shown that boys generally exhibit externalizing problems more frequently than girls, this study appears to corroborate recent evidence that *detained girls* are not only more likely than *detained boys* to internalize their problems, but they are also more likely to externalize.

Table V.B.1. Means and Standard Deviations of MAYSI-2 Subscales for All Cases by Gender

	Males N = 18346	Females N = 4,170	t-test
Alcohol / Drug Use	2.43 (2.49)	2.59 (2.63)	<i>t = -3.61, p < .000</i>
Angry-Irritable	3.69 (2.76)	4.75 (2.78)	<i>t = -22.38, p < .000</i>
Depressed-Anxious	2.07 (2.12)	3.18 (2.48)	<i>t = -26.81, p < .000</i>
Somatic Complaints	2.33 (1.86)	2.33 (1.85)	<i>t = -24.91, p < .000</i>
Suicide Ideation	.69 (1.37)	1.30 (1.76)	<i>t = -21.30, p < .000</i>
Thought Disturbance ¹	.57 (.92)	.78 (1.07)	<i>t = -11.99, p < .000</i>
Traumatic Experiences	1.61 (1.25)	2.20 (1.65)	<i>t = -21.89, p < .000</i>

Note: ¹Results on the Thought Disturbance subscale are not interpretable for girls and are presented for research purposes only.

Explanation of Significant Results
Females score significantly higher on ALL subscales than their male counterparts in detention. This means that females endorse more items (i.e., “yes” responses) per scale than males. Results like these indicate that females are presenting with significantly more mental health issues when they come to detention facilities.

Table V.B.2. Percentage of Cautions and Warnings by Gender

	% of Cautions		% of Warnings	
	Males (n = 18,346)	Females (n = 4,170)	Males (n = 18,346)	Females (n = 4,170)
Any Caution / Warning ¹	69	82	27	45
Alcohol/Drug Use	33	36	8	11
Angry-Irritable	39	55	12	21
Depressed-Anxious	34	54	9	20
Somatic Complaints	43	61	7	16
Suicide Ideation	17	33	12	25
Thought Disturbance	37	48	13	25
Traumatic Experience	24	42	8	26

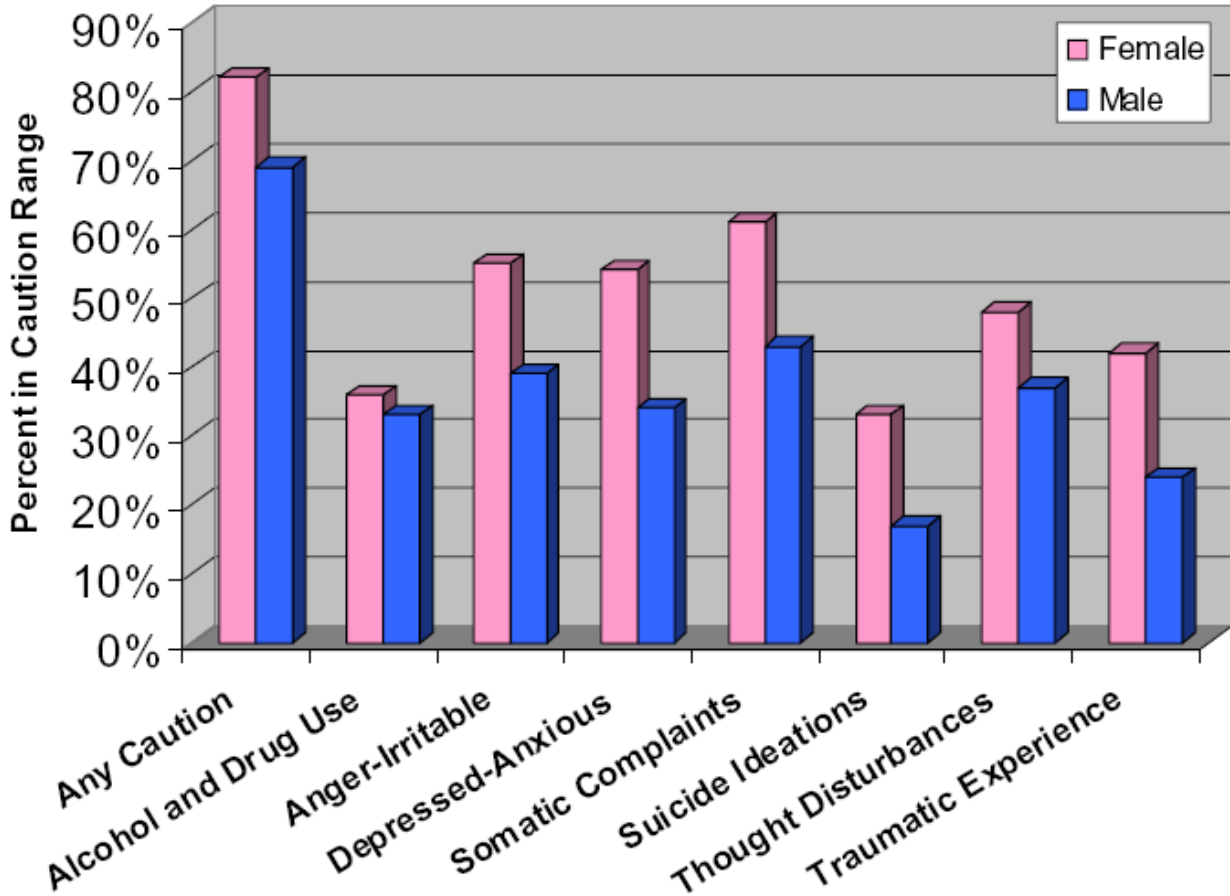
Note: ¹“Any Caution” and “Any Warning” is calculated only for the gender nonspecific subscales: Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints and Suicide Ideation. Also, the Thought Disturbance subscale is not validated for females; their results on this scale are shown for research purposes only. All gender differences are significant at $p < .001$ except the Alcohol/Drug Use Caution Range difference which is significant at $p = .001$.

Table V.B.3. Percentage of Youth Requiring Follow Up by Gender per JDCAP Guidelines

	% in Suicide Ideation Caution Range	% With 2 or More Warnings ¹	Total Requiring Follow Up
Males	17	17	23
Females	33	31	41

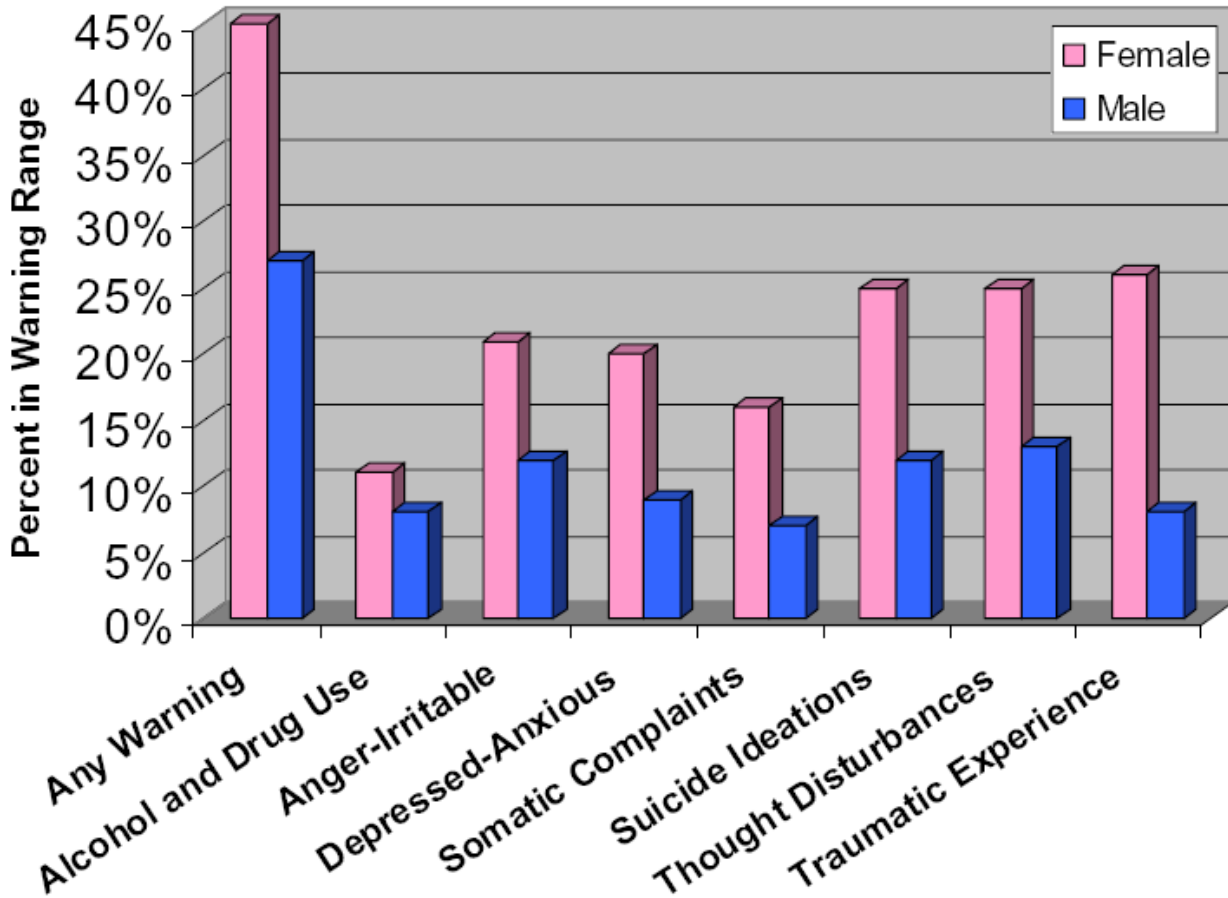
Note: ¹Thought Disturbance not included for girls; Traumatic Experiences not included at all.

Graph V.B.i. Percentage of Cases with Caution Scores by Gender



Females are significantly more likely than males to score in the caution range on every subscale and to have a caution range score on at least one subscale of the MAYSI-2. Note that the scores for females on Thought Disturbance are not interpretable.

Graph V.B.ii. Percentage of Cases with Warning Scores by Gender



Females are significantly more likely than males to score in the Warning range on every subscale and to have a score above the Warning cut-off on at least one subscale of the MAYSI-2. Note that the scores for females on Thought Disturbance are not interpretable.

V.C. Age Distribution in Pennsylvania's Juvenile Detention Population

As previously noted, most of the youths who enter Pennsylvania's detention facilities are aged 16 to 17 years, but range in age from 10 to over 18 years old. Certain age-related trends can be seen in Table V.C.1. below. For instance, as youths increase in age, they endorse significantly more substance use items (Alcohol / Drug Use subscale), as well as more traumatic events (Traumatic Experiences subscale). This is to be expected as research indicates that risk-taking behaviors (like substance use) and life experiences increase during the adolescent years, with a peak around 15 – 16 years old. However, what is interesting—and very salient to facilities in terms of planning and implementing mental health services—is that younger kids are endorsing significantly more items on the Angry/Irritable, Depressed-Anxious, and Thought Disturbance subscales. Importantly, there is also a trend for the younger age groups to score in the caution and warning range on each of these subscales more often than their older counterparts (See Table V.C.2.). While this trend needs to be further explored to understand its practical significance, it is worth noting for future discussion.

Table V.C.2. displays the percentages of youth (by age group) that scored in the clinically significant range on each MAYSI-2 subscale, meaning that they should be further screened for possible disorders, and those that scored in the more extreme warning ranges, meaning that they are likely in need of immediate attention. Table V.C.3 Shows those youth (split by age group) required by JDCAP policy to receive follow up because they scored in the caution or warning range on suicide ideations or had 2 warnings on any combination of MAYSI-2 subscales (excluding Traumatic Experiences).

Age Synopsis

- Most of the youths who enter detention are aged 16 to 17 years.
- As expected, youths endorse significantly more Alcohol / Drug Use Items and Traumatic Experiences as they get older.
- Noteworthy are results indicating that younger youths (aged 10 to 13 years) are significantly outscoring their older counterparts (that is, they are endorsing more of the items) on the Angry/Irritable, Depressed-Anxious, and Thought Disturbance subscales.

Table V.C.1. Means and Standard Deviations of MAYSI-2 Subscales for All Cases by Age Group

	Age group 10 to 13 (N = 1,899)	Age group 14-15 (N = 7,056)	Age group 16-17 (N = 11,788)	Age group 18+ (N = 1,773)	F and Welch Tests	Explanation of Results
Alcohol/ Drug Use (8 items)	1.16 (1.99)	2.15 (2.41)	2.75 (2.55)	3.14 (2.60)	<i>Welch = 392.04</i> <i>p < .001</i>	Youths endorse significantly more substance use items as they increase in age.
Angry-Irritable (9 items)	4.33 (2.75)	4.10 (2.77)	3.76 (2.79)	3.38 (2.81)	<i>F = 57.38</i> <i>p < .001</i>	Younger youths endorse a greater number of angry / irritable items than do older youths.
Depressed-Anxious (9 items)	2.54 (2.30)	2.30 (2.23)	2.23 (2.21)	2.20 (2.26)	<i>Welch = 11.06</i> <i>p < .001</i>	The youngest age group (10 – 13 years old) is endorsing significantly more depression symptoms than any other age group.
Somatic Complaints (6 items)	2.55 (1.89)	2.46 (1.86)	2.49 (1.93)	2.46 (1.93)	<i>Welch = 1.32</i> <i>p = .265 (ns)</i>	These differences are not significant.
Suicide Ideation (5 items)	0.85 (1.49)	0.82 (1.49)	0.79 (1.45)	0.77 (1.43)	<i>Welch = 1.56</i> <i>p = 0.197 (ns)</i>	These differences are not significant.
Thought Disturbance (Boys Only , 5 items)	0.74 (1.09)	0.58 (0.92)	0.55 (0.90)	0.50 (0.89)	<i>Welch = 17.96</i> <i>p < .001</i>	Younger youths are endorsing significantly more items on this scale than their older counterparts.
Traumatic Experience (5 items)	1.57 (1.33)	1.69 (1.36)	1.76 (1.35)	1.76 (1.36)	<i>F = 12.27</i> <i>p < .001</i>	Youths endorse significantly more traumatic experience items as they increase in age up to 16-17 years old.

Table V.C.2. Percentage of Cautions and Warnings by Age Group

	% of Cautions				% of Warnings			
	10-13 (n = 1,899)	14-15 (n = 7,056)	16-17 (n = 11,788)	18+ (n = 1,773)	10-13 (n = 1,899)	14-15 (n = 7,056)	16-17 (n = 11,788)	18+ (n = 1,773)
Any Caution	77	77	78	77				
Any Warning					40	39	39	39
Alcohol/ Drug Use	14	28	38	44	3	7	10	14
Angry-Irritable	48 ^a	46	40	35	16 ^a	14	13	11
Depressed-Anxious	43 ^a	38	37	36	12 ^b	11	11	11
Somatic	48	46	46	47	8	8	9	8
Suicide Ideation	21	20	20	20	15	15	14	14
Thought Disturbance (Boys Only)	43 ^a	38	36	31	18 ^a	13	12	12
Traumatic Experience	24	27	29	29	9	11	12	12

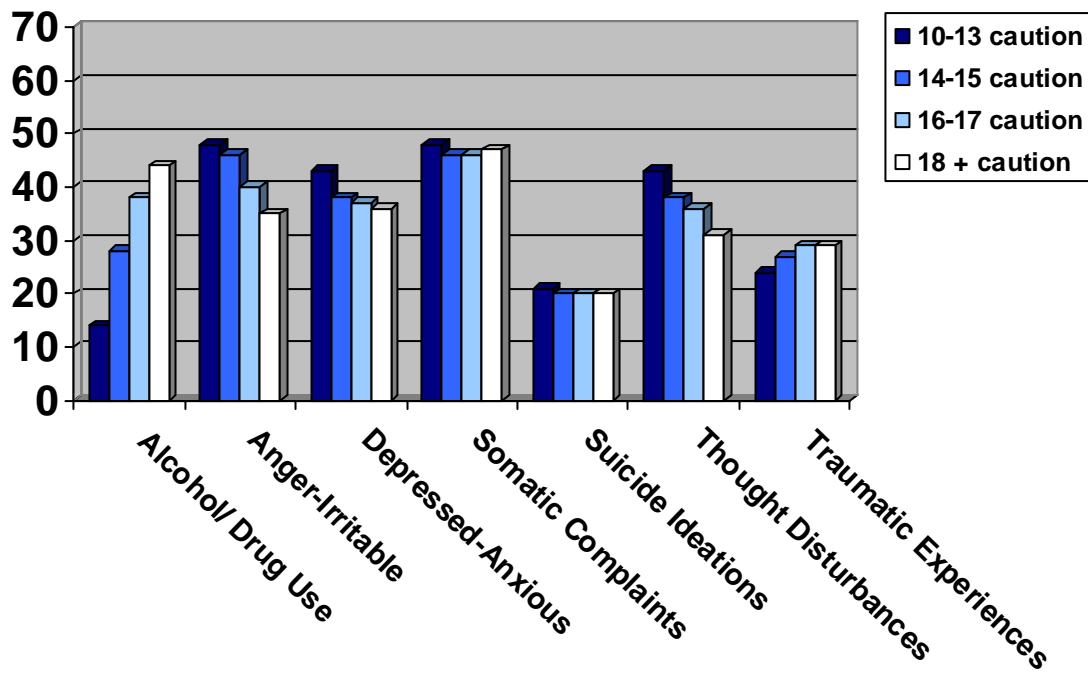
Note: Superscripts indicate subscales on which the 10-13 year olds were significantly more likely than the 16-17 year olds to score in the caution or warning range: ^a $p < .001$, ^b $p < .05$.

Table V.C.3. Percentage of Youth Requiring Follow Up by Age Group per JDCAP Guidelines

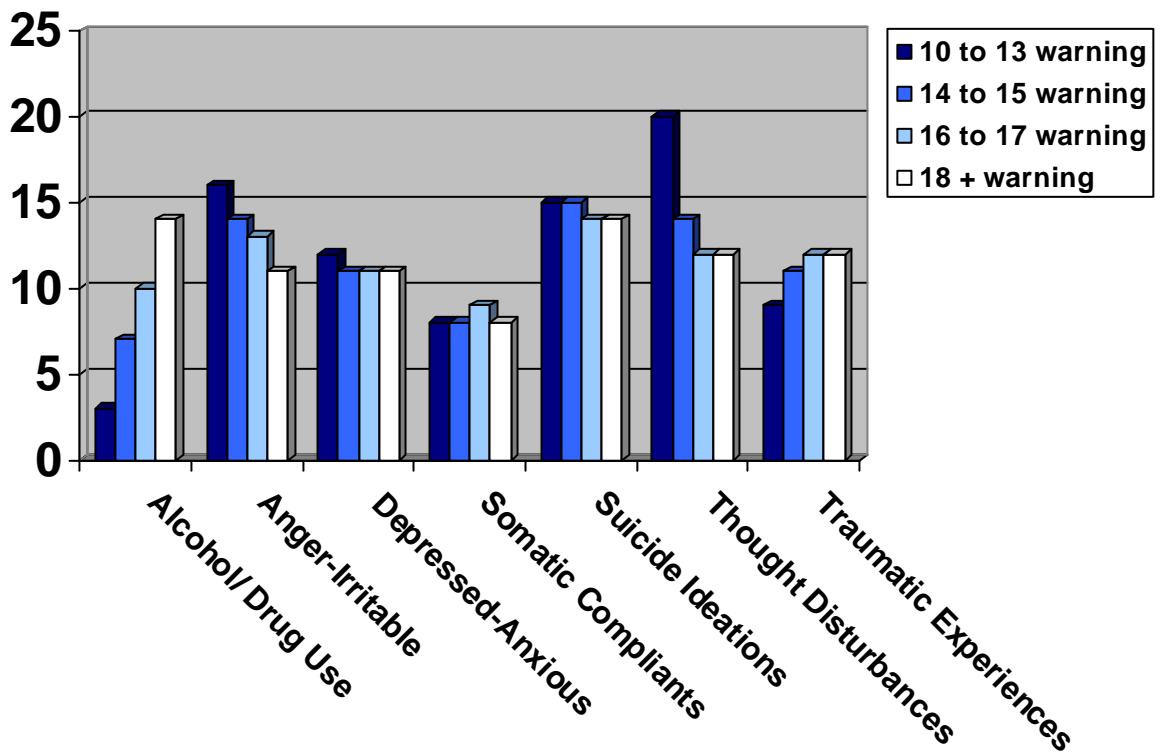
	% in Suicide Ideation Caution Range	% With 2 or More Warnings ¹	Total Requiring Follow Up
10 to 13 years	21	19	27
14 to 15 years	20	19	27
16 to 17 years	20	19	26
18 + years	20	20	27

Note: ¹Thought Disturbance not included for girls; Traumatic Experiences not included at all.

Graph V.C.i. Percentage of Cases with Caution Scores by Age



Graph V.C.ii. Percentage of Cases with Warning Scores by Age



V.D. Race/Ethnic Distribution in Pennsylvania's Juvenile Detention Population

The majority of Pennsylvania's detained youths are predominantly either of African American or white races / ethnicities.

According to the Juvenile Justice and Delinquency Prevention Act (JJDP), disproportionate minority confinement (DMC) exists when the proportion of youths detained or confined in secure detention facilities, secure correctional facilities, jails and lockups who are members of minority groups exceed their groups' proportions in the general population. Minority youths are overrepresented and receive disparate treatment in virtually every state, and at every stage of the juvenile justice system, particularly in secure confinement. (Pennsylvania Commission on Crime and Delinquency [PCCD], 2003)

Based on PCCD estimates, Pennsylvania had a minority youth population of 20% in 2001, but 39% of juvenile arrests involved a youth of minority race/ethnicity. As of 2001, 62% of the youths confined in secure detention facilities are minority and 65% of the youths confined in secure state correctional facilities are minority—this demonstrates that minority youth are disproportionately likely to be disposed to a secure facility (PCCD, 2003)

Biases underlying both observed gender and racial / ethnic differences in mental health problems have been observed among detained youths. Minority youths are more likely to be overrepresented in the justice system and to receive more severe sanctions at each stage in processing. Selective filtering by police and judges may result in a detained population in which minority youths need not exhibit the same levels of disturbance as white youths in order to be included. Courts are more likely to deem white juvenile offenders as mentally disturbed and African American offenders as disorderly (Cohen et al., 1990). Such differences may be due to (1) real differences in the prevalence of mental disturbance, (2) differences in self-reporting of mental health problems, or (3) systemic bias that makes one ethnic group more likely than another to be referred for assessment, diagnosed as disturbed, or assigned to treatment programs. There is evidence that all three effects may be real. In community samples, rates of mental disturbance are typically similar or higher among white youths than among African American youths (Angold, Erkanli, Farmer, et. al. 2002; Costello et al., 2001). Yet such differences are at least partly a consequence of racial / ethnic differences in the stigma associated with mental illness, which can inhibit reporting of symptoms (Satcher, 2001). (MAYSI-2 symptoms, too, are thus more likely to be underreported among minorities than among whites.) Even among youths with similar treatment needs, however, white youths are disproportionately more likely to receive treatment than minority youths (Dembo et al., 1994; Glisson, 1996; Thomas and Stubbe, 1996).

Given these data, it is particularly important to understand the mental health issues of minority populations in Pennsylvania's juvenile detention facilities. In the charts below, findings indicate that African American youths often report significantly less mental health symptoms than their white and Hispanic counterparts, and there is a trend for the African American youths to score into the caution and warning ranges less often as well. Hispanic and white youths score significantly higher than other races / ethnicities on all MAYSI-2 subscales except Thought Disturbance. White youths significantly outscore all other races / ethnicities (including Hispanic youths) on the Alcohol / Drug Use, Angry / Irritable and Somatic Complaints, Suicide Ideation subscales, and Hispanic youths significantly outscore white and African American youths on the Thought Disturbance subscale. See Tables V.D.1 and V.D.2. below for a complete look at MAYSI-2 scores by ethnic groups.

Table V.D.2. displays the percentages of youth (by race/ethnicity) that scored in the clinically significant range on each MAYSI~2 subscale, meaning that they should be further screened for possible disorders, and those that scored in the more extreme warning ranges, meaning that they are likely in need of immediate attention. Table V.D.3 Shows those youth (split by race/ethnicity) required by JDCAP policy to receive follow up because they scored in the caution or warning range on suicide ideations or had 2 warnings on any combination of MAYSI~2 subscales (excluding Traumatic Experiences).

Ethnicity Synopsis

- African American youths report significantly fewer mental health symptoms than do white and Hispanic youths.
- Research indicates that white juvenile offenders are more likely to be labeled “mentally disturbed,” while African American offenders are more likely to be labeled “disorderly”.
- Research also indicates that minority youths are more likely to under-report mental health symptoms and issues, and that a significant stigma is associated with mental health issues among minority populations.

Table V.D.1. Means and Std. Deviations of MAYSI-2 Subscales for All Cases by Race/Ethnicity

	African American N 9,888 (AA)	Asian N 138 (A)	Hispanic N 2,430 (H)	White N 9,384 (W)	Other N 675 (O)	Robust Test of Equality of Means	Comparison of results for Asian, African American, Hispanic and white groups
Alcohol/ Drug Use	1.76 (2.17)	1.76 (2.33)	2.29 (2.39)	3.25 (2.67)	2.43 (2.44)	Welch = 451.37, $p < .001$	White youths report more substance use than do all other groups. African American youth report less use than do Hispanic and white youths. Hispanic and white youth report more substance use than do the other groups, taken together.
Angry-Irritable	3.60 (2.75)	3.00 (2.81)	4.03 (2.85)	4.13 (2.79)	4.40 (2.84)	Welch = 54.39, $p < .001$	White youths report more anger/irritability than do all other groups. African American youth report less anger/irritability than do Hispanic and white youths. Hispanic and white youth report more anger/irritability than do the other groups, taken together.
Depressed-Anxious	2.10 (2.12)	2.06 (2.23)	2.81 (2.40)	2.30 (2.27)	2.60 (2.32)	Welch = 50.16, $p < .001$	African American youth report less depression/anxiety than do Hispanic and white youths. Hispanic and white youth report more depression/anxiety than do the other groups, taken together.
Somatic Complaints	2.13 (1.79)	2.26 (1.76)	2.64 (1.94)	2.80 (1.94)	2.81 (1.95)	Welch = 171.38, $p < .001$	White youths report more somatic complaints than do all other groups. African American youth report fewer somatic complaints than do Hispanic and white youths. Hispanic and white youth report more somatic complaints than do the other groups, taken together.
Suicide Ideation	.57 (1.24)	.72 (1.43)	.92 (1.50)	1.00 (1.62)	0.90 (1.54)	Welch = 117.67, $p < .001$	White youths report more suicide ideation than do all other groups. African American youth report less suicide ideation than do Hispanic and white youths. Hispanic and white youth report more suicide ideation than do the other groups.
Thought Disturbance (Boys Only)	.54 (.90)	.53 (.97)	.66 (1.01)	.57 (.92)	0.67 (0.97)	Welch = 7.85, $p < .001$	Hispanic boys endorse significantly more items than white and African American boys. African American boys present with less thought disturbance than do the white and Hispanic boys, taken together.
Traumatic Experience	1.64 (1.32)	1.58 (1.32)	1.84 (1.40)	1.75 (1.36)	2.01 (1.44)	Welch = 20.67, $p < .001$	White and Hispanic youths endorse significantly more trauma items than do African American and Asian youths.

Table V.D.2. Percentage of Cautions and Warnings by Race/Ethnicity

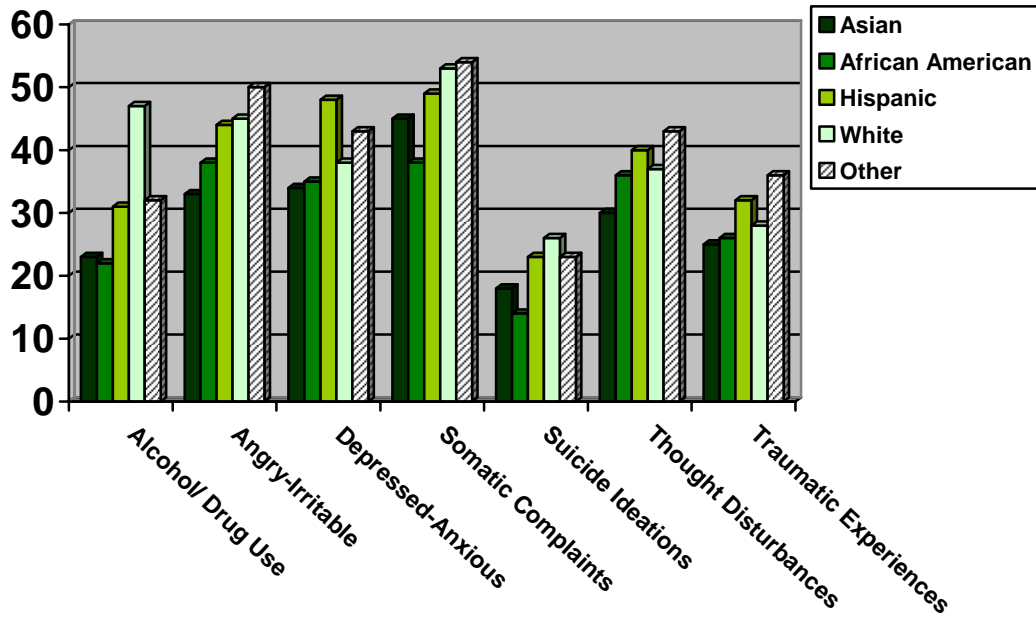
	Percentage of Caution					Percentage of Warning				
	African American N 9,888	Asian N 138	Hispanic N 2,430	White N 9,384	Other N 675	African American N 9,888	Asian N 138	Hispanic N 2,430	White N 9,384	Other N 675
Any Caution	63	63	73	79	77					
Any Warning						18	23	34	38	34
Alcohol/ Drug Use	23	22	31	47	32	4	4	7	15	8
Angry- Irritable	33	38	44	45	50	8	11	15	15	18
Depressed- Anxious	34	35	48	38	43	9	9	16	11	14
Somatic Complaints	45	38	49	53	54	3	5	10	11	10
Suicide Ideation	18	14	23	26	23	12	9	16	19	15
Thought Disturbance (Boys Only)	31	36	40	37	43	15	12	16	12	15
Traumatic Experience	25	26	32	28	36	8	10	14	12	17

Table V.D.3. Percentage of Youth Requiring Follow Up by Ethnicity per JDCAP Guidelines

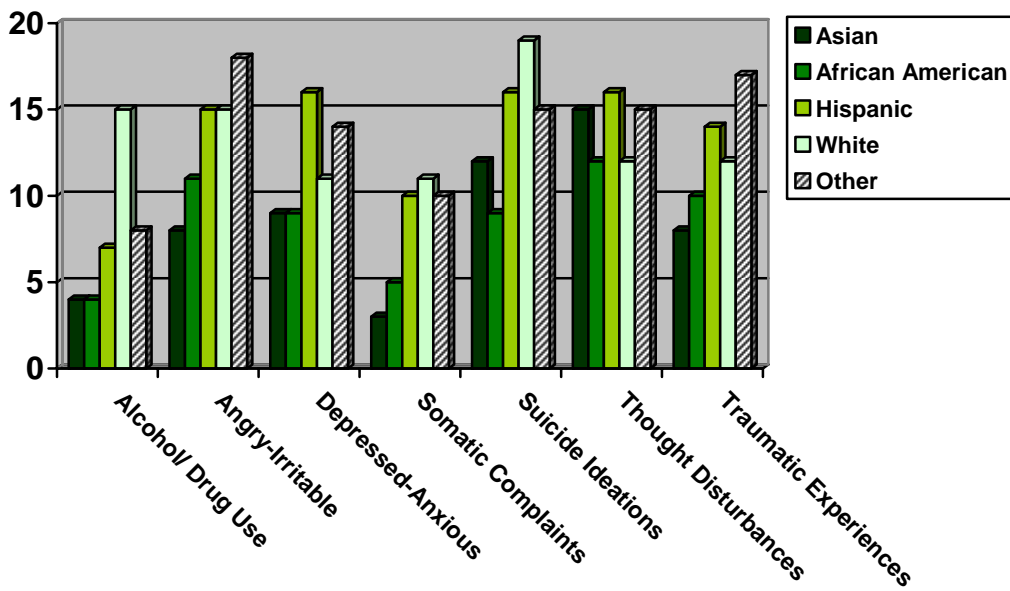
	% in Suicide Ideation Caution Range	% With 2 or More Warnings ¹	Total Requiring Follow Up
Asian	18	12	19
African American	14	14	20
Hispanic	23	23	31
White	26	23	32
Other	23	23	31

Note: ¹Thought Disturbance not included for girls; Traumatic Experiences not included at all.

Graph V.D.i. Percentage of Cases with Caution Scores by Race/Ethnicity



Graph V.D.ii. Percentage of Cases with Warning Scores by Race and Ethnicity



VI. Other Considerations

VI.A. Cases with No Symptoms

One issue of great interest to the JDCAP Mental Health Grant Advisory Board throughout the course of this project is the “face” of those who score at the extreme ends of the MAYSI~2 screen. Currently, only demographic trends of youth who do not endorse any of the items on the MAYSI~2 are able to be explored. It is hoped that through a greater “cross-walking” of data between the MAYSI~2 scores and the JDC software, with case management software designed specifically for detention centers, we will be able to study these youth in greater detail.

In order to explore the demographic trends of the 3% of cases that took the MAYSI~2 without endorsing any of its items, the data were selected for youths who received a total score of “0” on the screen. While it should be noted that the creators of the MAYSI~2 did not design the instrument to include a total score (and instead should focus on subscale scores), for research purposes it is meaningful to explore which cases did not endorse *any* of the items on the MAYSI~2 screen (thus, who receive a total score of “0” for the administration). The average age of these youth is 15.9 years, and they are predominately male (90%) and African American (61%). The majority (73%) were administered the MAYSI~2 between 24 – 48 hours after their arrival at the facility and 69% had been to a detention facility before. In sum, youths who scored a “0” on the MAYSI~2 were significantly different from the youths that reported mental health symptoms in terms of gender, age, race, time in the facility prior to taking the screen, and in repeat admissions to a detention facility.

Table VI.A.1. below has a complete description of the two groups (those who do not report any symptoms on the MAYSI~2 vs. those who do report symptoms).

Table VI.A.1. Cases Reporting No Symptoms on the MAYSI Compared to Cases Reporting a Score on the MAYSI on a Variety of Demographic Variables

	% No Symptoms	% Symptoms	Chi Square	<i>Explanation of Significant Findings</i>
Age of Youth at MAYSI	15.85 (1.58)	15.72 (1.51)	26.56 <i>p</i> < .01	Youth endorsing zero items are slightly (but significantly) older than other youth.
Sex of Youth				
<i>Male</i>	90	81	35.76 <i>p</i> < .001	Males are more likely to report no symptoms on the MAYSI~2
<i>Female</i>	10	19		
Race/Ethnicity of Youth				
<i>Asian</i>	1	1	110.10 <i>p</i> < .001	African Americans are more likely to report no symptoms on the MAYSI~2
<i>African American</i>	61	43		
<i>Hispanic</i>	11	11		
<i>White</i>	24	42		
<i>Other</i>	2	3		
Time in Facility Prior to MAYSI				
<i>Few Hours</i>	13	10	25.56 <i>p</i> < .001	Those who have been in the facility for one day or less are more likely to report no symptoms on the MAYSI~2
<i>1 Day</i>	53	46		
<i>2 Days</i>	20	25		
<i>> 2 Days</i>	14	18		
Has the Youth Been in the Facility Before				
<i>Yes</i>	69	55	53.67 <i>p</i> < .001	Those who have been in the facility before are more likely to report no symptoms on the MAYSI~2
<i>No</i>	31	45		

VI.B. Time of Administration Differences on the MAYSI~2

A primary concern when implementing the MAYSI~2 in Pennsylvania's juvenile detention centers was the time of its administration. Since youths' initial arrival at a facility is often associated with heightened emotions, there was concern that administration of the MAYSI~2 during this time may bias the results. Thus, a benchmark was established by MAYSI~2 researchers to encourage facilities to administer the screen within 24 to 48 hours after youths arrive at the facility. This allows for a "cool-down" period for the youths to adjust to the facility, but is also early enough in the youths' stay to be of value for interpreting their mental health needs. To determine if time of administration was a factor in reporting mental health symptoms on the MAYSI~2, youths length of stay prior to MAYSI~2 administration was recorded when completing the screen.

Analyses were then conducted to determine whether the time of administration influenced reporting on the MAYSI~2 scales. While over 70% of the youths were administered the MAYSI~2 within 24 to 48 hours of their arrival to the detention facility as determined by the established protocol, some youths were given the MAYSI~2 very early in their stay (10% within the first few hours) and some much later in their stay (17% after 48 hours). The timing of administration of the MAYSI~2 did exhibit a relation to reported mental health problems, but in a manner contradictory to the hypothesized pattern; youths who had been at the facility only a few hours were *less* likely to report mental health symptoms than youths who had been there longer.

Table VI.B.1 below outlines the differences both in MAYSI~2 total score (a sum of all items endorsed, used here for research purposes) and on the subscales. Table VI.B.2. below outlines the time of administration of the MAYSI~2 by reporting facilities.

It should be noted that there is great value in exploring the time of administration data further. For instance, it could be that the youths who are unwilling to take the MAYSI~2 during the 24 – 48 hour benchmark period, but who are willing to take it at a later time, are influencing the overall results. Selection biases (for example, with less troubled youths more likely to receive the screen within hours of arrival) cannot be ruled out without randomly assigning youths to preset administration times. Furthermore, without an independent measure of mental health needs, the most appropriate choice of timing cannot be identified. If the observed effect is not entirely due to selection biases, it may be that early administration results in underreporting of symptoms, or that later administration results in over-reporting.

Table VI.B.1. Differences in MAYSI Scores by Time in Facility Prior to Administration

	Few Hours (n=2,308) <i>M (S.D.)</i>	One Day (n=10,403) <i>M (S.D.)</i>	Two Days (n=5,575) <i>M (S.D.)</i>	> Two Days (n=3,837) <i>M (S.D.)</i>	<i>Welch or F-statistic</i>
<i>Total MAYSI Score</i>	13.88 (9.64)	14.06 (9.56)	14.77 (9.64)	15.11 (9.56)	33.78***
<i>Alcohol/Drug Use</i>	2.20 (2.46)	2.35 (2.46)	2.61 (2.58)	2.70 (2.58)	5.88***
<i>Angry/Irritable</i>	3.73 (2.82)	3.85 (2.81)	3.97 (2.77)	3.96 (2.77)	4.55**
<i>Depressed-Anxious</i>	2.26 (2.24)	2.23 (2.22)	2.30 (2.24)	2.38 (2.23)	6.95***
<i>Somatic Complaints</i>	2.47 (1.91)	2.43 (1.89)	2.54 (1.93)	2.57 (1.87)	4.70**
<i>Suicide Ideation</i>	.81 (1.46)	.76 (1.44)	.82 (1.48)	.86 (1.51)	1.31 (ns)
<i>Thought Disturbance¹</i>	.56 (.92)	.56 (.91)	.58 (.91)	.59 (.96)	8.40***
<i>Traumatic Experience</i>	1.72 (1.33)	1.68 (1.34)	1.72 (1.37)	1.81 (1.36)	33.78***

Notes: ¹Thought Disturbance is calculated for boys only. ** $p < .01$; *** $p < .001$; ns=not significant

Explanation of Results

Youths who take the MAYSI~2 later in their stay (48 hours or more) report more symptoms than those who take it earlier, except on the Thought Disturbance scale, where differences between these groups are not significant

Table VI.B.2. Percent Time in Facility Prior to Administration of MAYSI by Facility

Time in Facility Prior to Administration of MAYSI

Facility	N	Few Hours	One Day	Two Days	More than Two Days	
Allegheny	4876	1.5%	79.6%	14.2%	4.6%	
Beaver	411	7.3%	33.6%	17.0%	42.1%	
Berks	1300	9.0%	25.5%	32.8%	32.7%	
Blair	224	75.9%	18.8%	3.6%	1.8%	
Bucks	1823	5.5%	38.0%	37.6%	18.9%	
Chester	444	22.5%	49.8%	26.4%	1.4%	
	22	569	2.1%	12.1%	33.9%	51.8%
Delaware	888	0.1%	5.4%	65.2%	29.3%	
Erie	796	0.5%	53.8%	20.4%	25.4%	
Lancaster	1474	1.9%	61.6%	30.8%	5.7%	
Luzerne	405	0.0%	29.1%	57.0%	13.8%	
Montgomery	988	9.0%	32.7%	37.6%	20.7%	
Northampton	299	2.0%	14.4%	12.4%	71.2%	
Philadelphia	4206	29.5%	52.2%	10.2%	8.1%	
Tioga	458	37.6%	40.6%	12.2%	9.6%	
Westmoreland	741	3.9%	35.9%	25.1%	35.1%	
York	727	0.0%	28.5%	32.7%	38.8%	
Cornell Abraxas	600	24.3%	27.5%	14.3%	33.8%	
Northwestern	1006	0.0%	19.7%	58.2%	22.2%	
	70	281	0.0%	11.4%	25.3%	63.3%
Total	22516	10.3%	46.6%	25.2%	17.9%	

Note: Because of rounding, rows may not add to 100%.

VI.C. Repeat Administrations of the MAYSI~2

The MAYSI~2 contains a variable that allows for analyses based upon whether a particular case has been to detention prior to their current stay. Using that variable, the data indicate that repeat offenders (56% of the sample) score higher (altogether) on the MAYSI~2 than do first-time offenders. Repeat offenders are more likely than first time offenders to score in the warning range and, to a lesser degree, in the caution range on the Angry/Irritable subscale. They also score higher than first-time offenders on the Alcohol / Drug Use subscale and are more likely than the first time offenders to score on the clinically significant and warning ranges on this subscale. However, first-time offenders score significantly higher on the Somatic Complaints subscale and are more likely to score above the caution and warning cutoffs for this subscale than repeat offenders. First time offenders also score in the caution range for Thought disturbance more frequently than repeat offenders. More research is needed in order to understand the reasons behind these differences.

Table VI.C.1 below outlines the differences between first-time and repeat offenders on the MAYSI~2. Table VI.C.2. below shows demographic differences between the two groups.

Table VI.C.1. Differences in First Time versus Repeat Offenders on MAYSI and Cut-off Scores

Subscale	Means (Standard Deviations)			% Caution			% Warning		
	1st Time	Repeat Offender	Difference <i>t-value</i>	1st Time	Repeat Offender	Difference <i>Chi Square</i>	1st Time	Repeat Offender	Difference <i>Chi Square</i>
Alcohol / Drug Use	2.23 (2.43)	2.64 (2.57)	-12.16***	30	36	86.05***	7	10	78.95***
Angry-Irritable	3.86 (2.70)	3.91 (2.86)	-1.44 ns	41	43	5.78*	12	14	39.52***
Depressed-Anxious	2.26 (2.18)	2.29 (2.27)	-1.11 ns	37	38	.68 ns	10	11	9.26**
Somatic Complaints	2.55 (1.83)	2.44 (1.96)	4.52***	48	45	19.63***	7	9	21.60***
Suicide Ideation	0.80 (1.44)	0.80 (1.48)	-0.27 ns	20	20	.041 ns	14	14	1.40 ns
Thought Disturbance (Boys Only)	0.58 (0.91)	0.56 (0.94)	1.68 ns	39	36	16.25***	10	10	1.37 ns
Traumatic Experiences	1.72 (1.32)	1.72 (1.38)	-0.38 ns	27	28	3.96*	11	12	15.69***
MAYSI Total	14.04 (8.96)	14.40 (9.95)	-2.84**						

Note: * p < .05, ** p < .01, *** p < .001, ns = not significant

Table VI.C.2. First Time Offenders Compared to Repeat Offenders by age on the MAYSI and a Variety of Demographic Variables

	First Time Offenders % (n=10,009) <i>M</i> = 15.46 years (1.56)				Repeat Offenders % (n=12,506) <i>M</i> = 15.93 years (1.44)				Explanation of Significant Results
Age of Youth at MAYSI Administration	10-13	14-15	16-17	18+	10-13	14-15	16-17	18+	First time offenders are younger than repeat offenders. <i>Chi Sq</i> = 525.68. <i>p</i> < .001; <i>t</i> = 23.37 <i>p</i> < .001
	12%	35%	48%	5%	6%	29%	56%	10%	
Sex of Youth									Repeat offenders are significantly more likely to be male. <i>Chi Sq</i> = 47.79. <i>p</i> < .001
<i>Male</i>	80%				83%				
<i>Female</i>	20%				17%				
Race/Ethnicity of Youth									Repeat offenders are significantly more likely to be African American and less likely to be white. <i>Chi Sq</i> = 412.58. <i>p</i> < .001
<i>Asian</i>	1%				1%				
<i>African American</i>	37%				49%				
<i>Hispanic</i>	11%				11%				
<i>White</i>	49%				36%				
<i>Other</i>	3%				3%				

VII. Conclusions

VII.A. Summary

According to the National Mental Health Association (NMHA, 2004), each year over one million children come into contact in some way with the juvenile justice system. On any given day, over 100,000 of these youth are detained in a juvenile facility.

Studies consistently have found the rate of mental disorders to be higher among the juvenile justice population than among youths in the general population. In fact, federal studies suggest that as many as 60-75 percent of incarcerated youth have a mental health disorder and 20 percent have a severe disorder. As many as half of juvenile justice detainees have substance abuse problems. (Cocozza, 1992)

As the number of studies documenting the high prevalence of mental health problems among juvenile offenders has grown, researchers and practitioners have recognized the need for systematic, reliable, and efficient methods of determining such needs in large numbers of offenders. The MAYSI-2 is one of the first screens specifically developed for this population in order to provide a rapid snapshot of important dimensions of mental health in large numbers of youths who enter detention.

The aggregate MAYSI-2 statistics for all incoming detention center admissions (see Appendix E) highlight the heterogeneity of mental health symptoms among juvenile offenders at Pennsylvania detention centers. A large percentage (69% of males and 82% of females) of admissions present with some type of mental health problem that may require further clinical evaluation. These mental health problems are most likely to be seen among girls (regardless of race) and least likely to be seen among African American youths. In addition, the time of administration is important to consider, because youths who take the screen within the first few hours of arrival report fewer symptoms than those who take the screen later. While older youths are more likely to present with alcohol/drug use problems and traumatic experiences, younger youths are more likely to present with angry/irritable symptoms as well as depressed/anxious moods. This age difference is consistent with anecdotal evidence provided by detention center staff members, who report that younger youths are more emotionally volatile and more difficult to manage. Finally, it appears that when youths repeat the screen upon subsequent visits to detention ("repeat administrations"), their scores generally remain stable, with variations on the order of 2 or 3 points on most scales. Of course, rescreening is still necessary as some youth do vary in their scores from screening to screening.

The observed gender differences on the Depressed-Anxious, Somatic Complaints, and Suicide Ideation scales are not surprising, since previous research among adolescent girls has shown that girls are more likely than boys to suffer from internalizing disorders. Especially noteworthy are the observed differences between males and females on the Alcohol/Drug Use and Angry-Irritable scales. While previous research has shown that boys generally exhibit externalizing problems more frequently than girls, this study appears to corroborate recent evidence that detained girls are not only more likely than detained boys to internalize their problems, but they are also more likely to externalize (Espelage et al., 2003).

The observed relation between the time of the screen, relative to arrival at a facility, and the scores obtained on the various subscales suggests that additional exploration of this effect is needed. As stated above, selection biases (for example, with less troubled youths more likely to receive the screen within hours of arrival) cannot be ruled out without randomly assigning youths to preset administration times. Furthermore, without an independent measure of mental health needs, the most appropriate choice of timing cannot be identified. If the

observed effect is not entirely due to selection biases, it may be that early administration results in underreporting of symptoms, or that later administration results in overreporting. Additional research is needed to understand the mechanism behind the observed relation between the timing of screen administration and reported symptomatology.

JDCAP's study findings have important implications for treatment and services, as well as for our understanding of gender and ethnic differences in the prevalence of mental health problems among juvenile delinquent populations. Previous research has demonstrated that white youths are more likely to receive treatment than African American youths, controlling for need. This may be due, in part, to the lack of a reliable mechanism for identifying those in need of services, to the perceptions of juvenile justice personnel regarding appropriate responses to different types of mental illness, or to resource limitations that result in treatment of only the most disruptive admissions. The implementation of the MAYSI-2 is a first step in reducing bias in referral and providing a more systematic allocation of limited assessment, services and treatment resources.

Given the high prevalence of mental health problems among juvenile offenders, effective rehabilitation requires that (1) such problems be accurately diagnosed (through initial screening and subsequent clinical assessment, when indicated); (2) those in need of treatment receive it; and (3) the treatment services provided be appropriate for the developmental and ethnic context in which they are received. The accurate identification of youths in need of mental health services is not, by itself, sufficient to improve the effectiveness of rehabilitation efforts. Once mental health problems are identified, treatment programs and interventions must be tailored either to address these problems specifically or to take them into account when addressing other (e.g., behavioral or interpersonal) problems. This type of information will not only allow for an evaluation of how well services are matched with the needs of juvenile offenders, but will also serve as a starting point for more detailed analyses of the effectiveness of different services among delinquent populations with diverse mental health conditions.

VIII. Project Successes

Over the past six years, the project has experienced many successes some of which are highlighted below.

- The number of detained youth in Pennsylvania experiencing mental health distress and associated symptoms can be quantified
- The project has afforded Pennsylvania detention centers a standardized means of identifying, triaging, and managing youth with mental health needs. The project also served as a catalyst for centers to develop policies and procedures to respond to youth mental health needs.
- Detention centers have successfully utilized their MAYSI-2 results to gain access to additional mental health resources.
- The information generated from the project has been used by additional child-serving agencies and systems for various projects and/or publications including the National Center for Juvenile Justice, Youth Law Center, Office of Children, Youth and Families Drug and Alcohol Workgroup, Pennsylvania Commission on Crime and Delinquency, SAMHSA Co-Occurring State Incentive Grant, Greater Philadelphia Settlements, and County Commissioners Association of Pennsylvania Human Services Committee.
- The project collaborated with Dr. Grisso, co-developer of the MAYSI-2, on a study of the screen. The John D. and Catherine T. MacArthur Foundation asked Dr. Grisso to perform a study to document how the MAYSI-2 is used in juvenile justice facilities and with what consequences. The MacArthur Foundation specifically asked NYSAP to explore Pennsylvania as one of three participating states, for at least two reasons: (a) Pennsylvania has been a pioneer in the implementation of the MAYSI-2, and (b) the Foundation selected Pennsylvania to receive enhanced Foundation assistance. The study was completed in late 2005.
- Pennsylvania detention centers contributed data to the MAYSI-2 National Norms Study, funded by the William T. Grant Foundation. This contribution will allow Pennsylvania the ability to compare our youth to norms based on a national sample. The study examined over 70,000 juveniles from 286 facilities in 19 states. Pennsylvania was one of the largest contributors making up about 20% of the study sample.
- Successful implementation of the MAYSI-2 within Pennsylvania detention centers resulted in the Pennsylvania Department of Public Welfare committing \$1.2 million to fund four counties (Allegheny, Bucks, Chester, and Erie Counties) to participate in a screening and assessment demonstration project. The project focused upon providing full mental health and/or drug and alcohol assessments or evaluations to youth with elevated MAYSI-2 results and ensuring that these youth receive appropriate services and treatment in a timely manner.

VIII.A. Improving Services for Mentally Ill Juvenile Offenders: A Review of the Research

As an offshoot of the Advisory Board's goals and MAYSI~2 project, a collaboration was set up between JDCAP and Dr. Elizabeth Cauffman. Dr. Cauffman's research to date has centered on incarcerated / detained youths—their developmental processes and the specific needs of the population. Dr. Cauffman has worked with Shuman Juvenile Detention Center (Shuman) in Allegheny County to complete a research project that used youths MAYSI~2 scores (separated into “high”, “mid”, and “lower” scoring youths as determined by the average subscale scores for the larger JDCAP sample), as a jumping off point to assessing diagnosable mental health issues. To this point in the MAYSI~2's development, it has been used as a screening tool only—and facility staff were cautioned against using the instrument for assessment / diagnosis. The goal of Dr. Cauffman's research was to determine if the subscale scores on the MAYSI~2 were related to DSM-IV diagnoses.

In order to address this question, Dr. Cauffman's research staff administered a diagnostic instrument, the Schedule for Affective Disorders, Youth Version, Present and Lifetime (K-SADS—PL, or “Kiddie SADS”), to 215 youths at Shuman. The K-SADS-PL is a semi-structured diagnostic interview designed to assess current and past episodes of psychopathology in children and adolescents according to DSM-IV criteria. Probes and objective criteria are provided to rate individual symptoms. The primary diagnoses assessed with the K-SADS-PL include:

- Affective disorders (including depressive disorders, mania, and bipolar disorders)
- Schizophrenia and related disorders
- Brief Reactive Psychosis
- Anxiety disorders
- Attention Deficit Hyperactivity Disorder
- Conduct Disorder
- Oppositional Defiant Disorder
- Enuresis
- Encopresis
- Eating disorders
- Tic disorders
- Alcohol and Substance Abuse and Dependence
- Post-Traumatic Stress Disorder (PTSD)

Youths who completed the K-SADS were diagnosed based upon their self-report responses during a face-to-face interview with a trained Master's degree research assistant. Their responses and diagnoses (or lack of diagnoses) were recorded, along with their MAYSI~2 scores received upon arrival at Shuman. Analyses were conducted to determine if scores on the MAYSI~2 were predictive of a youth's subsequent mental health diagnoses.

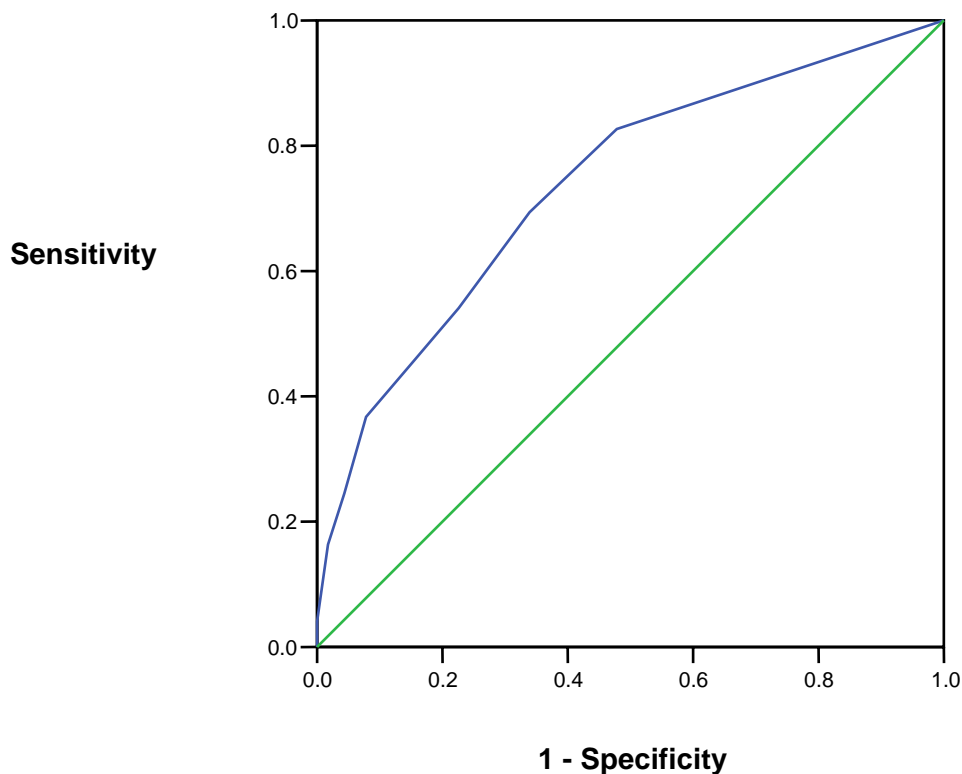
The specific analyses employed by Dr. Cauffman included Receiver Operating Curves, or ROC analyses, which are useful in analyzing results that are on a continuum (such as the MAYSI~2 subscale scores, which are rated along the continuum of 0—for all negative responses—to the amount of “yes” responses per subscale). ROC analyses produce a graph, a plot of true-positive responses (sensitivity) versus false-positive responses (1 –

sensitivity). The area under the curve of the graph then indicates the predictive rate of the test, in this case the K-SADS. Thus, the question asked in ROC analysis is: What percentage of those scoring high on the MAYSI~2 subscale received a corresponding diagnosis on the K-SADS? A diagonal line on the graph (from the bottom left-hand corner to the top right-hand corner) indicates a 50% predictive value, which is basically chance (50% chance of being right vs. 50% chance of being wrong by using the test). Often, the ROC analyses can offer a useful cut-off point for a test—specifically, whether there is a specific subscale score that, above which, indicates—*correctly*—possible impairment for a mental health diagnosis.

Here, the analyses are presented in an effort to determine whether there is any significant predictive value in the MAYSI~2 subscale scores for a corresponding mental health diagnosis. The focus is on the current diagnoses (that is, current mental health issues) from the K-SADS, since the MAYSI~2 asks questions framed “*in the last few weeks*” for most subscales (except Traumatic Events, which are asked for lifetime exposure).

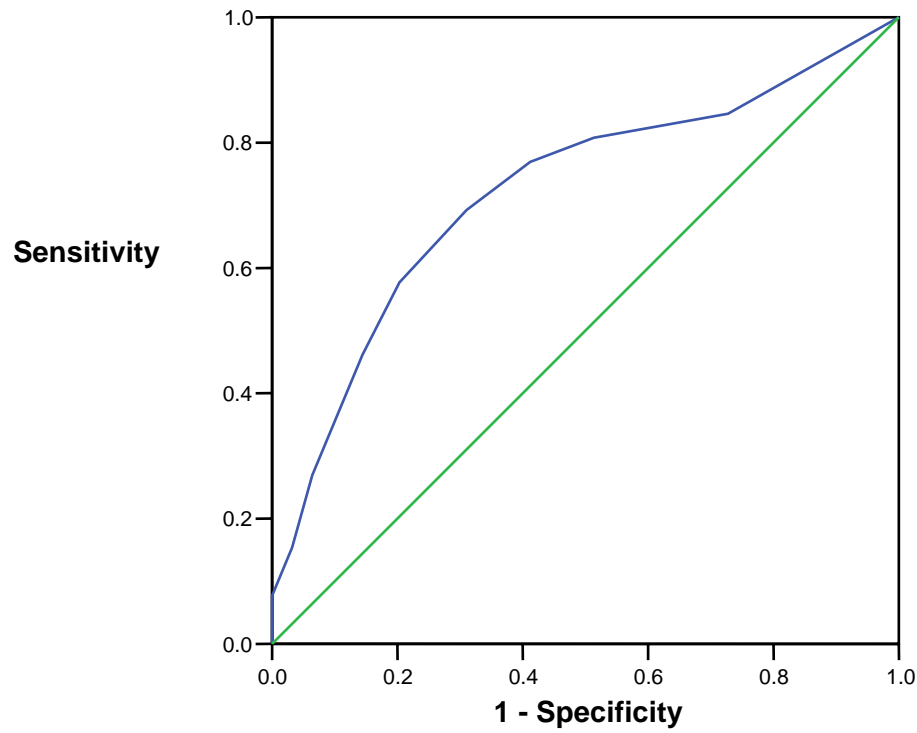
Initial analyses centered on the DSM-IV diagnosis of Substance Use Disorder and its link to the Substance Use Subscale. How indicative were higher scores on the MAYSI~2 alcohol and drug use scale related to a DSM IV substance use disorder? The area under the curve, or the predictive power, is 74%. This means that scores on the substance use subscale of the MAYSI~2 indicated impairment 74% of the time—in 74% of cases, the MAYSI~2 scores for the substance use subscale were in line with results from the K-SADS:

VIII.A.i: Substance Use Subscale and DSM-IV Substance Disorder



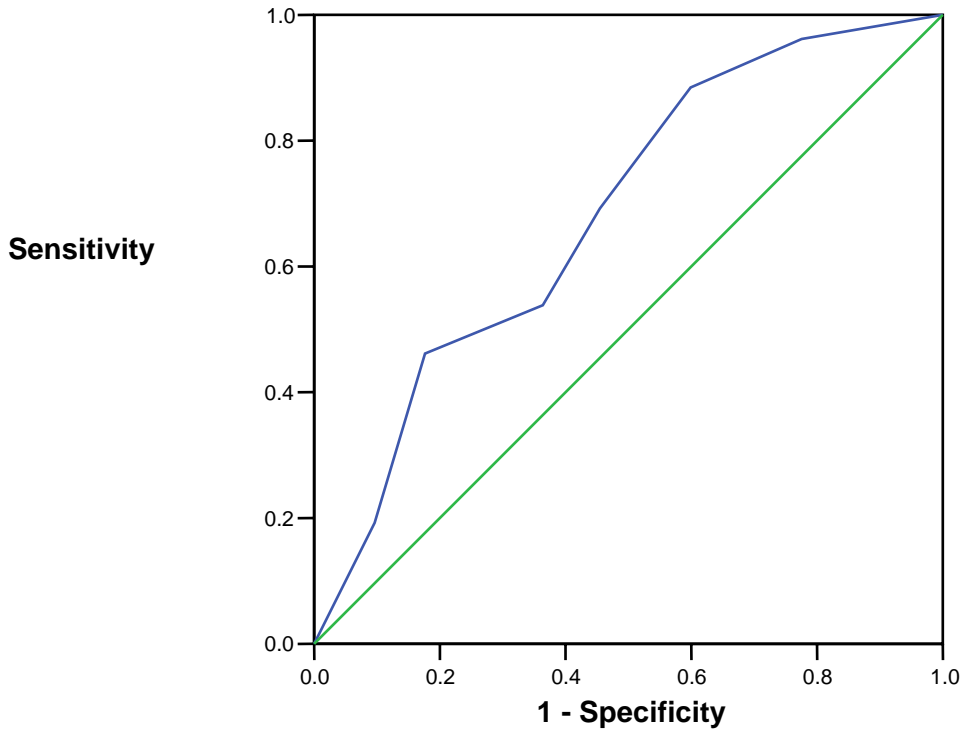
The Depressed-Anxious subscale was analyzed next. The scores for this subscale were examined in relation to any current affective (that is, mood) disorder on the K-SADS. For this test, the Depressed-Anxious subscale scores on the MAYSI-2 were in line with a mood disorder diagnosis on the K-SADS 72% of the time:

VIII.A.ii: Depressed-Anxious Subscale and DSM-IV Affective Disorder



Similarly, the Somatic Complaints subscale was predictive of K-SADS affective diagnosis 68% of the time:

VIII.A.iii: Somatic Complaints Subscale and DSM-IV Affective Disorder

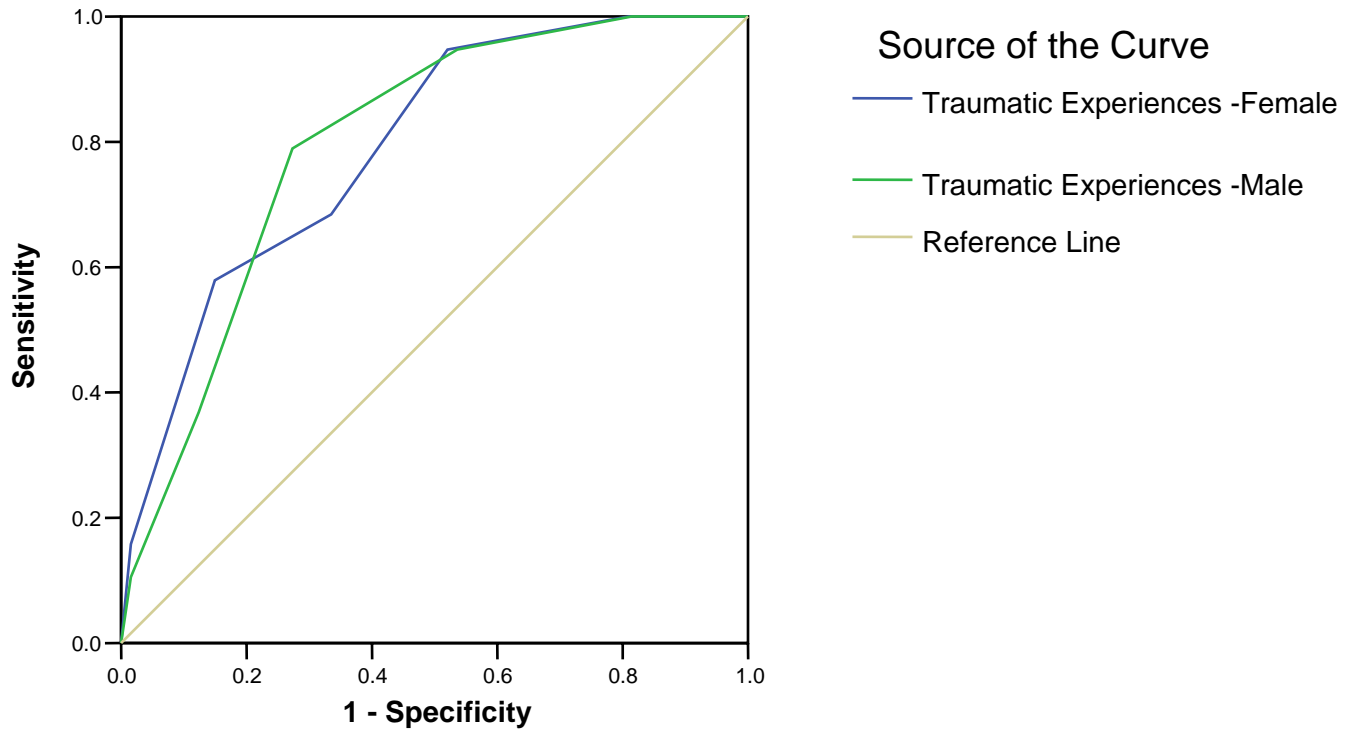


Next, the MAYSI-2 Suicide Ideation subscale was analyzed in conjunction with several K-SADS screening questions that centered on thoughts of self-harm:

- Suicide Ideation subscale scores were predictive of endorsement of the “Recurrent thoughts of death and dying” item on the K-SADS 83% of the time;
- Suicide Ideation subscale scores were predictive of endorsement of the “Suicidal thoughts” item on the K-SADS 88% of the time;
- Suicide Ideation subscale scores were predictive of endorsement of the “Suicidal acts” item on the K-SADS 90% of the time;
- Suicide Ideation subscale scores were predictive of endorsement of the “Serious suicide gestures” item on the K-SADS 78% of the time; and
- Suicide Ideation subscale scores were predictive of endorsement of the “Non-suicidal, self-damaging acts” item on the K-SADS 71% of the time.

Further, the Suicide Ideation subscale was predictive of K-SADS lifetime PTSD diagnosis 79% of the time for females, and 80% of the time for males:

VIII.A.iv: Suicide Ideation Subscale and DSM-IV Lifetime PTSD



The other subscales, Angry-Irritable and Thought Disturbance, did not evidence the same ties to K-SADS diagnoses.

The results of the ROC analyses presented above are interesting for several reasons. The first, and most practical from the MAYSI~2 administration perspective, is that the youths' self-reports on the MAYSI~2 screen appear to be fairly consistent with their self-reports on the more in-depth diagnostic instrument. Secondly, and more importantly, this research suggests that the MAYSI~2's value to facilities may be even greater than was originally suspected. If the subscale scores in the current analyses are predictive of a DSM-IV diagnosis on the K-SADS, further ROC analyses could help establish valid cut-off scores on the subscales that would allow facilities to identify potential cases of affective disorders, substance abuse, and PTSD. Research on these questions is still continuing.

VIII.B. Areas for Further Research

This report has outlined several areas for further research based on the MAYSI~2. To date, more research is indicated in the following general areas:

- Gender disparities in juvenile confinement and mental health
- Ethnic / Racial disparities in juvenile confinement and mental health
- Age and developmental disparities in mental health

Further, more in-depth research with regard to the MAYSI~2 is necessary in order to address:

- The appropriate (that is, research-based) time of administration for the MAYSI~2
- The “face” of youths who do not endorse any symptoms on the MAYSI~2, as well as those who endorse a majority of items
- The implications of repeat administrations on MAYSI~2 scores
- Facility-specific differences in mental health needs, based upon MAYSI~2 scoring trends per facility

IX. References

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X. Appendices

Appendix A Advisory Board

Purpose:

Provide the highest level of expertise regarding the mental health needs of youth within the juvenile justice system specifically detention.

Objectives:

- Provide guidance and direction to the project by working in concert with the Project Director and Project Manager.
- Oversee the various tasks to be undertaken by the project.
- Review and provide feedback concerning materials to be distributed as a result of the project.

Project Director

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Deputy Director
JDCAP

Project Manager

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Executive Director
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Training Director & MAYSI Site Coordinator
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Appendix B

Published Paper

Cauffman, E. (2004). A statewide screening of mental health symptoms among juvenile offenders in detention. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43(4), 430-439.

Appendix C
Supplemental Gender Tables and Graphs

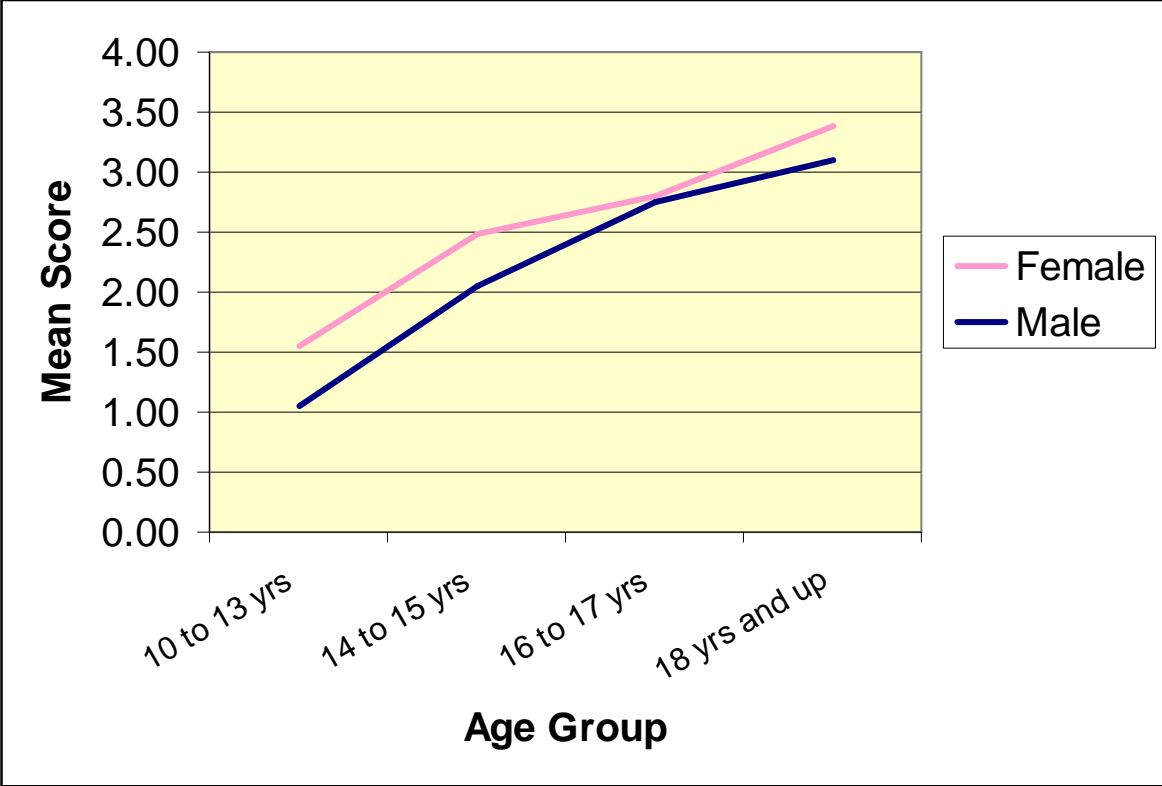
Table X.C.1 Means (SD) of MAYSI Subscales for Cases - Gender by Age

	Males				Females				Explanation of Significant Results
	10-13 year olds	14 and 15 year olds	16 and 17 year olds	18 years old and over	10-13 year olds	14 and 15 year olds	16 and 17 year olds	18 years old and over	
Alcohol/Drug Use	1.06 (1.90)	2.05 (2.34)	2.74 (2.53)	3.10 (2.58)	1.55 (2.24)	2.49 (2.60)	2.80 (2.66)	3.39 (2.74)	In the 2 younger age groups, females endorse more Alcohol/Drug Use items, but there is not difference between the sexes in the 2 older age groups on this subscale.
Angry-Irritability	4.10 (2.72)	3.84 (2.73)	3.61 (2.77)	3.25 (2.77)	5.15 (2.72)	5.01 (2.72)	4.53 (2.78)	4.20 (2.98)	In every age group, females report significantly higher levels than males of anger/irritability.
Depressed-Anxious	2.31 (2.19)	2.04 (2.08)	2.05 (2.11)	2.07 (2.18)	3.39 (2.49)	3.21 (2.47)	3.13 (2.47)	3.06 (2.57)	In every age group, females report significantly higher levels than males of anxiety/depression. For girls only, scores on Depressed-Anxious do not differ by age group. [F=1.43, ns]
Somatic Complaints	2.40 (1.86)	2.29 (1.80)	2.34 (1.87)	2.35 (1.90)	3.09 (1.91)	3.06 (1.93)	3.26 (2.02)	3.19 (1.91)	In every age group, females endorse significantly more Somatic Complaints items than do males.
Suicide Ideation	.68 (1.34)	.67 (1.35)	.70 (1.38)	.69 (1.35)	1.48 (1.80)	1.34 (1.79)	1.23 (1.72)	1.36 (1.76)	In every age groups, females endorse significantly more items on the suicide ideations subscale than males.
Thought Disturbance (Boys Only)	.74 (1.09)	.58 (.92)	.55 (.90)	.50 (.89)					
Traumatic Experiences	1.49 (1.22)	1.56 (1.24)	1.65 (1.26)	1.66 (1.28)	1.87 (1.62)	2.13 (1.62)	2.30 (1.66)	2.40 (1.69)	In every age group, girls report significantly more traumatic experiences than do males.

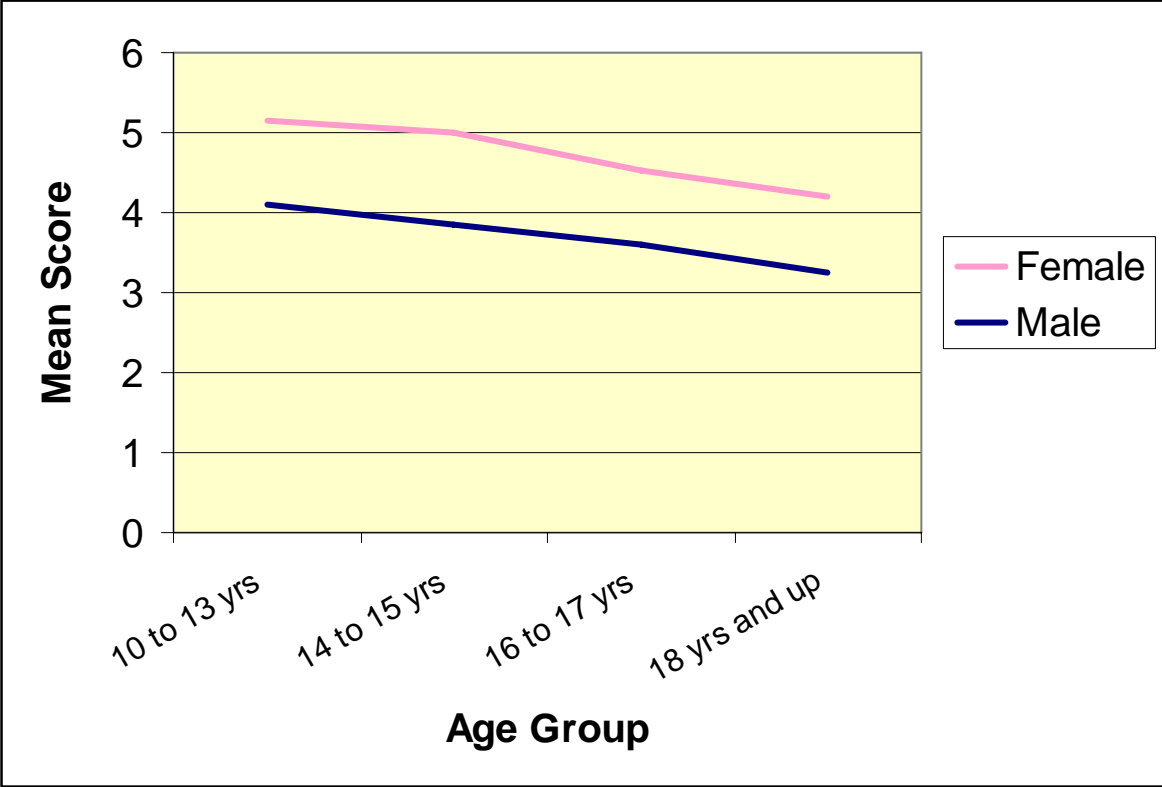
Statistics for Table X.C.1 Comparing Boys' and Girls' Means by Age Group

Subscale	10-13 year olds			14 and 15 year olds			16 and 17 year olds			18 years old and over		
	t	p-value	mean difference	t	p-value	mean difference	t	p-value	mean difference	t	p-value	mean difference
Alcohol/Drug Use	-4.12	.000	-0.50	-5.98	.000	-0.44	-0.79	.431	-0.05	-1.50	.134	-0.29
Angry-Irritable	-6.94	.000	-1.05	-14.87	.000	-1.16	-13.42	.000	-0.92	-4.55	.000	-0.95
Depressed-Anxious	-7.94	.000	-1.08	-17.00	.000	-1.17	-18.17	.000	-1.08	-5.53	.000	-0.98
Somatic Complaints	-6.57	.000	-0.68	-14.11	.000	-0.77	-18.63	.000	-0.92	-6.30	.000	-0.85
Suicide Ideation	-8.36	.000	-0.80	-13.71	.000	-0.67	-13.07	.000	-0.54	-5.53	.000	-0.67
Traumatic Experiences	-4.49	.000	-0.39	-12.90	.000	-0.57	-16.69	.000	-0.66	-6.37	.000	-0.74

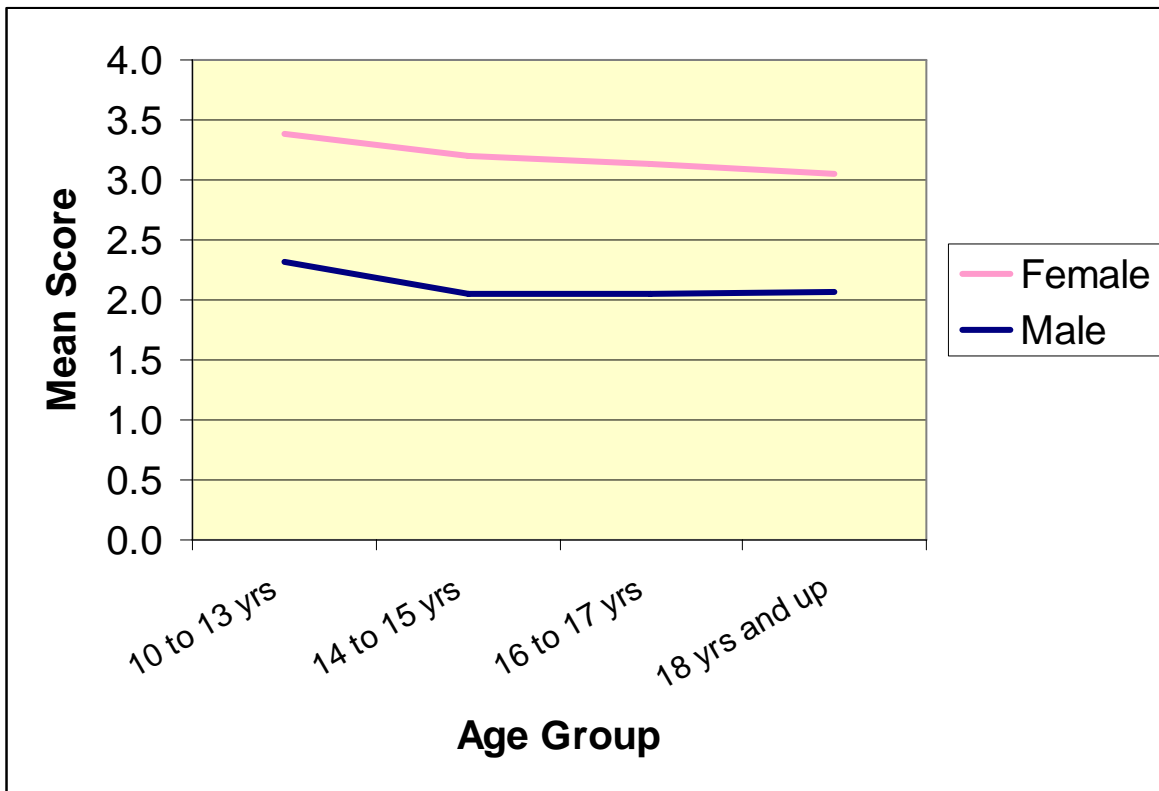
Graph X.C.i. Gender by Age on Alcohol/Drug Use



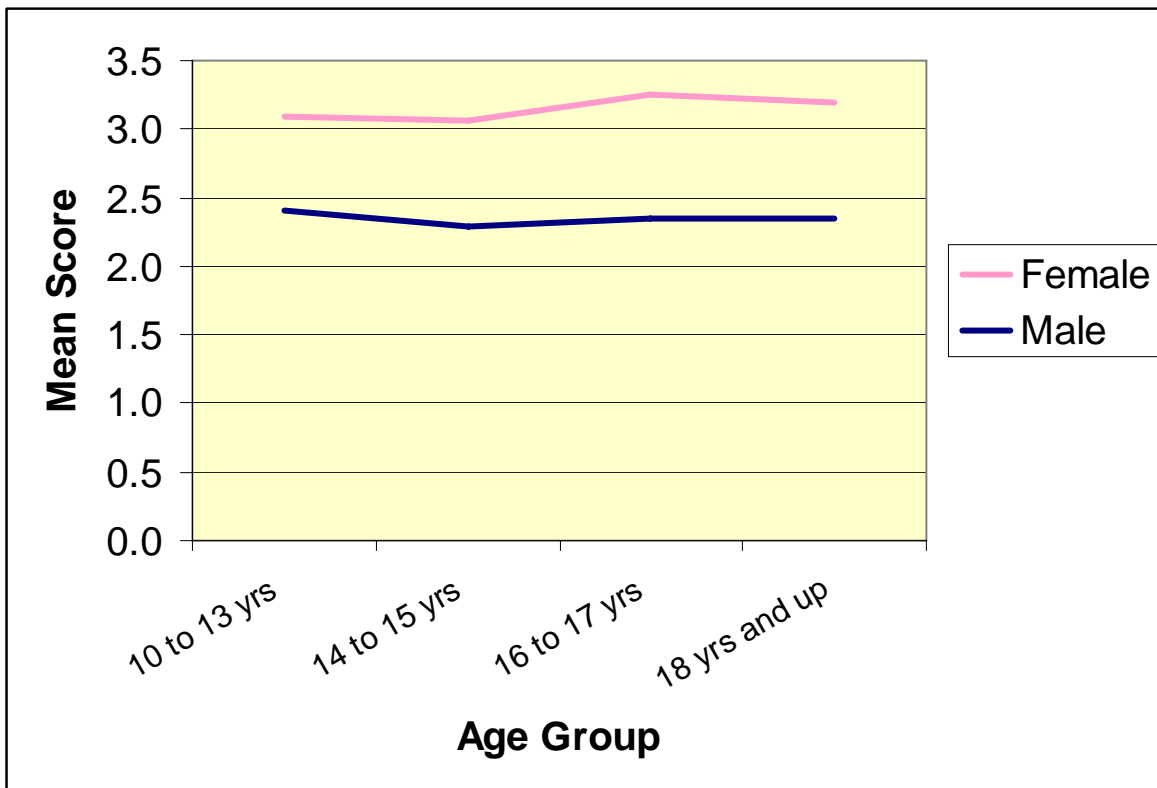
Graph X.C.ii. Gender by Age on Angry-Irritable



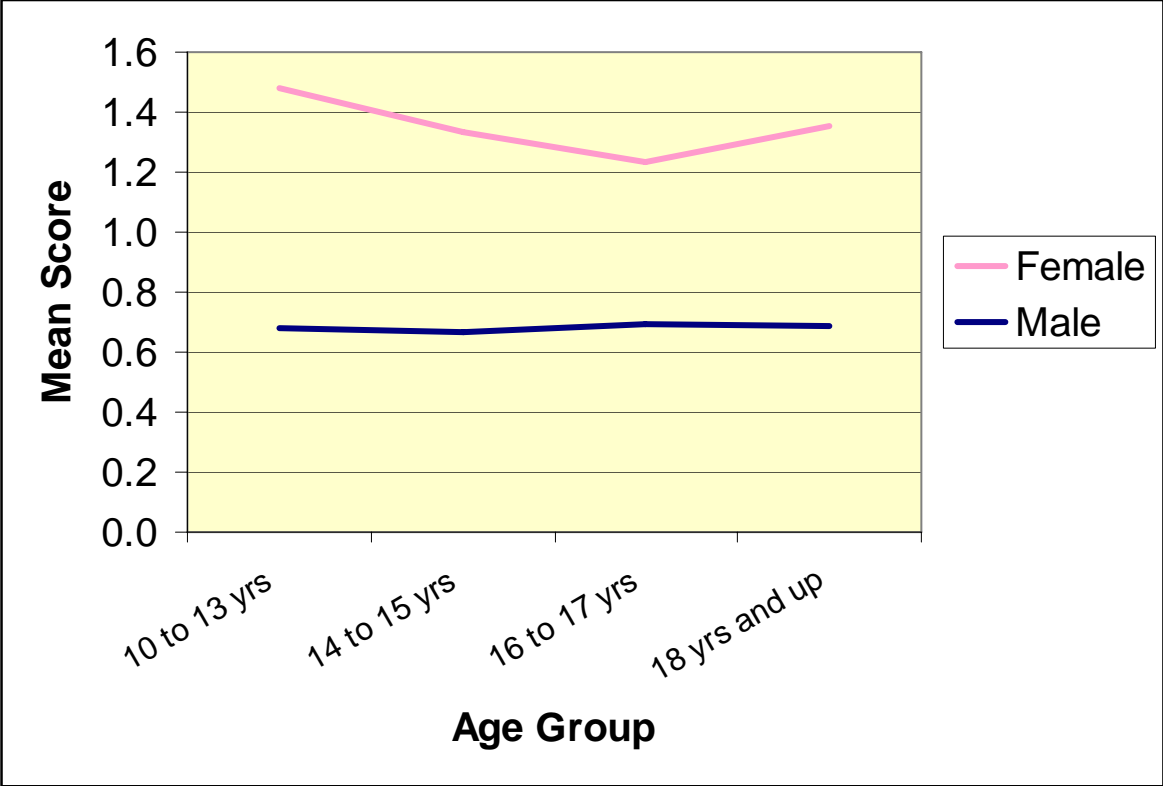
Graph X.C.iii. Gender by Age on Depressed-Anxious



Graph X.C.iv. Gender by Age on Somatic Complaints



Graph X.C.v. Gender by Age on Suicide Ideation



Graph X.C.vi. Gender by Age on Traumatic Experiences

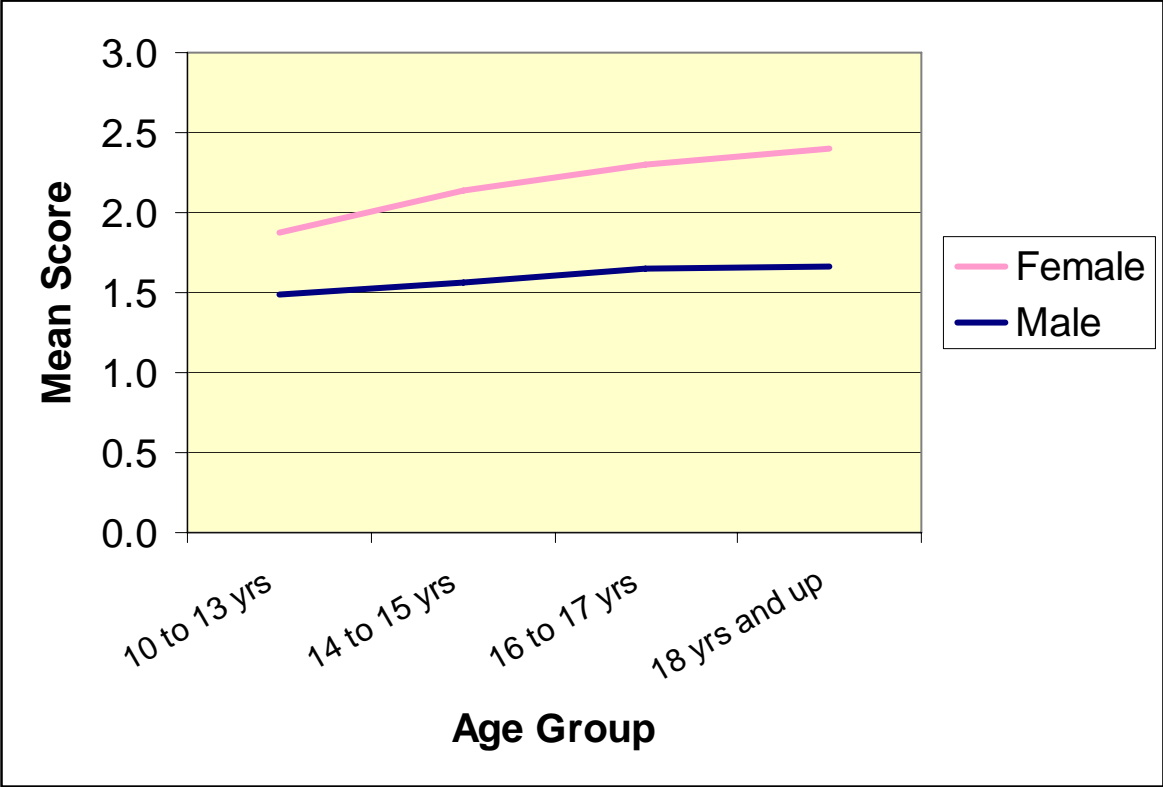


Table X.C.2. Results of MAYSI Subscales for Cases Gender by Race/Ethnicity

Subscale	Male				Female			
	African American	Asian	Hispanic	White	African American	Asian	Hispanic	White
Alcohol/Drug Use	1.78 (2.15)	1.77 (2.36)	2.25 (2.36)	3.22 (2.65)	1.69 (2.24)	1.71 (2.13)	2.52 (2.54)	3.37 (2.72)
Angry-Irritable	3.42 (2.71)	2.99 (2.83)	3.80 (2.82)	3.94 (2.76)	4.52 (2.78)	3.07 (2.67)	5.24 (2.71)	4.82 (2.77)
Depressed-Anxious	1.92 (2.01)	2.06 (2.26)	2.56 (2.28)	2.09 (2.16)	3.07 (2.42)	2.07 (2.02)	4.18 (2.58)	3.07 (2.47)
Somatic Complaints	2.02 (1.74)	2.24 (1.75)	2.48 (1.89)	2.62 (1.90)	2.66 (1.91)	2.43 (1.91)	3.50 (1.98)	3.50 (1.92)
Suicide Ideation	0.48 (1.14)	0.72 (1.43)	0.79 (1.39)	0.88 (1.54)	1.04 (1.61)	0.71 (1.49)	1.62 (1.83)	1.46 (1.83)
Thought Disturbance (Boys Only)	0.54 (0.90)	0.53 (0.97)	0.66 (1.01)	0.57 (0.92)				
Traumatic Experiences	1.59 (1.25)	1.52 (1.27)	1.70 (1.30)	1.59 (1.23)	1.92 (1.60)	2.07 (1.73)	2.56 (1.70)	2.33 (1.64)

Table X.C.2. Results of MAYSI Subscales for Cases Gender by Race/Ethnicity

Subscale	Males				Females			
	African American (N=8,296)	Asian (N=124)	Hispanic (N=2,049)	White (N=7,384)	African American (N=1,592)	Asian (N=14)	Hispanic (N=381)	White (N=2,001)
Alcohol/Drug Use	1.78 (2.15)	1.77 (2.36)	2.25 (2.36)	3.22 (2.65)	1.69 (2.24)	1.71 (2.13)	2.52 (2.54)	3.37 (2.72)
Angry-Irritable	3.42 (2.71)	2.99 (2.83)	3.80 (2.82)	3.94 (2.76)	4.52 (2.78)	3.07 (2.67)	5.24 (2.71)	4.82 (2.77)
Depressed-Anxious	1.92 (2.01)	2.06 (2.26)	2.56 (2.28)	2.09 (2.16)	3.07 (2.42)	2.07 (2.02)	4.18 (2.58)	3.07 (2.47)
Somatic Complaints	2.02 (1.74)	2.24 (1.75)	2.48 (1.89)	2.62 (1.90)	2.66 (1.91)	2.43 (1.91)	3.50 (1.98)	3.50 (1.92)
Suicide Ideation	0.48 (1.14)	0.72 (1.43)	0.79 (1.39)	0.88 (1.54)	1.04 (1.61)	0.71 (1.49)	1.62 (1.83)	1.46 (1.83)
Thought Disturbance (Boys Only)	0.54 (0.90)	0.53 (0.97)	0.66 (1.01)	0.57 (0.92)				
Traumatic Experiences	1.59 (1.25)	1.52 (1.27)	1.70 (1.30)	1.59 (1.23)	1.92 (1.60)	2.07 (1.73)	2.56 (1.70)	2.33 (1.64)

Statistics for Table X.C.2 – Comparison of Boys’ and Girls’ Means for Each Ethnic Group

Subscale	Race/ Ethnicity	t	p-value	Mean Differ- ence	Explanation
Alcohol/Drug Use	Asian	0.08	.937	0.05	Among white and Hispanic youth, girls report more Alcohol/Drug Use on average than do boys. There is no gender difference on this subscale for Asian and African American youth.
	Afr. Amer.	1.55	.122	0.09	
	Hispanic	-1.92	.055	-0.27	
	White	-2.29	.022	-0.16	
Angry- Irritable	Asian	-0.10	.920	-0.08	Among African American, Hispanic and white youth, girls endorse more items on the Angry-Irritable subscale than do boys. Among Asians, there is no significant gender difference.
	Afr. Amer.	-14.78	.000	-1.10	
	Hispanic	-9.43	.000	-1.43	
	White	-12.68	.000	-0.88	
Depressed/ Anxious	Asian	-0.02	.981	-0.01	Among African American, Hispanic and white youth, girls endorse more items on the Depressed-Anxious subscale than do boys. Among Asians, there is no significant gender difference.
	Afr. Amer.	-17.83	.000	-1.15	
	Hispanic	-11.46	.000	-1.62	
	White	-16.15	.000	-0.98	
Somatic Complaints	Asian	-0.37	.709	-0.19	Among African American, Hispanic and white youth, girls endorse more items on the Somatic Complaints subscale than do boys. Among Asians, there is no significant gender difference.
	Afr. Amer.	-12.32	.000	-0.64	
	Hispanic	-9.30	.000	-1.02	
	White	-18.26	.000	-0.88	
Suicide Ideation	Asian	0.01	.993	0.00	Among African American, Hispanic and white youth, girls endorse more items on the Suicide Ideation subscale than do boys. Among Asians, there is no gender difference.
	Afr. Amer.	-13.18	.000	-0.56	
	Hispanic	-8.41	.000	-0.83	
	White	-12.90	.000	-0.58	
Traumatic Experiences	Asian	-1.15	.269	-0.55	Among African American, Hispanic and white youth, girls endorse more items on the Traumatic Experiences subscale than do boys. Among Asians, there is no significant gender difference.
	Afr. Amer.	-7.71	.000	-0.33	
	Hispanic	-9.32	.000	-0.85	
	White	-18.74	.000	-0.74	

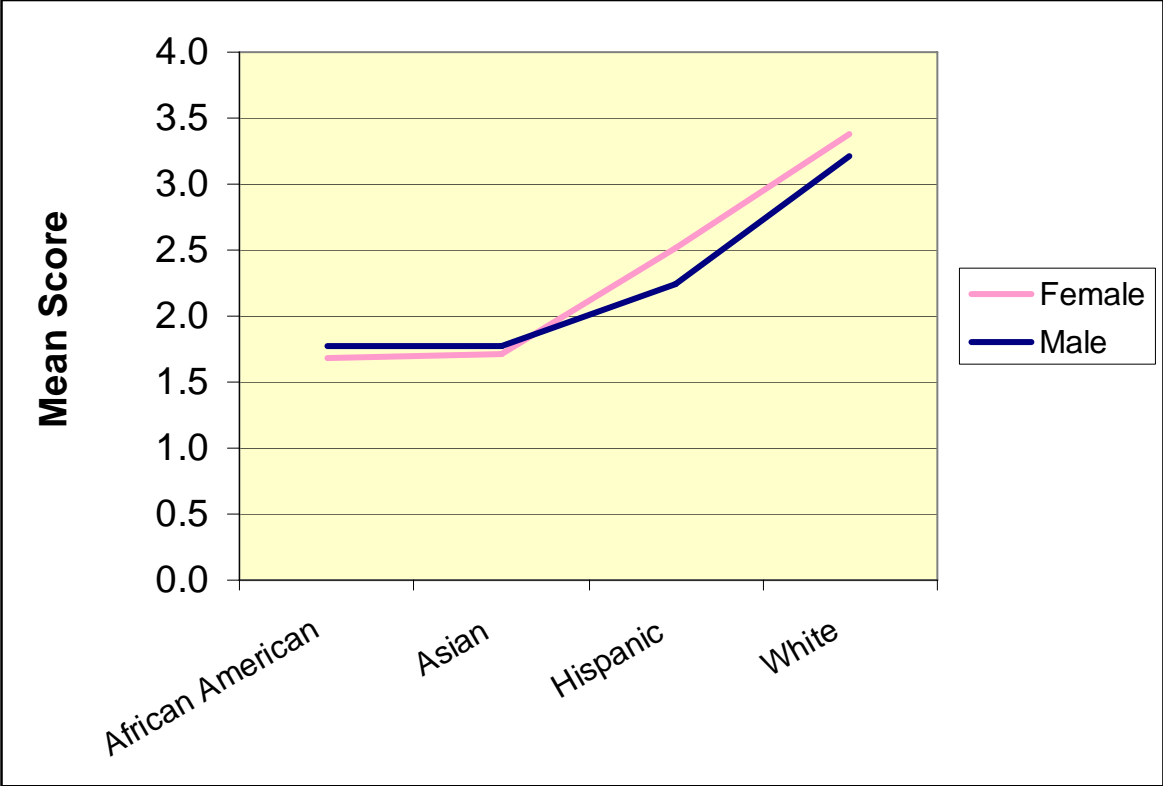
Statistics for Table X.C.2 – Comparison of Ethnic Group Means by Gender

Sex	Subscale	Statistic	df1	df2	p-value
Males	Alcohol/Drug Use	Welch = 459.96	3	589.13	.000
	Angry-Irritable	Welch = 49.90	3	588.74	.000
	Depressed-Anxious	Welch = 46.79	3	587.49	.000
	Somatic Complaints	Welch = 144.37	3	589.60	.000
	Suicide Ideation	Welch = 121.38	3	586.83	.000
	Thought Disturbance	Welch = 8.65	3	587.74	.000
	Traumatic Experiences	Welch = 4.75	3	588.95	.003
Females	Alcohol/Drug Use	Welch = 136.61	3	63.53	.000
	Angry-Irritable	F = 9.60	3	3984.00	.000
	Depressed-Anxious	F = 24.26	3	3984.00	.000
	Somatic Complaints	F = 60.90	3	3984.00	.000
	Suicide Ideation	Welch = 22.64	3	63.51	.000
	Traumatic Experiences	Welch = 25.50	3	63.31	.000

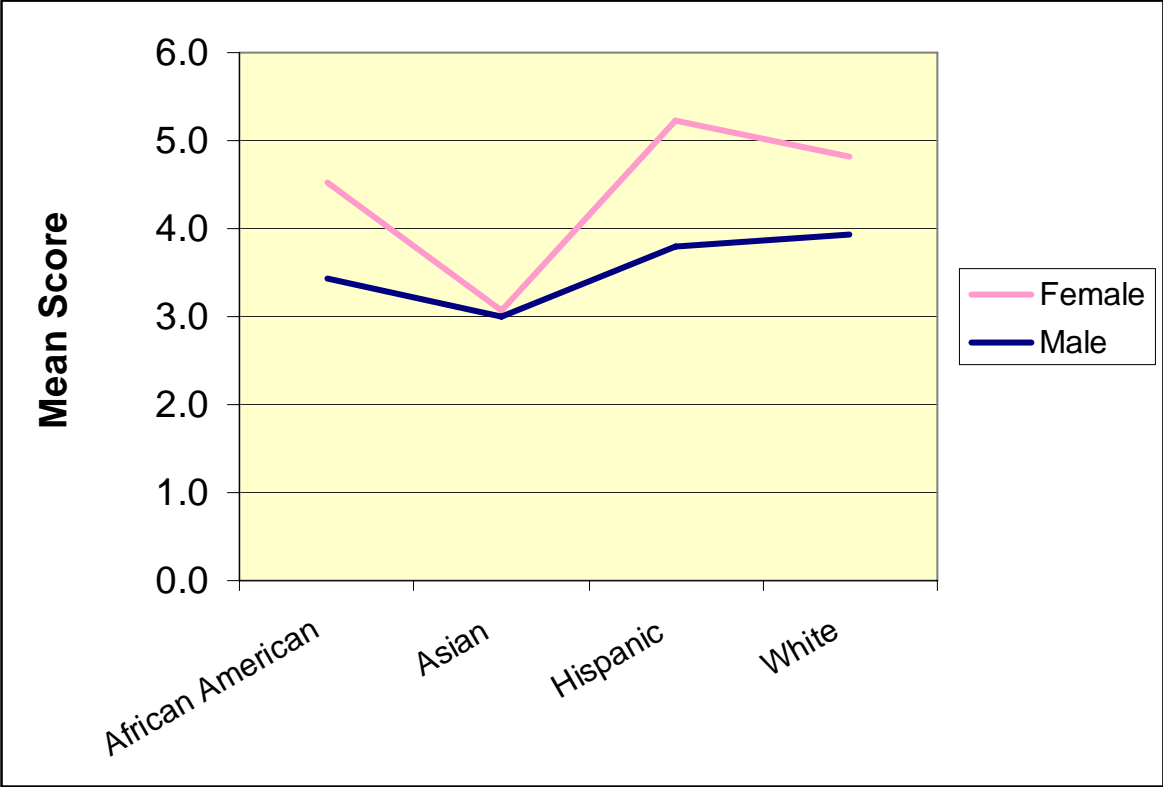
Explanation of Results

For both boys and girls, the number of items endorsed on every subscale of the MAYSI~2 varies significantly by race/ethnicity. For example, African American boys score lower than white boys on every subscale except Thought Disturbance and Traumatic Experience, where they still score significantly lower than Hispanic boys. Among girls, African Americans score lower than whites on every subscale except Depressed—Anxious, where they still score significantly lower than Hispanic youth.

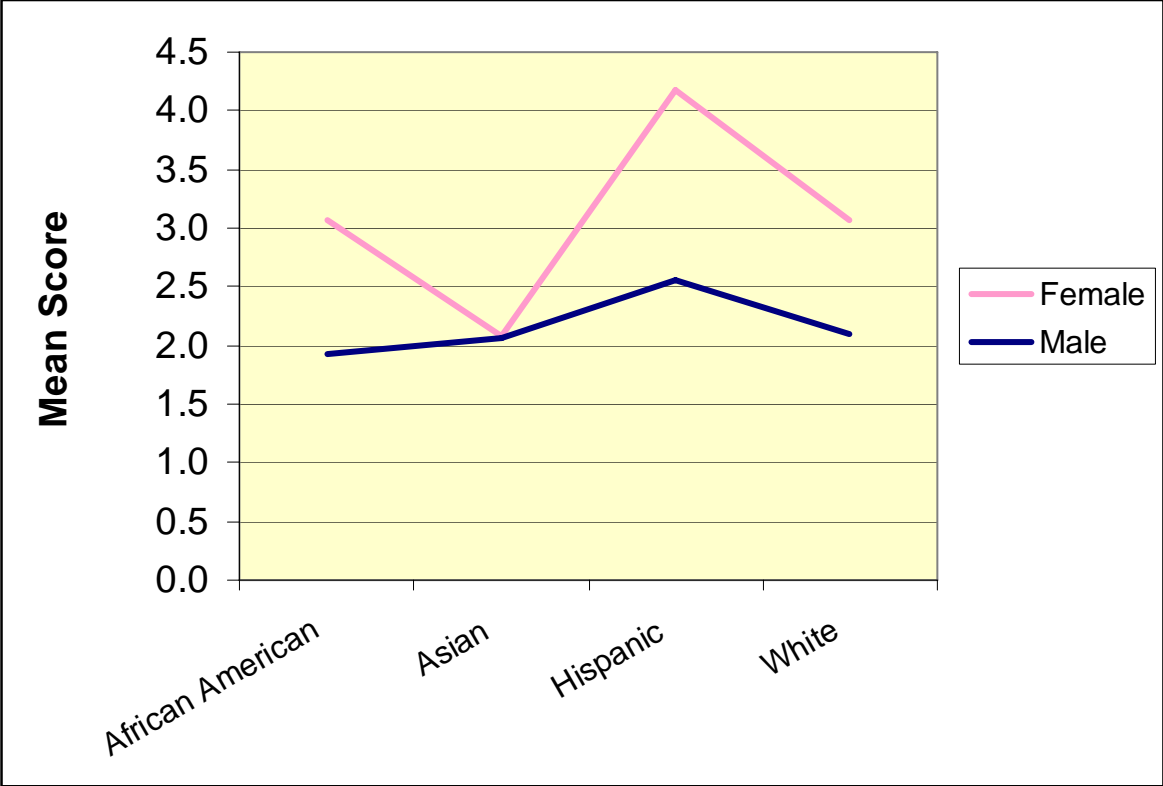
Graph X.C.iv. Gender by Race/Ethnicity on Alcohol/Drug Use



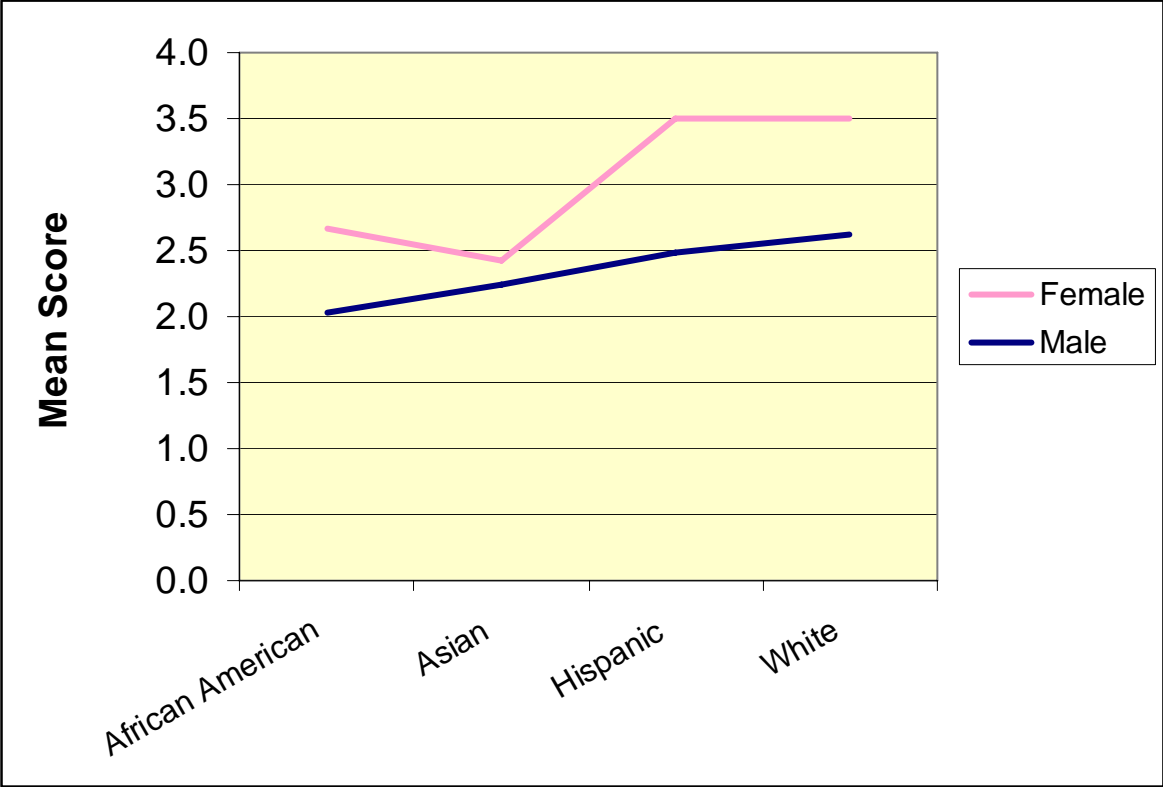
Graph X.C.v. Gender by Race/Ethnicity on Angry/Irritable



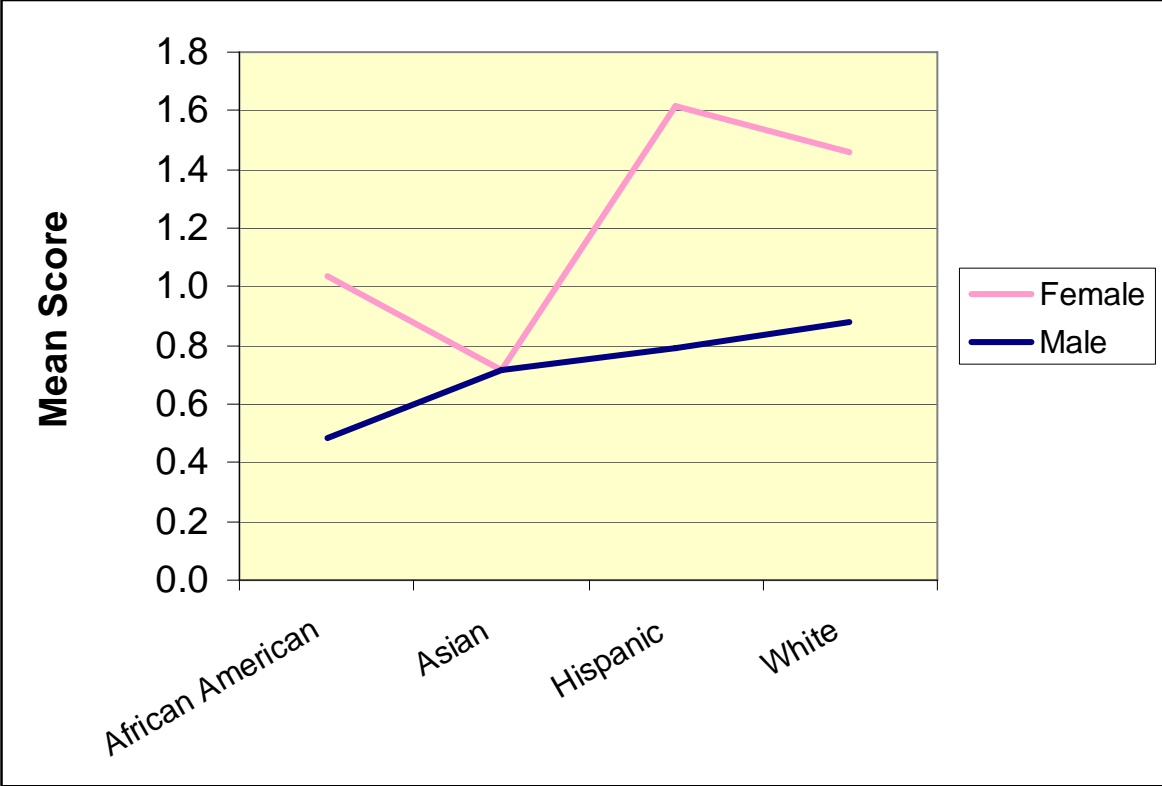
Graph X.C.vi. Gender by Race/Ethnicity on Depressed-Anxious



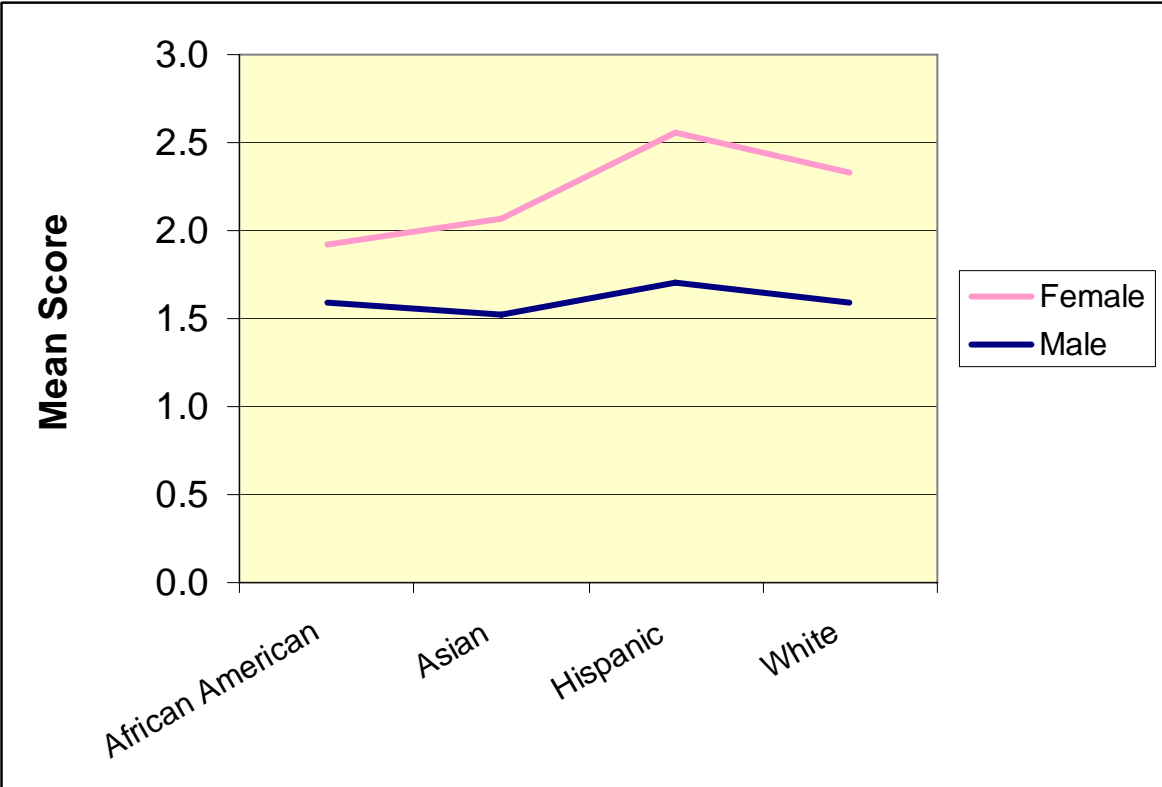
Graph X.C.vii Gender by Race/Ethnicity on Somatic Complaints



Graph X.C.viii. Gender by Race/Ethnicity on Sucidal Ideation



Graph X.C.ix. Gender by Race/Ethnicity on Traumatic Experiences



Appendix D
Supplemental Age Tables and Graphs

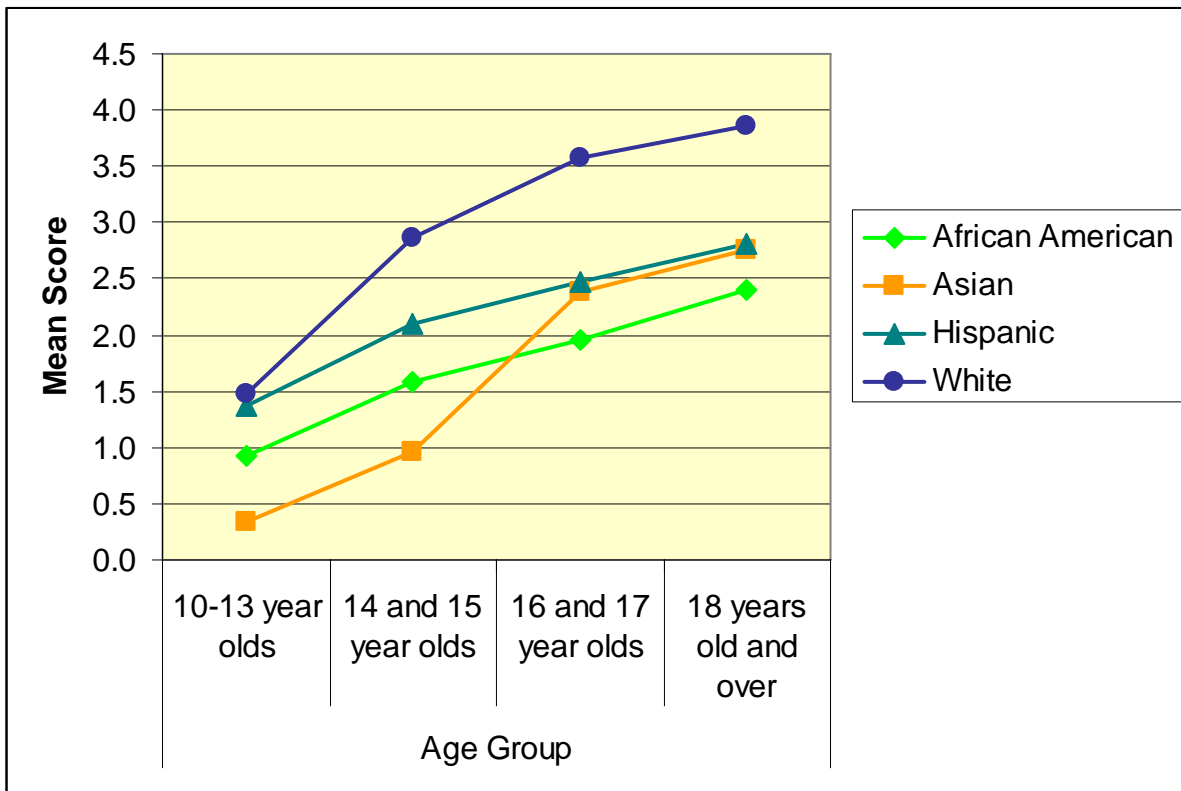
Table X.D.1. Results of MAYSI Subscales for Cases Age by Race/Ethnicity

Subscale	African American				Asian				Hispanic				White			
	10 to 13 N=961	14 -15 N=3329	16-17 N=4887	18+ N=711	10 to 13 N=9	14 -15 N=49	16-17 N=72	18+ N=8	10 to 13 N=216	14 -15 N=716	16-17 N=1290	18+ N=208	10 to 13 N=641	14 -15 N=2708	16-17 N=5215	18+ N=821
Alcohol/Drug Use	0.93 (1.78)	1.58 (2.06)	1.96 (2.21)	2.40 (2.41)	0.33 (0.71)	0.96 (1.77)	2.38 (2.50)	2.75 (2.92)	1.37 (2.06)	2.11 (2.36)	2.46 (2.40)	2.80 (2.46)	1.47 (2.24)	2.86 (2.62)	3.58 (2.63)	3.86 (2.60)
Angry-Irritable	4.18 (2.69)	3.79 (2.74)	3.43 (2.74)	3.12 (2.76)	3.67 (3.39)	2.80 (2.73)	3.04 (2.81)	3.13 (2.95)	4.25 (2.82)	4.32 (2.84)	3.91 (2.84)	3.50 (2.90)	4.56 (2.79)	4.41 (2.75)	4.01 (2.79)	3.56 (2.82)
Depressed-Anxious	2.38 (2.21)	2.13 (2.12)	2.04 (2.09)	2.01 (2.23)	2.33 (2.50)	1.90 (2.16)	2.14 (2.21)	2.00 (2.88)	3.06 (2.49)	2.96 (2.51)	2.73 (2.33)	2.56 (2.30)	2.59 (2.35)	2.32 (2.25)	2.26 (2.26)	2.26 (2.24)
Somatic Complaints	2.34 (1.80)	2.17 (1.76)	2.07 (1.80)	2.03 (1.82)	1.56 (1.67)	2.29 (1.88)	2.31 (1.73)	2.50 (1.51)	2.73 (2.07)	2.73 (1.96)	2.60 (1.92)	2.47 (1.88)	2.76 (1.90)	2.74 (1.89)	2.85 (1.97)	2.81 (1.96)
Suicide Ideation	0.66 (1.31)	0.60 (1.29)	0.53 (1.19)	0.58 (1.27)	0.89 (1.69)	0.59 (1.40)	0.78 (1.47)	0.75 (1.04)	1.13 (1.59)	1.01 (1.59)	0.85 (1.44)	0.82 (1.37)	0.99 (1.60)	1.03 (1.64)	1.01 (1.63)	0.92 (1.54)
Thought Disturbance (Boys Only)	0.64 (1.01)	0.55 (0.88)	0.53 (0.90)	0.44 (0.84)	0.88 (1.73)	0.57 (0.97)	0.50 (0.87)	0.25 (0.71)	0.84 (1.13)	0.77 (1.08)	0.59 (0.94)	0.61 (1.03)	0.85 (1.18)	0.56 (0.91)	0.55 (0.89)	0.51 (0.89)
Traumatic Experiences	1.44 (1.26)	1.60 (1.32)	1.70 (1.33)	1.76 (1.35)	2.00 (2.00)	1.49 (1.12)	1.64 (1.36)	1.13 (1.36)	1.69 (1.38)	1.84 (1.38)	1.87 (1.42)	1.78 (1.42)	1.69 (1.36)	1.74 (1.38)	1.76 (1.36)	1.72 (1.35)

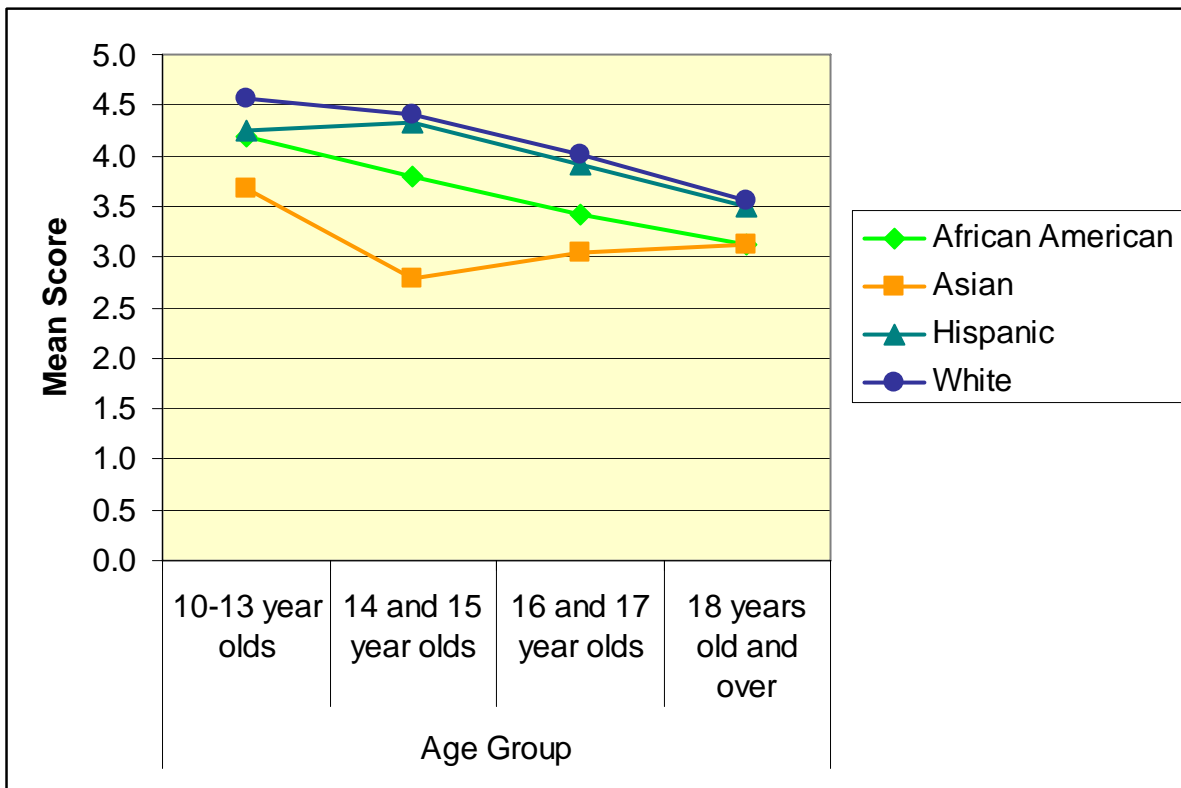
Statistics for Table X.D.1. Effects of Age Group on Results by Race/Ethnicity

Subscale	F of Interaction	p-value	Explanation
Alcohol/Drug Use	9.63	.000	The four ethnic groups showed different patterns of Alcohol/Drug Use across age groups
Angry-Irritable	0.88	.538	The groups did not differ significantly in their patterns of endorsing Angry-Irritable items across age groups.
Depressed-Anxious	0.49	.885	The groups did not differ significantly in their patterns of endorsing Depressed-Anxious items across age groups.
Somatic Complaints	2.79	.003	The groups showed different patterns of endorsing Somatic Complaints items across age groups.
Suicide Ideation	1.38	.189	The groups did not differ significantly in their patterns of endorsing Suicide Ideation items across age groups.
Thought Disturbance (Boys Only)	2.74	.003	The groups showed different patterns of endorsing Thought Disturbance items across age groups.
Traumatic Experiences	1.79	.064	The groups did not differ significantly in their patterns of endorsing Suicide Ideation items across age groups.

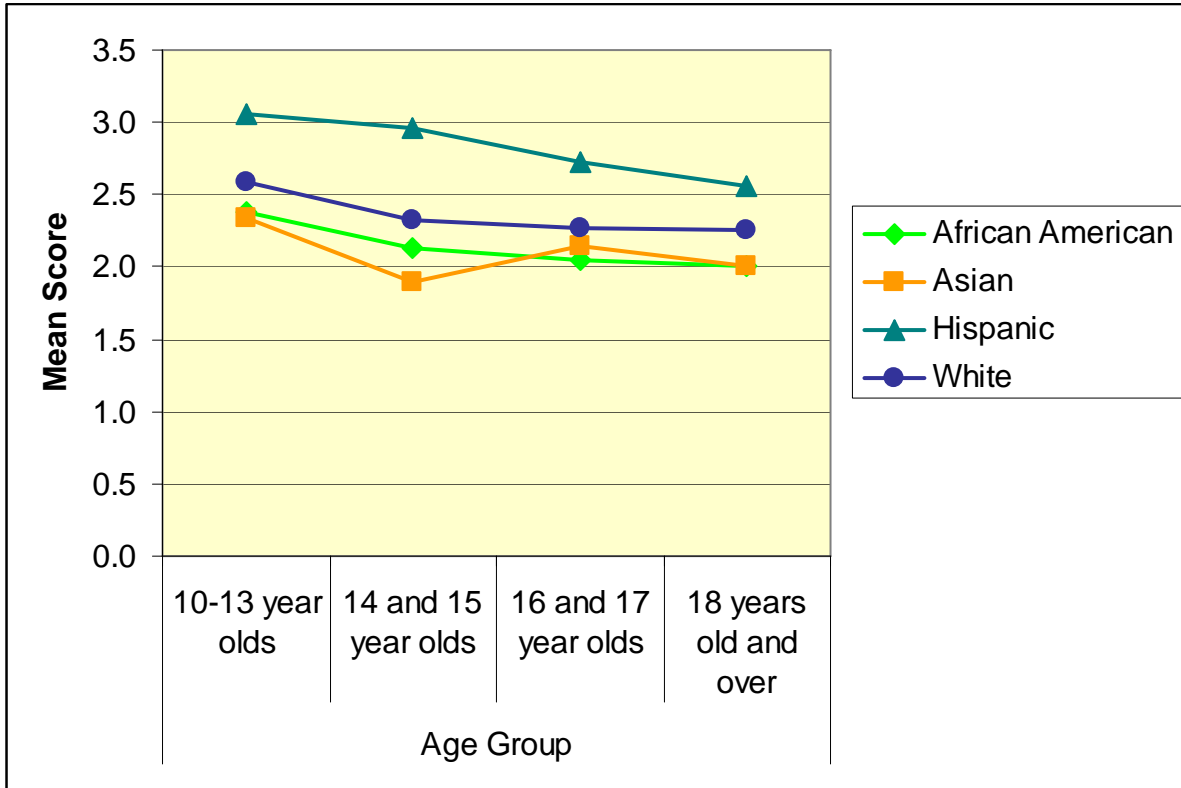
Graph X.D.i. Race/Ethnicity by Age on Alcohol/Drug Use



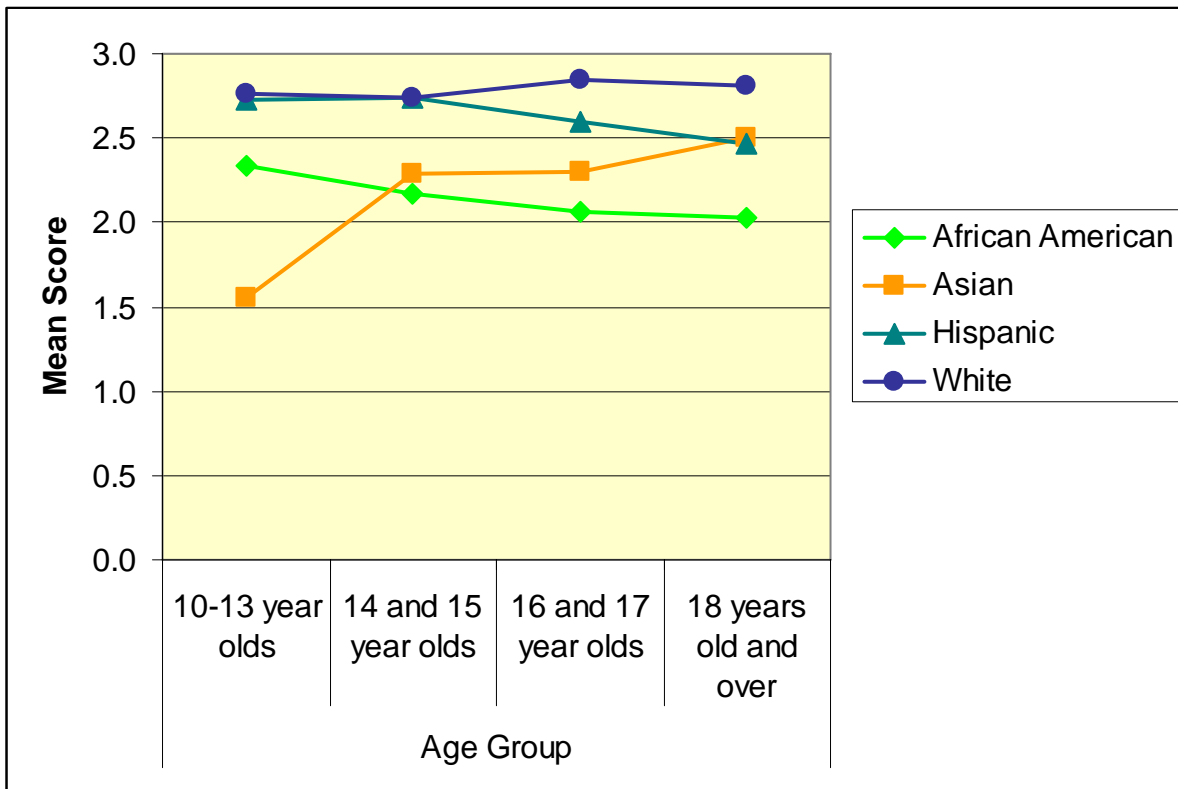
Graph X.D.ii. Race/Ethnicity by Age on Angry-Irritable



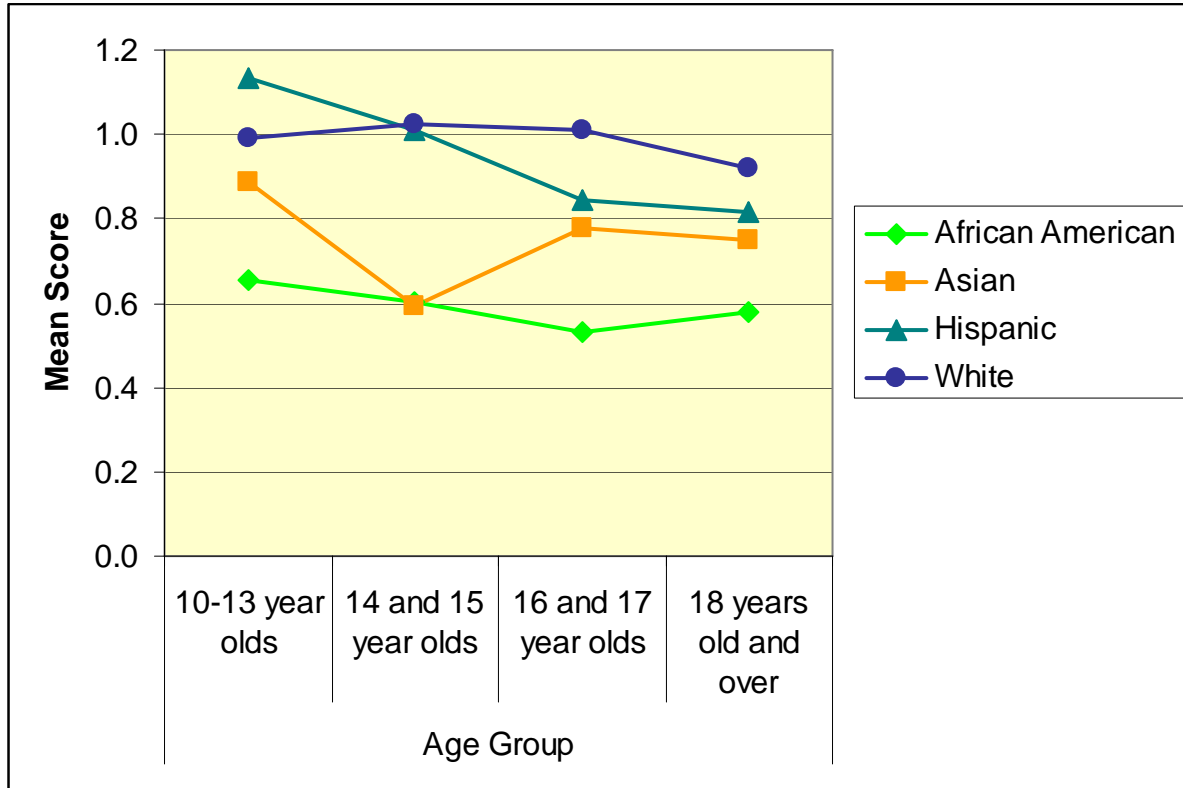
Graph X.D.iii Race/Ethnicity by Age on Depressed-Anxious



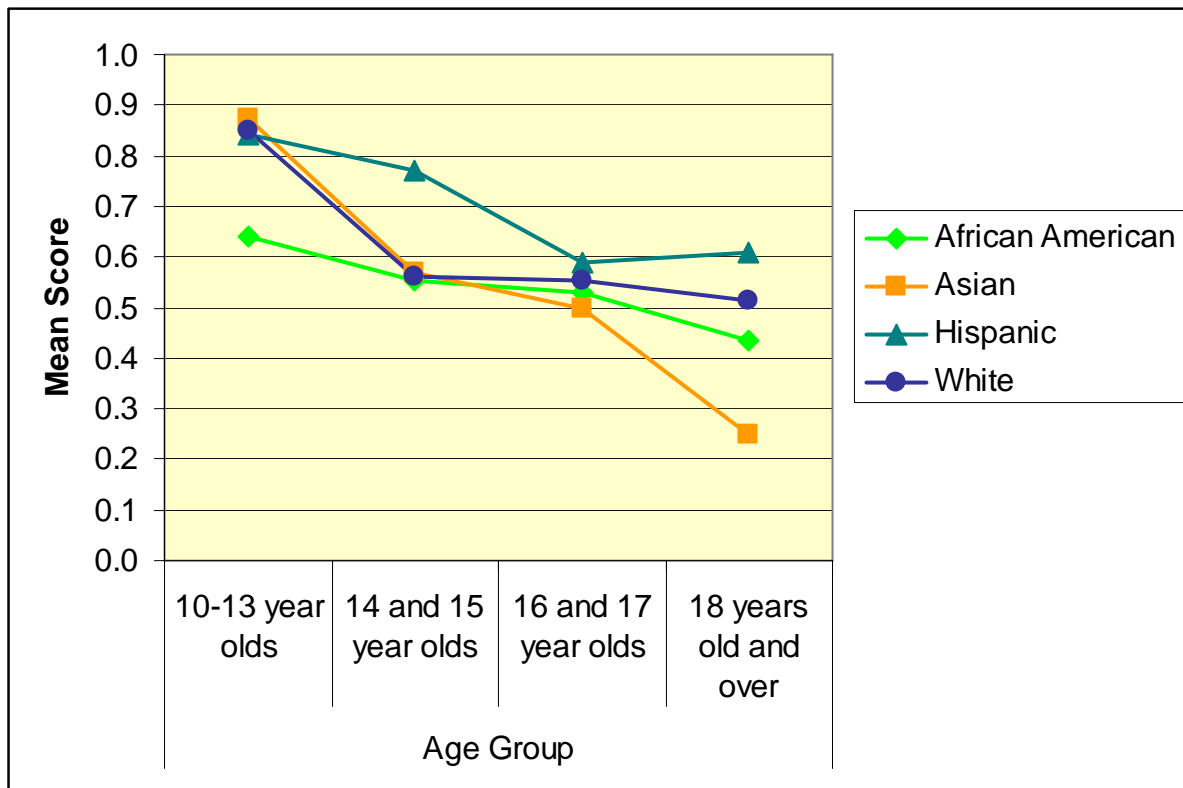
Graph X.D.iv Race/Ethnicity by Age on Somatic Complaints



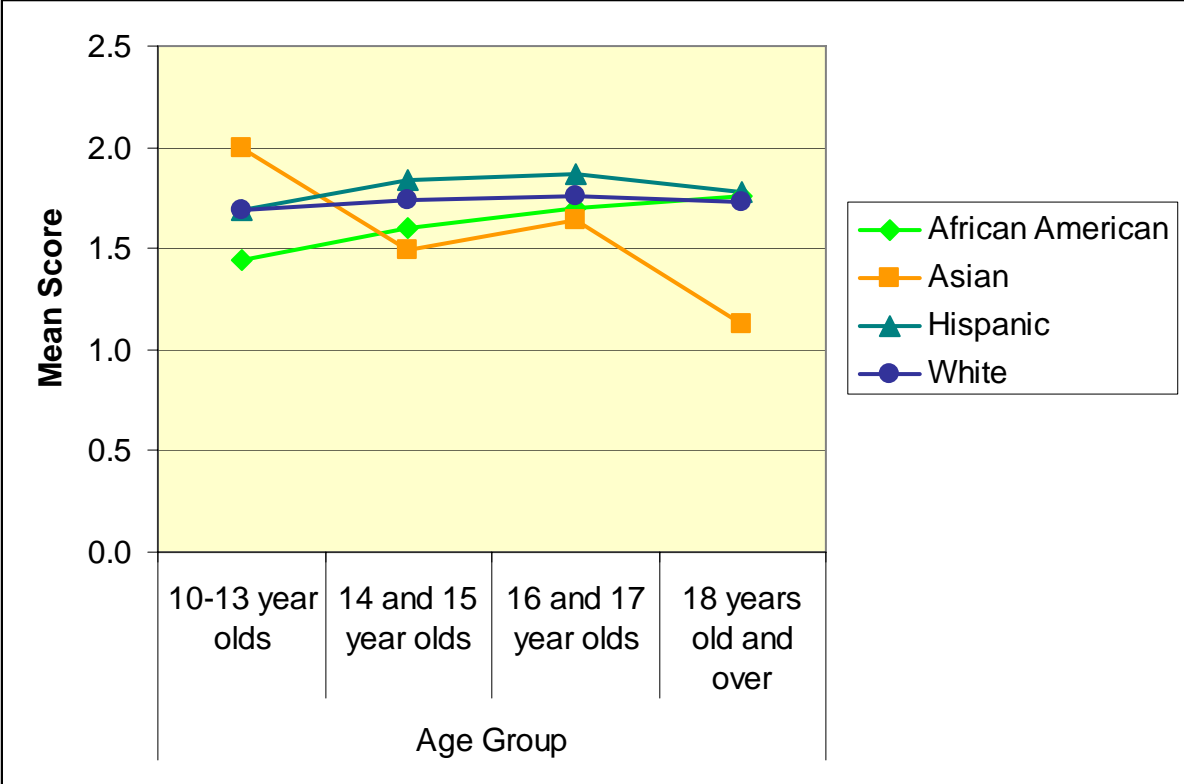
Graph X.D.v Race/Ethnicity by Age on Suicide Ideation



Graph X.D.vi Race/Ethnicity by Age on Thought Disturbance (Boys Only)



Graph X.D.vii Race/Ethnicity by Age on Traumatic Experiences



Appendix E
Overall Results by Reporting Detention Centers

Table X.E.1. Percentages of Cases in Pennsylvania Detention Centers with Caution Scores.

	Alcohol/Drug	Angry/Irritable	Depressed-Anxious	Somatic Complaints	Suicide Ideation	Thought Disturbance (Boys Only)	Traumatic Experiences	Any Caution
All (22516)	34	42	38	46	20	37	38	71
Allegheny (4876)	31	44	33	40	17	37	24	68
Beaver (411)	34	46	41	58	27	40	29	79
Berks (1300)	33	41	44	51	25	40	30	75
Blair (224)	50	57	42	58	27	40	36	86
Bucks (1823)	54	56	49	60	33	47	36	86
Chester (444)	33	35	27	38	21	24	19	65
Cornell Abraxas (600)	43	50	42	57	25	39	30	84
Delaware (888)	20	29	27	35	11	25	19	54
Erie (796)	43	56	49	62	25	48	35	86
Lancaster (1474)	32	47	45	53	26	44	30	76
Luzerne (405)	35	32	25	39	17	27	22	65
Montgomery (988)	36	42	37	49	20	37	31	74
Northampton (299)	40	48	38	55	17	37	30	80
Northwestern Academy (1006)	46	45	36	46	17	38	30	77
Philadelphia (4206)	21	31	35	38	13	31	26	61
Tioga (458)	37	40	37	52	22	33	26	75
Westmoreland (741)	35	45	40	49	27	39	25	76
York (727)	40	46	39	50	21	42	30	79
22 (569)	22	40	40	45	21	39	29	71
70 (281)	39	36	31	44	14	25	22	71

Table X.E.2. Percentages of Cases in Pennsylvania Detention Centers with Warning Scores.

	Alcohol/Drug	Angry/Irritable	Depressed-Anxious	Somatic Complaints	Suicide Ideation	Thought Disturbance (Boys Only)	Traumatic Experiences	Any Warning
All (22516)	9	13	11	8	14	13	12	30
Allegheny (4876)	8	14	9	7	12	12	9	28
Beaver (411)	6	14	10	12	18	13	12	33
Berks (1300)	7	11	13	10	16	13	12	32
Blair (224)	16	22	10	13	19	13	13	44
Bucks (1823)	20	21	17	16	25	18	17	46
Chester (444)	7	11	9	8	14	7	7	27
Cornell Abraxas (600)	13	17	11	9	19	16	13	38
Dauphin (569)	4	8	9	5	13	14	12	26
Delaware (888)	5	9	8	6	9	6	8	20
Erie (796)	13	24	16	11	18	20	15	43
Lancaster (1474)	8	16	14	11	19	15	15	36
Luzerne (405)	12	6	7	7	12	8	9	27
Montgomery (988)	10	14	12	9	14	14	14	32
Northampton (299)	10	16	11	7	14	12	13	36
Northwestern (1006)	16	12	8	6	11	12	12	35
PA Childcare (281)	15	10	6	8	9	7	8	31
Philadelphia (4206)	4	8	10	5	9	10	10	20
Tioga (458)	10	12	12	8	16	10	11	32
Westmoreland (741)	9	14	11	10	18	15	10	35
York (727)	10	13	10	6	14	13	13	32

Table X.E.3. Percentages of Male and Female Cases in Pennsylvania Detention Centers with Caution Scores.

Site (Males, Females)	Alcohol/ Drug		Angry/ Irritable		Depressed- Anxious		Somatic Complaints		Suicide Ideation		Thought Disturbance (Boys Only)		Traumatic Experiences		Any Caution	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
All (18346, 4170)	33	36	39	55	34	54	43	61	17	33	37		24	42	69	82
Allegheny (3970, 906)	31	33	41	53	30	45	37	53	15	27	37		23	31	66	77
Beaver (308, 103)	38	23	43	55	37	54	56	66	23	38	40		25	39	78	80
Berks (1130, 170)	32	42	38	62	40	65	48	70	22	46	40		27	54	72	89
Blair (178, 46)	48	54	53	70	36	67	53	76	23	41	40		29	61	83	96
Bucks (1396, 427)	54	54	53	67	43	67	56	74	29	45	47		31	54	84	92
Chester (371, 73)	32	40	29	68	22	53	32	70	16	47	24		15	41	61	88
Cornell Abraxas (511, 89)	42	49	47	67	39	61	54	75	22	43	39		28	43	83	91
Dauphin (413, 156)	24	17	37	47	36	52	41	56	19	29	39		27	35	70	74
Delaware (719, 169)	18	30	26	43	24	40	32	51	9	20	25		18	27	50	73
Erie (647, 149)	43	46	53	68	44	67	59	77	21	42	48		32	50	85	90
Lancaster (1154, 320)	32	33	42	64	39	63	50	65	22	42	44		25	48	73	87
Luzerne (283, 122)	38	29	28	41	19	39	34	52	13	28	27		17	34	61	75
Montgomery (744, 244)	37	34	38	53	31	55	44	65	14	35	37		24	52	71	83
Northampton (249, 50)	38	54	44	72	35	54	52	70	14	32	37		27	46	78	92
Northwestern (866, 140)	45	48	43	53	33	54	44	61	15	31	38		27	49	77	80
PA Childcare (211, 70)	40	36	33	46	29	34	39	59	13	17	25		18	33	69	77
Philadelphia (3626, 580)	20	25	29	46	31	57	36	53	11	26	31		24	44	58	78
Tioga (369, 89)	34	48	38	51	33	51	49	62	19	35	33		22	44	72	88
Westmoreland (581, 160)	35	33	43	55	37	53	46	58	25	34	39		20	41	76	79
York (620, 107)	41	36	44	58	36	59	48	61	19	35	42		26	53	78	83

Note: M=Male/ F=Female

Table X.E.4. Percentages of Male and Female Cases in Pennsylvania Detention Centers with Warning Scores.

Site (Males, Females)	Alcohol/ Drug		Angry/ Irritable		Depressed- Anxious		Somatic Complaints		Suicide Ideation		Thought Disturbance (Boys Only)		Traumatic Experiences		Any Warning	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
All (18346, 4170)	8	11	12	20	9	20	7	16	12	25	13		8	26	27	45
Allegheny (3970, 906)	7	10	13	20	7	16	6	11	10	21	12		7	18	26	38
Beaver (308, 103)	6	4	13	17	8	16	11	16	16	24	13		8	21	31	42
Berks (1130, 170)	6	13	10	22	11	26	8	24	14	32	13		9	29	29	55
Blair (178, 46)	15	17	19	33	10	11	10	28	15	35	13		10	28	38	67
Bucks (1396, 427)	19	21	18	30	14	25	12	31	21	36	18		11	37	41	59
Chester (371, 73)	5	15	8	23	6	23	5	22	11	34	7		3	23	23	52
Cornell Abraxas (511, 89)	11	20	16	21	9	25	8	16	16	33	16		11	25	35	60
Dauphin (413, 156)	4	4	7	12	8	13	4	8	12	17	14		10	18	23	34
Delaware (719, 169)	4	8	7	16	6	13	4	11	7	16	6		6	14	18	31
Erie (647, 149)	13	11	22	34	13	32	8	24	14	32	20		11	32	38	60
Lancaster (1154, 320)	8	7	13	26	11	26	9	20	16	33	15		9	34	32	50
Luzerne (283, 122)	13	11	3	15	5	13	5	11	8	19	8		6	16	23	36
Montgomery (744, 244)	10	10	10	23	8	23	7	15	11	25	14		9	31	27	48
Northampton (249, 50)	9	16	14	26	9	22	6	14	12	24	12		9	34	33	48
Northwestern (866, 140)	16	19	11	16	7	18	5	13	9	24	12		9	32	33	50
PA Childcare (211, 70)	15	16	9	14	6	7	6	14	7	16	7		5	17	28	39
Philadelphia (3626, 580)	3	5	7	14	8	20	4	11	7	19	10		7	28	18	36
Tioga (369, 89)	9	18	12	11	9	24	8	11	15	24	10		8	24	28	49
Westmoreland (581, 160)	9	8	14	15	10	13	9	14	16	26	15		6	23	33	44
York (620, 107)	10	9	12	22	9	20	5	7	12	26	13		10	29	29	50

Note: M=Male/ F=Female

Appendix F
MAYSI Data by Reporting Detention Centers

Allegheny County – Shuman Juvenile Detention Center

Demographics

Number of Cases: 4876	Asian: 1%
Average Age: 15.5	African American: 68%
Female: 19%	Hispanic: 2%
Been at facility before: 71%	White: 27%
	Other: 3%

Percentage of Youths requiring follow-up:

- Based on Caution Range Scored in Suicidal Ideations: 17%
- Based on Scoring into the Warning Range on 2 Subscales: 17%
- Based on JDCAP Recommendations: 23%

	Mean (Std.Dev.)		% Caution		% Warning	
	F	M	F	M	F	M
Alcohol/Drug Use	2.47 (2.60)	2.30 (2.41)	33%	31%	10%	7%
Angry/Irritable	4.61 (2.81)	3.80 (2.81)	53%	41%	20%	13%
Depressed-Anxious	2.71 (2.43)	1.89 (2.04)	45%	30%	16%	7%
Somatic Complaints	2.76 (2.00)	2.11 (1.82)	53%	37%	11%	6%
Suicide Ideation	1.06 (1.66)	0.61 (1.31)	27%	15%	21%	10%
Thought Disturbance (Boys Only)		0.56 (0.90)		37%		12%
Traumatic Experiences	1.80 (1.57)	1.53 (1.25)	31%	23%	18%	7%

F= female, M=male.

Overall

Subscale	Mean (Std. Dev.)	% Caut.	% Warn.
AD	2.34 (2.45)	44%	8%
AI	3.95 (2.83)	31%	14%
DA	2.04 (2.14)	33%	9%
SC	2.23 (1.87)	40%	7%
SI	0.69 (1.39)	17%	12%
TD (boys)	0.59 (0.93)	37%	12%
TE	1.58 (1.32)	24%	9%

Allegheny County (continued)

Age

	Mean (Std.D ev.)					% Caution					% Warning				
	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All
Alcohol/Drug Use	1.17 (1.98)	2.03 (2.30)	2.67 (2.50)	3.32 (2.62)	2.34 (2.45)	13%	26%	37%	46%	31%	2%	6%	9%	16%	8%
Angry/Irritable	4.27 (2.70)	3.97 (2.81)	3.90 (2.85)	3.69 (2.92)	3.95 (2.83)	48%	44%	43%	39%	44%	14%	14%	15%	16%	14%
Depressed- Anxious	2.14 (2.13)	1.98 (2.10)	2.04 (2.14)	2.22 (2.35)	2.04 (2.14)	36%	32%	33%	36%	33%	9%	8%	9%	12%	9%
Somatic Complaints	2.35 (1.85)	2.14 (1.82)	2.23 (1.89)	2.48 (1.97)	2.23 (1.87)	43%	38%	40%	48%	40%	6%	6%	8%	9%	7%
Suicide Ideation	0.71 (1.44)	0.66 (1.35)	0.69 (1.39)	0.82 (1.49)	0.69 (1.39)	16%	17%	17%	22%	17%	13%	12%	12%	15%	12%
Thought Disturbance (Boys Only)	0.62 (1.06)	0.57 (0.91)	0.55 (0.87)	0.48 (0.82)	0.56 (0.90)	37%	38%	38%	33%	37%	13%	12%	12%	11%	12%
Traumatic Experiences	1.34 (1.17)	1.55 (1.33)	1.65 (1.32)	1.68 (1.37)	1.58 (1.32)	16%	24%	26%	27%	24%	4%	9%	10%	11%	9%

Allegheny County (continued)

Race/Ethnicity	Mean (Std.Dev.)				% Caution				% Warning			
	Asian	Af. Amer.	Hispanic	White	Asian	Af. Amer.	Hispanic	White	Asian	Af. Amer.	Hispanic	White
Alcohol/Drug Use	1.52 (2.35)	2.04 (2.32)	2.90 (2.74)	3.03 (2.61)	20%	26%	45%	43%	4%	6%	13%	12%
Angry/Irritable	3.48 (3.06)	3.91 (2.84)	3.80 (3.05)	4.02 (2.77)	40%	43%	37%	45%	12%	14%	16%	14%
Depressed-Anxious	2.32 (2.30)	1.96 (2.09)	2.27 (2.32)	2.15 (2.21)	44%	32%	36%	34%	4%	8%	13%	10%
Somatic Complaints	2.36 (1.98)	2.01 (1.79)	2.12 (1.99)	2.72 (1.94)	52%	35%	38%	51%	8%	5%	8%	12%
Suicidal Ideation	0.80 (1.47)	0.59 (1.28)	0.77 (1.40)	0.92 (1.58)	24%	14%	20%	24%	16%	10%	12%	17%
Thought Disturbance (Boys Only)	0.42 (0.96)	0.58 (0.94)	0.60 (0.79)	0.49 (0.80)	21%	38%	42%	35%	11%	13%	16%	9%
Traumatic Experiences	1.76 (1.45)	1.57 (1.31)	2.04 (1.59)	1.55 (1.29)	28%	24%	40%	22%	8%	9%	21%	9%

Beaver County – Allencrest Juvenile Detention Center

Demographics

Number of Cases: 411	Asian: 0%
Average Age: 15.7	African American: 33%
Female: 25%	Hispanic: 1%
Been at facility before: 56%	White: 62%
	Other: 4%

Percentage of Youths requiring follow-up:

- Based on Caution Range Scored in Suicidal Ideations: 27%
- Based on Scoring into the Warning Range of 2 Subscales: 21%
- Based on JDCAP Recommendations: 33%

	Mean (Std.Dev.)		% Caution		% Warning	
	F	M	F	M	F	M
Alcohol/Drug Use	1.84 (2.18)	2.57 (2.41)	23%	38%	4%	6%
Angry/Irritable	4.53 (2.77)	4.07 (2.69)	55%	43%	17%	13%
Depressed-Anxious	3.05 (2.49)	2.22 (2.10)	54%	37%	16%	8%
Somatic Complaints	3.38 (1.87)	2.91 (1.83)	66%	56%	16%	11%
Suicide Ideation	1.36 (1.74)	0.87 (1.48)	38%	23%	24%	16%
Thought Disturbance (Boys Only)		0.60 (0.92)		40%		13%
Traumatic Experiences	2.07 (1.46)	1.68 (1.24)	39%	25%	21%	8%

F=female, M=male.

Overall			
Subscale	Mean (Std. Dev.)	% Caut.	% Warn.
AD	2.39 (2.37)	46%	6%
AI	4.19 (2.71)	34%	14%
DA	2.43 (2.23)	41%	10%
SC	3.03 (1.85)	58%	12%
SI	0.99 (1.56)	27%	18%
TD (boys)	0.62 (0.94)	40%	13%
TE	1.78 (1.31)	29%	12%

Beaver County (continued)

Age

	Mean (Std.Dev.)					% Caution					% Warning				
	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All
Alcohol/Drug Use	0.75 (1.61)	2.05 (2.21)	2.73 (2.42)	3.20 (2.40)	2.39 (2.37)	8%	26%	41%	48%	34%	0%	4%	6%	16%	6%
Angry/Irritable	5.14 (2.78)	4.67 (2.80)	3.85 (2.56)	3.80 (3.06)	4.19 (2.71)	61%	56%	39%	44%	46%	28%	18%	9%	20%	14%
Depressed- Anxious	3.19 (2.81)	2.74 (2.29)	2.14 (2.06)	2.56 (2.14)	2.43 (2.23)	56%	45%	36%	44%	41%	22%	13%	7%	12%	10%
Somatic Complaints	3.08 (2.14)	3.05 (1.76)	3.05 (1.84)	2.64 (1.96)	3.03 (1.85)	50%	59%	60%	56%	58%	22%	12%	12%	4%	12%
Suicidal Ideation	1.22 (1.77)	1.09 (1.63)	0.88 (1.44)	1.32 (1.91)	0.99 (1.56)	31%	28%	25%	32%	27%	19%	21%	15%	28%	18%
Thought Disturbance (Boys Only)	0.86 (1.24)	0.65 (0.86)	0.53 (0.88)	0.76 (1.04)	0.60 (0.92)	43%	46%	36%	48%	40%	24%	13%	11%	19%	13%
Traumatic Experiences	2.03 (1.42)	1.75 (1.29)	1.72 (1.31)	2.04 (1.21)	1.78 (1.31)	36%	28%	27%	36%	29%	17%	11%	11%	16%	12%

Beaver County (continued)

Race/Ethnicity

	Mean (Std.Dev.)				% Caution				% Warning			
	Asian	Af. Amer.	Hispanic	White	Asian	Af. Amer.	Hispanic	White	Asian	Af. Amer.	Hispanic	White
Alcohol/Drug Use		1.88 (2.13)	5.00 (1.41)	2.60 (2.44)		28%	100%	36%		4%	0%	7%
Angry/Irritable		4.14 (2.63)	3.50 (4.95)	4.32 (2.76)		46%	50%	47%		12%	0%	16%
Depressed- Anxious		2.52 (2.21)	0.50 (0.71)	2.46 (2.27)		41%	0%	43%		11%	0%	11%
Somatic Complaints		2.79 (1.78)	4.50 (0.71)	3.15 (1.87)		52%	100%	62%		10%	0%	13%
Suicidal Ideation		0.93 (1.57)	0.00 (0.00)	1.05 (1.57)		26%	0%	28%		18%	0%	18%
Thought Disturbance (Boys Only)		0.74 (0.91)	0.50 (0.71)	0.54 (0.94)		50%	50%	34%		17%	0%	11%
Traumatic Experiences		1.81 (1.33)	1.00 (0.00)	1.75 (1.32)		32%	0%	27%		12%	0%	12%

Berks County Youth Center

Demographics

Number of Cases: 1300	Asian: 0%
Average Age: 15.7	African American: 18%
Female: 13%	Hispanic: 42%
Been at facility before: 57%	White: 40%
	Other: 0%

Percentage of Youths requiring follow-up:

- Based on Caution Range Scored in Suicidal Ideations: 25%
- Based on Scoring into the Warning Range of 2 Subscales: 20%
- Based on JDCAP Recommendations: 31%

	Mean (Std.Dev.)		% Caution		% Warning	
	F	M	F	M	F	M
Alcohol/Drug Use	3.08 (2.60)	2.42 (2.29)	42%	32%	13%	6%
Angry/Irritable	5.08 (2.66)	3.69 (2.66)	62%	38%	22%	10%
Depressed-Anxious	3.88 (2.56)	2.42 (2.15)	65%	40%	26%	11%
Somatic Complaints	3.68 (1.86)	2.58 (1.85)	70%	48%	24%	8%
Suicide Ideation	1.72 (1.79)	0.84 (1.45)	46%	22%	32%	14%
Thought Disturbance (Boys Only)		0.60 (0.92)		40%		13%
Traumatic Experiences	2.64 (1.54)	1.74 (1.25)	54%	27%	29%	9%

F=female, M=male.

Overall

Subscale	Mean (Std. Dev.)	% Caut.	% Warn.
AD	2.51 (2.34)	41%	7%
AI	3.87 (2.70)	33%	11%
DA	2.61 (2.26)	44%	13%
SC	2.72 (1.89)	51%	10%
SI	0.95 (1.53)	25%	16%
TD (boys)	0.66 (1.00)	40%	13%
TE	1.85 (1.32)	30%	12%

Berks County (continued)

Age

	Mean (Std.Dev.)					% Caution					% Warning				
	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All
Alcohol/Drug Use	1.32 (1.93)	2.28 (2.27)	2.77 (2.36)	3.05 (2.45)	2.51 (2.34)	15%	30%	37%	41%	33%	2%	5%	8%	10%	7%
Angry/Irritable	4.32 (2.56)	4.17 (2.79)	3.67 (2.63)	3.40 (2.73)	3.87 (2.70)	47%	47%	38%	32%	41%	14%	14%	9%	8%	11%
Depressed- Anxious	2.81 (2.33)	2.62 (2.35)	2.59 (2.22)	2.52 (2.13)	2.61 (2.26)	45%	43%	44%	41%	44%	16%	13%	13%	11%	13%
Somatic Complaints	2.91 (1.76)	2.65 (1.90)	2.76 (1.91)	2.58 (1.82)	2.72 (1.89)	59%	48%	52%	51%	51%	8%	10%	10%	8%	10%
Suicidal Ideation	0.88 (1.52)	1.04 (1.62)	0.91 (1.48)	0.89 (1.44)	0.95 (1.53)	22%	27%	25%	21%	25%	15%	20%	14%	15%	16%
Thought Disturbance (Boys Only)	0.70 (1.00)	0.60 (0.92)	0.58 (0.89)	0.59 (1.04)	0.60 (0.92)	45%	41%	39%	31%	40%	16%	12%	12%	17%	13%
Traumatic Experiences	1.77 (1.30)	1.79 (1.33)	1.90 (1.32)	1.92 (1.35)	1.85 (1.32)	27%	29%	32%	32%	30%	11%	10%	13%	15%	12%

Berks County (continued)

Race/Ethnicity	Mean (Std.Dev.)				% Caution				% Warning			
	Af. Amer.				Af. Amer.				Af. Amer.			
	Asian	Amer.	Hispanic	White	Asian	Amer.	Hispanic	White	Asian	Amer.	Hispanic	White
Alcohol/Drug Use	5.00 (1.41)	2.04 (2.18)	2.31 (2.26)	2.91 (2.42)	100%	26%	30%	40%	0%	4%	5%	9%
Angry/Irritable	4.50 (0.71)	3.79 (2.67)	4.05 (2.78)	3.72 (2.62)	50%	38%	44%	39%	0%	12%	13%	9%
Depressed-Anxious	4.50 (2.12)	2.46 (2.13)	2.95 (2.36)	2.31 (2.17)	100%	41%	50%	38%	50%	10%	17%	10%
Somatic Complaints	2.00 (1.41)	2.49 (1.80)	2.73 (1.92)	2.83 (1.89)	50%	45%	52%	54%	0%	7%	10%	11%
Suicidal Ideation	2.00 (2.83)	0.68 (1.39)	1.01 (1.54)	1.02 (1.56)	50%	16%	26%	28%	50%	11%	17%	17%
Thought Disturbance (Boys Only)	1.00 (0.00)	0.65 (1.02)	0.63 (0.90)	0.54 (0.91)	100%	40%	43%	36%	0%	15%	13%	11%
Traumatic Experiences	3.00 (1.41)	1.94 (1.35)	1.81 (1.33)	1.86 (1.30)	50%	34%	30%	29%	50%	14%	12%	11%

Blair County Juvenile Detention Home

Demographics

Number of Cases: 224	Asian: 0%	
Average Age: 16.25	African American: 15%	
Female: 21%	Hispanic: 4%	
Been at facility before: 42%	White: 81%	
	Other: 0%	

Percentage of Youths requiring follow-up:

- Based on Caution Range Scored in Suicidal Ideations: 27%
- Based on Scoring into the Warning Range of 2 Subscales: 26%
- Based on JDCAP Recommendations: 36%

	Mean (Std.Dev.)		% Caution		% Warning	
	F	M	F	M	F	M
Alcohol/Drug Use	3.59 (2.98)	3.20 (2.65)	54%	48%	17%	15%
Angry/Irritable	5.63 (2.83)	4.56 (2.86)	70%	53%	33%	19%
Depressed-Anxious	3.50 (2.06)	2.21 (2.22)	67%	36%	11%	10%
Somatic Complaints	3.85 (1.92)	2.67 (1.94)	76%	53%	28%	10%
Suicide Ideation	1.70 (1.93)	0.90 (1.48)	41%	23%	35%	15%
Thought Disturbance (Boys Only)		0.63 (0.98)		40%		13%
Traumatic Experiences	2.78 (1.32)	1.83 (1.25)	61%	29%	28%	10%

F=female, M=male.

Overall			
Subscale	Mean (Std. Dev.)	% Caut.	% Warn.
AD	3.28 (2.72)	57%	16%
AI	4.78 (2.88)	50%	22%
DA	2.47 (2.25)	42%	10%
SC	2.92 (1.99)	58%	13%
SI	1.06 (1.61)	27%	19%
TD (boys)	0.68 (1.01)	40%	13%
TE	2.02 (1.32)	36%	13%

Blair County (continued)

Age

	Mean (Std.Dev.)					% Caution					% Warning				
	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All
Alcohol/Drug Use	1.93 (2.79)	2.53 (2.54)	3.43 (2.67)	4.48 (2.74)	3.28 (2.72)	21%	38%	52%	70%	50%	14%	2%	18%	30%	16%
Angry/Irritable	5.79 (3.79)	5.40 (2.39)	4.51 (2.82)	4.56 (3.31)	4.78 (2.88)	64%	68%	52%	56%	57%	50%	23%	16%	33%	22%
Depressed- Anxious	2.64 (2.37)	2.66 (2.23)	2.45 (2.29)	2.19 (2.08)	2.47 (2.25)	50%	47%	41%	37%	42%	7%	11%	11%	7%	10%
Somatic Complaints	3.43 (1.83)	2.72 (1.90)	2.78 (2.02)	3.67 (1.96)	2.92 (1.99)	71%	60%	51%	81%	58%	7%	9%	15%	19%	13%
Suicidal Ideation	1.29 (1.94)	1.19 (1.65)	1.00 (1.57)	1.04 (1.63)	1.06 (1.61)	29%	34%	24%	26%	27%	21%	23%	17%	22%	19%
Thought Disturbance (Boys Only)	0.64 (0.92)	0.63 (0.88)	0.61 (0.98)	0.70 (1.18)	0.63 (0.98)	45%	40%	40%	39%	40%	9%	20%	11%	17%	13%
Traumatic Experiences	2.00 (1.30)	1.87 (1.45)	2.04 (1.25)	2.19 (1.44)	2.02 (1.32)	21%	32%	36%	48%	36%	14%	13%	13%	19%	13%

Blair County (continued)

Race/Ethnicity¹

	Mean (Std.Dev.)				% Caution				% Warning			
	Asian	Af. Amer.	Hispanic	White	Asian	Af. Amer.	Hispanic	White	Asian	Af. Amer.	Hispanic	White
Alcohol/Drug Use		2.73 (2.61)	2.50 (2.62)	3.44 (2.74)		36%	38%	53%		12%	13%	17%
Angry/Irritable		4.09 (2.66)	5.38 (3.11)	4.88 (2.92)		52%	63%	57%		12%	25%	24%
Depressed-Anxious		1.64 (1.52)	2.75 (3.15)	2.62 (2.30)		30%	38%	45%		0%	25%	12%
Somatic Complaints		2.24 (1.90)	4.13 (1.96)	2.97 (1.99)		42%	75%	60%		3%	38%	14%
Suicidal Ideation		0.48 (1.06)	0.50 (1.07)	1.20 (1.69)		9%	13%	31%		6%	13%	22%
Thought Disturbance (Boys Only)		0.48 (0.77)	0.17 (0.41)	0.68 (1.03)		35%	17%	42%		10%	0%	15%
Traumatic Experiences		1.73 (1.26)	2.25 (1.28)	2.06 (1.33)		36%	38%	35%		3%	25%	14%

Note: ¹ Statistics not shown for Asians because there were too few screened to protect their confidentiality.

Bucks County Youth Center

Demographics

Number of Cases: 1823	Asian: 1%
Average Age: 16.0	African American: 17%
Female: 23%	Hispanic: 6%
Been at facility before: 54%	White: 73%
	Other: 3%

Percentage of Youths requiring follow-up:

- Based on Caution Range Scored in Suicidal Ideations: 33%
- Based on Scoring into the Warning Range of 2 Subscales: 33%
- Based on JDCAP Recommendations: 41%

	Mean (Std.Dev.)		% Caution		% Warning	
	F	M	F	M	F	M
	Alcohol/Drug Use	3.74 (2.77)	3.75 (2.70)	54%	54%	21%
Angry/Irritable	5.60 (2.63)	4.63 (2.72)	67%	53%	30%	18%
Depressed-Anxious	3.65 (2.42)	2.57 (2.29)	67%	43%	25%	14%
Somatic Complaints	3.95 (1.91)	2.93 (1.94)	74%	56%	31%	12%
Suicide Ideation	1.81 (1.96)	1.15 (1.73)	45%	29%	36%	21%
Thought Disturbance (Boys Only)		0.80 (1.10)		47%		18%
Traumatic Experiences	2.68 (1.68)	1.87 (1.26)	54%	31%	37%	11%

F=female, M=male.

Overall

Subscale	Mean (Std. Dev.)	% Caut.	% Warn.
AD	3.75 (2.72)	56%	20%
AI	4.86 (2.73)	54%	21%
DA	2.82 (2.36)	49%	17%
SC	3.17 (1.98)	60%	16%
SI	1.31 (1.81)	33%	25%
TD (boys)	0.83 (1.10)	47%	18%
TE	2.06 (1.41)	36%	17%

Bucks County (continued)

Age

	Mean (Std.Dev.)					% Caution					% Warning				
	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All	10-13 yrs	14-15 yrs	16-17 yrs	18+ yrs	All
Alcohol/Drug Use	2.19 (2.76)	3.18 (2.63)	4.05 (2.69)	4.51 (2.45)	3.75 (2.72)	29%	46%	58%	67%	54%	11%	13%	23%	27%	20%
Angry/Irritable	5.35 (2.60)	5.09 (2.59)	4.83 (2.77)	4.14 (2.77)	4.86 (2.73)	62%	61%	55%	45%	56%	24%	20%	22%	16%	21%
Depressed- Anxious	2.97 (2.25)	2.70 (2.34)	2.92 (2.38)	2.54 (2.36)	2.82 (2.36)	51%	46%	51%	43%	49%	17%	14%	18%	15%	17%
Somatic Complaints	3.03 (1.97)	3.01 (1.91)	3.27 (2.00)	3.11 (2.04)	3.17 (1.98)	58%	57%	63%	56%	60%	15%	15%	17%	17%	16%
Suicidal Ideation	1.15 (1.64)	1.34 (1.84)	1.34 (1.83)	1.16 (1.70)	1.31 (1.81)	32%	32%	33%	31%	33%	22%	26%	25%	21%	25%
Thought Disturbance (Boys Only)	0.98 (1.15)	0.75 (1.11)	0.84 (1.12)	0.60 (0.94)	0.80 (1.10)	54%	44%	49%	40%	47%	26%	17%	20%	13%	18%
Traumatic Experiences	1.87 (1.40)	2.02 (1.40)	2.11 (1.42)	2.03 (1.37)	2.06 (1.41)	32%	35%	37%	33%	36%	11%	16%	20%	15%	17%

