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Assessing the Mental Health Status of Youth in Juvenile Justice Settings

Gail A. Wasserman, Susan J. Ko, and Larkin S. McReynolds

Youth in the juvenile justice system are at high risk for mental health problems that may have contributed to their criminal behavior and that are likely to interfere with rehabilitation (Loeber et al., 1998; Lynam, 1996). Emotional impairment due to an untreated mental disorder may contribute to an adverse reaction to confinement, which in turn may result in a poor adjustment during incarceration. Poor adjustment can have a negative impact on behavior, discipline, and on a youth's ability to participate in available program components designed to address mental health, emotional, physical, and academic needs. Together, all of these factors may increase the risk for recidivism.

In a review of 34 studies on mental health needs and services in the juvenile justice system, Otto and colleagues (1992) found that rates of mental disorders were substantially higher among youth involved in the justice system than among youth in the general population. They also found that rates of disorder were higher in studies that assessed youth in person than in those that assessed youth by chart review. These authors suggested that existing studies of the prevalence of mental disorders among youth in the juvenile justice system were limited by the use of instruments

with inadequate psychometrics, the failure to consider comorbidity (i.e., co-occurring conditions), problems with identifying sample characteristics, and a lack of information regarding when the assessments were conducted. They note that previous studies often did not define the timeframe for symptoms. However, distinguishing between lifetime and current symptoms is important not only for determining the prevalence of disorders but also in planning for immediate service needs.

Although great advances have been made in reliable mental health assessment of children and adolescents (Jensen et al., 1995; Shaffer et al., 1996), assessment practices in juvenile justice settings remain highly variable and generally have not used evidence-based, scientifically sound instruments (Cocozza and Skowrya, 2000; LeBlanc, 1998; Nicol et al., 2000; Towberman, 1992; Wiebush et al., 1995). A common practice has been to rely on a youth's history of using mental health services as an indicator of whether the youth currently needs services. However, research suggests that the juvenile justice system cannot rely on other systems to provide information on the previous use of mental health services for all youth at entry. For example, Novins and colleagues (1999)

A Message From OJJDP

Serious mental health and substance use disorders can interfere with the rehabilitation of youth who come into contact with the juvenile justice system and increase their risk for recidivism. Too often, the needs of these youth have gone unrecognized and untreated because of inadequate screening and assessment.

One obstacle to assessing the mental health needs of youth in the juvenile justice system has been the dearth of reliable, easy-to-use assessment instruments. This Bulletin reports the results of a study of the Voice DISC-IV, a version of the Diagnostic Interview Schedule for Children (DISC) that is self-administered using a computer and headphones. The DISC is an extensively tested child and adolescent diagnostic interview that has been evaluated in clinical and community settings. The self-administered Voice DISC offers several advantages for use within the juvenile justice system—notably, minimal staff support requirements, immediate scoring that generates provisional *DSM-IV* diagnoses, and the assurance of privacy that can enhance the willingness of youth to disclose sensitive personal information.

Based on their findings and those of other researchers, the authors recommend best practices in assessing the mental health of juvenile offenders. This Bulletin provides guidance to juvenile justice professionals seeking to establish guidelines for mental health assessment in juvenile justice facilities.

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found that only 34 percent of a sample of juvenile detainees with a documented anxiety, affective (mood), or disruptive behavior disorder had previously received services for those disorders. Similarly, the Policy Design Team (1994) found that approximately 50 percent of the juvenile detainees in Virginia showed mental health problems of moderate severity or higher and that 8.5 percent showed “severe” problems, but that only 15 percent of the detainees who exhibited mental health problems were receiving mental health services while in custody. A study of youth in South Carolina found that despite higher rates of disorder, incarcerated youth were significantly less likely to have received outpatient mental health services previously than were youth enrolled in a community mental health service (Pumariega et al., 1999). Other research suggests that minority youth and youth of low socioeconomic status are less likely to have a history of using mental health services (Pumariega et al., 1998).¹

This Bulletin reports the results of a study that used a computerized, self-administered version of the Diagnostic Interview Schedule for Children (DISC) to screen for psychiatric disorders in youth newly admitted to juvenile assessment centers in Illinois and New Jersey. The study assessed rates of psychiatric disorders and tested the feasibility of using this assessment instrument among youth in the juvenile justice system.² Recommendations are also offered for “best practices” for mental health assessment in juvenile justice settings based on a comparison of the rates of psychiatric disorder identified in this study with those found in other studies in which earlier versions of the DISC were used in juvenile justice settings.

Diagnostic Interview Schedule for Children

The Diagnostic Interview Schedule for Children (DISC) is an extensively tested child and adolescent diagnostic interview that has been evaluated in both clinical and community samples (Shaffer et al., 1996). A family of highly structured psychiatric interviews designed to assess more than 25 different mental disorders in children and adolescents, the DISC incorporates the diagnostic criteria of the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (*DSM-IV*) and

third edition revised (*DSM-III-R*), and of the World Health Organization’s *International Statistical Classification of Diseases and Related Health Problems*, 10th revision (*ICD-10*). The DISC-IV provides a detailed assessment of impairment based on responses to six sets of questions about the effect of symptoms on the youth’s relationships with his or her caretakers, family, or peers and at school.³

The psychometrics of the DISC have been evaluated extensively in a variety of settings. Five studies of psychiatric disorders in youth in various juvenile justice settings have reported rates based on systematic assessment using the DISC (Atkins, Pumariega, and Rogers, 1999; Duclos et al., 1998; Garland et al., 2001; Randall et al., 1999; and Teplin et al., 2002). Except for the study by Garland and colleagues, all of these investigations were based on earlier, now superseded, versions of the DISC, and none used the recently developed Voice DISC, which is self-administered using a computer and headphones. Several aspects of the Voice DISC make it well suited for use within the juvenile justice system:

- ◆ Minimal staff support requirements.
- ◆ Immediate scoring, with a printout of provisional *DSM-IV* diagnoses and symptom counts available for followup by a clinician.
- ◆ Increased likelihood of disclosure, especially for suicidality and substance use. (The enhanced privacy of the self-administered format contributes to the willingness of youth to disclose sensitive personal information.)

Preliminary data show that the reliability of the Voice DISC is comparable to that of other versions of the DISC (Lucas, 2003).

In contrast to many other assessment instruments, the Voice DISC provides provisional diagnoses for the youth assessed. Because diagnosis drives mental health treatment, having information about a youth’s diagnosis is critical. Most evidence-based treatment services have been designed for specific disorders and have been shown to be effective only when they are provided to youth who have those disorders. The Voice DISC generates provisional diagnoses of disorders present in the past month, which makes it especially useful within juvenile justice settings, where prompt identification of youth who need immediate treatment is important.

Study Method

The executive director of the Council of Juvenile Correctional Administrators (CJCA) helped to solicit collaboration from juvenile facilities by announcing the study at the Council’s 1998 annual conference. The directors of the Illinois Department of Corrections, Juvenile Division, and the New Jersey Juvenile Justice Commission provided access to the St. Charles Reception Center in Illinois and the New Jersey Training School for Boys. The study provided training, technical assistance, assessment materials, and funding for reimbursement of staff time. Local staff agreed to collect assessments for 100 randomly selected male youth in Illinois and 200 in New Jersey.

Altogether, 320 youth were asked to participate; of these, all but 5 agreed. Twelve assessments were not included for technical and logistical reasons. Seven parents withdrew their child’s data. Data were available, then, for 296 youth (94 in Illinois and 202 in New Jersey), reflecting a response rate of more than 92 percent for youth approached in both sites.⁴

For all youth who agreed to participate, the data collector briefly demonstrated the operation of the computer program and made sure the youth was comfortable proceeding independently after the first module, which gathers demographic data. The data collectors remained available at a distance (to ensure privacy) throughout the assessment.

Background information (age, race/ethnicity, school grade, admission date, number of prior offenses, and current offense) was abstracted from reception center files in each location. Because a youth could have more than one current offense, up to four current offenses were provided from justice records for each youth.

Results

The average participant in the study was 17 years old and in the 9th grade (i.e., 2 years behind the expected grade), and more than half (53.7 percent) of the youth were African American (tables 1 and 2). Eighty-eight percent of the youth were assessed within 4 weeks of their admission to the facility, with 40 percent being assessed within 2 weeks of admission. Most of the youth had previous contact with the juvenile justice system; 28 percent had committed one or more substance-related offenses.

Table 1: Demographic and Offense Characteristics of the Study Sample

| Characteristic | Mean | SD |
|--------------------------------|-------|------|
| Age (years) | 17.04 | 1.39 |
| Current school grade | 9.63 | 1.39 |
| Number of prior convictions | 4.7 | 4.4 |
| Number of days since admission | 18.7 | 12.6 |

Table 2: Race/Ethnicity of the Study Sample

| Race/Ethnicity | Number | Percent |
|------------------|--------|---------|
| African American | 159 | 53.7 |
| White | 81 | 27.4 |
| Hispanic | 49 | 16.6 |
| Other | 7 | 2.4 |

Note: Percents do not sum to 100 because of rounding.

The assessment inquired about 20 psychiatric disorders and took an average of 60 minutes to complete. As would be expected, the youth in whom more disorders were diagnosed needed more time to complete the assessment. Unsolicited, five youth commented that they felt safer disclosing information to the computer than to a person.

Table 3 presents the number of youth who met the criteria for each disorder in the preceding month. Because suicidality is of great concern for management in residential programs, information on reported suicidal ideation and attempts is presented in table 4.

Table 3 shows high current rates for many disorders in the sample as a whole. Beyond the expectably high numbers of youth meeting criteria for substance use or conduct disorders, the rates of current mood and anxiety disorders were also high (9.1 percent and 18.9 percent, respectively). In addition, 9.1 percent of the youth reported suicidal ideation in the past month and 2.7 percent reported having attempted to commit suicide during the past month.

To examine the degree to which a Voice DISC-IV diagnosis of a substance use disorder corresponded to a record of substance use offenses, three groups within

Table 3: Prevalence of Psychiatric Disorders Within the Past Month

| Disorder | Number of Youth (N=296) | Percent* |
|------------------------------------|-------------------------|-------------|
| None | 97 | 32.8 |
| Any anxiety disorder† | 56 | 18.9 |
| Anxiety disorder only | 17 | 5.7 |
| Agoraphobia | 13 | 4.4 |
| Generalized anxiety | 6 | 2.0 |
| Obsessive-compulsive | 13 | 4.5 |
| Panic | 13 | 4.5 |
| Posttraumatic stress | 13 | 4.5 |
| Social phobia | 7 | 2.4 |
| Specific phobia | 25 | 8.5 |
| Any mood disorder | 27 | 9.1 |
| Mood disorder only | 1 | 0.3 |
| Manic episode | 6 | 2.1 |
| Hypomanic episode | 2 | 0.7 |
| Major depressive | 21 | 7.2 |
| Dysthymic‡ | 2 | 0.7 |
| Any disruptive disorder | 94 | 31.8 |
| Disruptive disorder only | 21 | 7.1 |
| ADHD | 6 | 2.3 |
| Conduct§ | 89 | 31.7 |
| Oppositional defiant | 8 | 2.8 |
| Any substance use disorder | 146 | 49.3 |
| Substance use disorder only | 68 | 23.0 |
| Alcohol dependence | 38 | 12.9 |
| Alcohol abuse | 47 | 17.0 |
| Marijuana dependence | 72 | 25.7 |
| Marijuana abuse | 42 | 15.0 |
| Other substance dependence | 36 | 12.8 |
| Other substance abuse | 11 | 3.9 |

Note: Diagnoses are based on *DSM-IV* criteria only.

* The prevalence for some diagnoses is based on a slightly reduced number because some youth did not complete the entire DISC interview (e.g., because they were transferred).

† Separation anxiety disorder either not assessed or not included.

‡ Current DISC and *DSM-IV* criteria necessitate that youth with major depressive disorder do not also receive a diagnosis of dysthymia.

§ Past 6 months.

the sample were examined: youth who met criteria for a substance use disorder only ($n=68$), those who met criteria for a disorder other than substance use ($n=53$), and those with no evidence of a disorder ($n=97$).⁵ Sixty-five of these 218 youth were incarcerated for a substance use offense: 28 who had only a substance use disorder, 10 who had a disorder other than substance use, and 27 who had no diagnosed disorder. Of these 65 youth, those with a substance use disorder were significantly more likely to have been incarcerated for a substance-related offense than the youth in either of the other two groups (see the figure on page 4).

Discussion

Prevalence of Psychiatric Disorder in Justice System Youth

Arriving at a *DSM* diagnosis requires consideration of the extent of a youth's impairment (i.e., deficits in functioning) across a number of different domains. Because the DISC uses the logic of the *DSM-IV*, it also provides an impairment score. For several reasons, the findings presented in this Bulletin are based on diagnostic criteria only and do not consider the level of impairment.⁶

Table 4: Prevalence of Suicide Ideation or Attempt

| Suicide Ideation or Attempt | Number of Youth (N=296) | Percent* |
|-----------------------------|-------------------------|----------|
| Ideation (past month) | 27 | 9.1 |
| Attempt | | |
| Past month | 8 | 2.7 |
| Lifetime | 35 | 11.8 |

Note: Diagnoses are based on *DSM-IV* criteria only.

* The prevalence for some diagnoses is based on a slightly reduced number because some youth did not complete the entire DISC interview (e.g., because they were transferred).

◆ The present study evaluated youth who recently had been sent to secure placement (likely after they had spent weeks in juvenile detention). The youth assessed by Teplin and colleagues (2002) were being held in detention—that is, they recently had been in the community, where they had the opportunity to offend. Garland and colleagues (2001) assessed “wards of the court” without regard to whether they were in the community or in custody. By intent, secure placement limits misbehavior. The more structured and controlled the setting, the less opportunity youth have to engage in the behaviors characteristic of conduct and substance use disorders. Therefore, rates for those disorders might be expected to be lower for the youth in the present study than for the youth evaluated in the earlier studies.

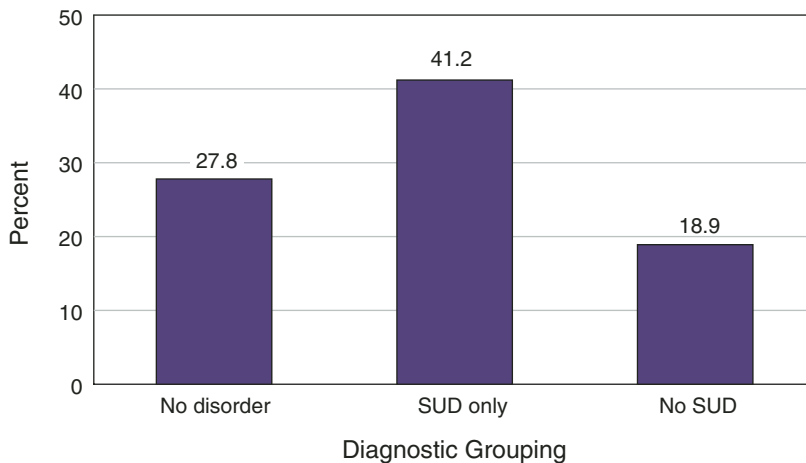
◆ The present study relied exclusively on self-report, whereas Garland and colleagues (2001) pooled diagnostic information received from parents as well as youth, a procedure that results in increased prevalence rates (Bird, Gould, and Staghezza-Jaramillo, 1992). Parental informants are more likely than youth to report symptoms of disruptive behavior disorders such as attention deficit/hyperactivity disorder (ADHD) and conduct disorder (Jensen et al., 1999), and this may account for the variability in the reported rates of disorder across the studies.

◆ Because many youth entering secure care will recently have been removed from their homes, their endorsement of separation anxiety symptoms may not reflect enduring disorder. Therefore, in contrast to the earlier studies, the present investigation did not inquire about separation anxiety disorder. This decision may have caused the rates for overall anxiety disorders observed in the present study to be somewhat lower than those in the earlier studies.

The rate of suicide attempts in the past month (2.7 percent) reported by youth in the present study is comparable to the rate of suicide attempts by youth in the past month that was reported by facilities in the Conditions of Confinement study (2.5 percent) (Parent et al., 1994), lending further support to the validity of the Voice DISC assessment.

Although the prevalence of conduct disorder in the study sample was high (31.7 percent), the prevalence rates for other

Percent of Youth Incarcerated for a Substance Use Offense Relative to Disorder Status as Diagnosed by the Voice DISC-IV



Note: SUD, substance use disorder.

Although its assessment of disorder criteria is straightforward, the self-administered nature of the Voice DISC relies on a youth’s awareness of the social and personal consequences of his or her disorder to determine impairment. Because the social judgment of youth found guilty of delinquent or criminal behavior may be particularly poor, the Voice DISC may substantially underreport the level of impairment in these youth. A clinician considering impairment for the purpose of making a diagnosis should rely on multiple informants and various pieces of information to determine the level of impairment.

Comparison With Other Studies

As shown in table 5, the rates of disorder found in the present study are somewhat

lower than those reported by previous studies that used the DISC in juvenile justice populations. However, the earlier studies used earlier versions of the DISC. Consideration of four basic differences in instrumentation and sample characteristics between the present study and the previous investigations puts the differences in the results into context:

◆ Participants in the present study responded to questions about the month preceding the interview, a period considerably shorter than the 6-month reporting timeframe of most of the earlier studies. In some cases, the rates of disorder found in the present study were correspondingly somewhat lower than those found in the studies that used a longer timeframe (Atkins, Pumariega, and Rogers, 1999; Duclos et al., 1998; Randall et al., 1999; Garland et al., 2001; Teplin et al., 2002).

Table 5: Comparison of Rates of Mental Health Disorders Found in the Present Study With Those Found in Earlier Studies Using the DISC

| DISC Format and Study | Question Timeframe | Number of Youth Evaluated | Rate of Disorder (percent) | | | |
|--------------------------------------|--------------------|---------------------------|----------------------------|-----------------|------|---------|
| | | | Disruptive | Substance | Mood | Anxiety |
| Administered by interviewer | | | | | | |
| Duclos et al. (1998)* | Past 6 months | 150 | 21 | 38 [†] | 10 | 7 |
| Atkins, Pumariega, and Rogers (1999) | Past 6 months | 75 | 43 | 20 | 24 | 33 |
| Randall et al. (1999) [‡] | Past 6 months | 118 | 45 | NA | 14 | 36 |
| Garland et al. (2001)* | Past 6 months | 478 | 48 [§] | NA | 7 | 9 |
| Teplin et al. (2002) | Past 6 months | 1,826 | 42 | 50 | 19 | 22 |
| Self-report (Voice DISC) | | | | | | |
| Present study | Past month | 296 | 32 | 49 | 9 | 19 |

Note: NA, not assessed.

* Study used impairment criteria in the determination of diagnostic status. That is, in addition to meeting diagnostic criteria, youth had to endorse a response to one of three impairment questions at the end of individual disorder modules to receive a diagnosis.

[†] Assessed on the Composite International Diagnostic Interview (Robins et al., 1988).

[‡] Aggregate data provided by the authors.

[§] Includes responses of both youth and parental informants.

disruptive behavior disorders—ADHD (2.3 percent) and oppositional defiant disorder (2.8 percent)—were lower than might be anticipated. In clinical samples, as many as 75–90 percent of children with conduct disorder have also been found to have ADHD (Abikoff and Klein, 1992). Other studies have reported a link between the impulsivity of ADHD and delinquency (Mannuzza et al., 1993; Mase and Tremblay, 1997; McGee, Williams, and Feehan, 1992; Tremblay et al., 1994).

The rates of self-reported ADHD in other studies of juvenile justice populations that used the DISC are similarly low—between 1 and 7 percent (Atkins, Pumariega, and Rogers, 1999; Randall et al., 1999; Teplin et al., 2002). In the study done by Garland and colleagues (2001), who combined information from parental and youth reports, almost 13 percent of the youth received a diagnosis of ADHD, but this rate is still lower than expected. However, the rates of mood and anxiety disorders are high in the present study (9.1 percent and 18.9 percent, respectively) and across all five of the other DISC studies in juvenile justice populations (10–35 percent). Zoccolillo (1992) noted a high rate of comorbidity between mood and anxiety disorders and conduct problems in community samples of youth. Further, studies that used the DISC–2.3 to assess clinic-referred children found associations between anxiety symptoms (“trait anxiety”) and both conduct problems and aggression

(Frick et al., 1999) and between mania and conduct disorder (Biederman et al., 1999).

Although a determination of juvenile delinquency is not synonymous with a diagnosis of a disruptive disorder, the results of the present study and the existing research indicate systematic underreporting of ADHD symptoms by youth in the justice system. This suggests that self-reported information should be supplemented by reports from another informant (e.g., a parent or teacher), especially as parents’ reports are more consistent with other indicators of conduct disorder, such as school suspension and police contacts, than youth’s reports (Loeber et al., 1991).⁷

Recommendations for Juvenile Justice Mental Health Assessment

The findings of the present study shed light on the prevalence of mental health disorders among youth in the juvenile justice system. Consideration of the ways in which case identification is affected by the assessment method used suggests the following best practices for clinical assessment in different justice settings:⁸

- ◆ **Mental health assessments should be based on multiple methods of evaluation and on the input of multiple informants.** A structured interview is one important component of a mental health assessment. Other important

components include direct observation, a mental status examination, chart review, an interview with parent(s) or caregiver(s), and obtaining a family psychiatric and psychosocial history.

- ◆ **Assessments should be based on reliable and valid instruments.** Use of a common assessment “language” eliminates uncertainty about the criteria used to determine diagnoses and enables comparison across studies and facilities.
- ◆ **Assessments should include parental input.** Parental input is valuable in diagnosing certain disorders, particularly ADHD. Incorporating parental reports into mental health assessments of youth in the justice system is complicated by several factors, including parents’ unavailability or reluctance to incriminate their children. The accuracy of parental reports may also be limited due to parent-child separation. However, when parental and youth reports of ADHD symptoms are combined, increased rates of this disorder are detected (Garland et al., 2001).
- ◆ **Assessments should focus on recent symptoms in order to determine current treatment needs.** Depending on the purpose of the assessment and the setting in which it takes place, the timeframe for diagnostic status might vary from the past year to the past month. Assessments should be driven by

practical decisions that take into consideration needs at various stages of justice system processing. For example, assessments might aim to accurately identify at least two groups of youth: (1) those whose mental health needs should be met quickly, such as youth who recently have attempted suicide or who currently suffer from a panic disorder or substance dependence, and (2) those who need close supervision and regular reassessment, such as youth with less severe disorders (e.g., depression or posttraumatic stress disorder) that may worsen under the stress of confinement.

- ◆ **Some youth should be reassessed periodically.** Youth should be reassessed regularly when they are held in custody over an extended period of time, as symptom profiles may shift. Mood disorders and anxiety disorders, in particular, may wax and wane over time.

Conclusions

The study reported in this Bulletin represents the first investigation of the Voice DISC-IV in juvenile justice settings. The results demonstrate that use of a systematic instrument for assessing psychiatric disorders is feasible in juvenile justice settings. The assessment was well tolerated by youth and their parents and by the agency/institution staff who were involved in administration procedures. Two findings provide initial support for the validity of the Voice DISC-IV assessment:

- ◆ Youth who met the Voice DISC-IV criteria for substance use diagnoses had been incarcerated for substance offenses.
- ◆ The rate of suicide attempts in the past month reported by youth in this study is comparable to the rate of suicide attempts by youth in the past month reported by facilities in the Conditions of Confinement study.

Thus, this initial feasibility study demonstrates that a comprehensive, scientifically sound diagnostic instrument can be a valuable part of mental health assessment for youth in the juvenile justice system.

For Further Information

More information on the authors' research using the Voice DISC-IV and on other assessment-related research is available online at www.promotementalhealth.org,

the Web site of the Center for the Promotion of Mental Health in Juvenile Justice.

Endnotes

1. The rate of mental health services received by youth in the juvenile justice system prior to detention has not been compared with the rate of previous mental health services for youth in a similar population (as opposed to the general youth population).
2. For a more comprehensive earlier report, see Wasserman et al., 2002.
3. In addition to the self-report version of the DISC for youth, a parent-report version is available. Some juvenile justice facilities may find this useful when assessing a youth's mental health.
4. The data reported here include data for four youth who inadvertently were not included in an earlier report of this research by Wasserman and colleagues (2002). Inclusion of the additional data does not alter the findings.
5. Youth who had a substance use disorder plus some other disorder ($n=78$) were not included in these analyses.
6. See Wasserman et al., 2002, for further discussion of this issue and for rates that take impairment into account.
7. Although more research is needed, it is likely that youth also underreport ADHD symptoms in other arenas, such as the child welfare system and the educational system. Unidentified behavior disorders can contribute to a youth's coming into contact with the juvenile justice system.
8. For an expanded discussion of these recommendations, see Wasserman et al. (2003).

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Gail A. Wasserman, Ph.D., is Director of the Center for the Promotion of Mental Health in Juvenile Justice, Division of Child Psychiatry, Columbia University, New York State Psychiatric Institute, New York, NY. Larkin S. McReynolds, M.P.H., is Senior Data Analyst at the Center. Susan J. Ko, Ph.D., Clinical Director at the Center at the time of this study, is currently Director of the Service Systems Core at the National Center for Child Traumatic Stress, University of California, Los Angeles.

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