
Assessment of Alcohol and Other Drug Use Behaviors Among Adolescents

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Alcohol and other drug (AOD) involvement by adolescents is still a major public health issue in this country.¹ We know that teenagers often abuse alcohol and other substances and that their development is hindered by such abuse as they age into adulthood (Children's Defense Fund 1991). Whereas the 1970s was marked by large gaps in knowledge about what contributes to the onset and course of AOD use in teenagers and how to best measure its signs and symptoms, the past 15 years have been characterized by a rapid growth of research in the development of screening and assessment tools for measuring the extent and nature of adolescent AOD use disorders and related problems (Leccese and Waldron 1994). This body of research has improved the assessment process by introducing more standardization to the field and permitting a wide network of professionals with diverse training and backgrounds to more objectively participate in the assessment process.

The inclusion of this new chapter in the second edition of this *Guide* speaks to the growing recognition that the adolescent assessment literature is a significant body of research in the alcoholism and drug addiction field. The chapter provides an overview of several issues pertinent to evaluating adolescents for AOD use and related problems. It is organized around four major themes: developmental issues that highlight the importance of assessing young people from a theoretical perspective and with instruments that are distinct from

adult models; validity of self-report; types of instruments available for a range of assessment goals; and research needs in the field.

DEVELOPMENTAL ISSUES

Differences Between Adults and Adolescents

The technical understanding of alcoholism and drug addiction has strong links to established beliefs about adult experiences, yet the applicability of adult models to adolescents has been questioned (Tarter 1990; Winters 1990). Findings suggest that most adolescents do not show the same psychological, behavioral, and physiological characteristics that are central to adult models (Kaminer 1991). One area of difference is in the pattern of AOD use and the development of substance use disorders. According to a number of clinical and community studies, adolescents are less likely to abuse just alcohol but are more likely to abuse marijuana and other drugs concurrently with alcohol (Center for Substance Abuse Treatment 1999). Yet it is likely that adults who are in treatment for substance problems are there

¹ In this chapter, *adolescent* is given the standard definition—12–18 years of age. This definition is appropriate given that most assessment measures are validated and standardized on teenagers in this age range. Also, tobacco products are not addressed in this chapter because adolescent assessment instruments have not yet routinely incorporated smoking behavior as part of their item content.

because of alcohol dependence. These differences in use patterns between the two age groups probably reflect differences between generations, as well as the effects of age. A related issue is that adolescents and adults differ in terms of the rate at which the addictive process progresses. It has been found that teenagers can meet formal diagnostic criteria for substance abuse or dependence diagnoses within a year or two of initial use (Martin et al. 1995). Adults usually take much longer to acquire a diagnosable substance use disorder. Thus, time can be a misleading element in defining adolescent substance use disorders.

Normative Versus Clinical Considerations

Perhaps the most important developmental factor in the assessment of AOD involvement among adolescents is the need to distinguish normative and developmental roles played by AOD use in this age group. In a strict sense, the normal trajectory for adolescents is to experiment with the use of alcohol, and to some extent other drugs. As described in the classic research by Kandel and colleagues (Kandel 1975; Yamaguchi and Kandel 1984), adolescents experiment with substances typically in a social context involving the use of so-called gateway substances, such as alcohol and cigarettes. Nearly all adolescents experiment to some degree with alcohol, which makes it difficult to determine when adolescent AOD use has negative long-term implications versus various short-term effects and perceived social payoff. Also, it is developmentally typical for adolescent AOD use to have a transitory component; many adolescents outgrow their use of AODs, experimenting with a wide range of substances for a while, and then abandoning their use (Shedler and Block 1990). Thus, few youth advance to more serious levels of AOD use, such as prolonged heavy drinking and regular use of marijuana (Yamaguchi and Kandel 1984). The best available survey data suggest that relatively low percentages of young people develop a substance dependence disorder during adolescence (see table 1 for a summary of

relevant studies).² By contrast, this temporary experimentation process is not typical of adult alcoholism or addiction, which is characterized more by well-established patterns of use.

Further blurring the distinction between normative and clinical distinctions of adolescent AOD use is the finding that the presence of *some* abuse symptoms is not all that rare among adolescents who use alcohol and other drugs (Martin et al. 1995; Harrison et al. 1998). A survey of public school attendees in Minnesota found that among youth who reported any recent substance use, 14 percent of 9th graders and 23 percent of 12th graders reported at least one abuse symptom (Harrison et al. 1998).

Definitional Issues

Another important difference between adolescents' and adults' involvement with AOD is that the DSM-IV criteria for substance use disorders may not be highly applicable to adolescents (American Psychiatric Association 1994; Martin and Winters 1998). There are several concerns about the appropriateness of DSM-IV criteria substance use disorders for adolescents. Some symptoms reveal very low base rates among young people, as in the case of withdrawal symptoms and related medical problems, which likely only emerge after years of continued drinking or drug use. Two symptoms of abuse, hazardous use and substance-related legal problems, appear to have limited utility because they tend to occur only within a particular subgroup of adolescents. Langenbucher and Martin (1996) found that these symptoms were rare in early adolescence but were highly related to male gender, increased age, and symptoms of conduct disorder.

Some other limitations of DSM-IV criteria are as follows: (1) an important symptom of dependence,

² No national prevalence study of adolescent substance use disorders has been published. However, the Second National Comorbidity Study, which is currently in field trials, includes a large adolescent sample that will be assessed for substance disorders.

TABLE 1.—Rates (%) of adolescent substance use disorders in community samples

Sample	Any abuse	Any dependence	Alcohol abuse	Alcohol dependence	Any alcohol use disorder
Minnesota Student Survey ¹					
9th graders	7	4			
12th graders	16	7			
Oregon high schools ²					
14–18 years old			2	4	
New York State households ³					
14–16 years old					4
17–20 years old					15

¹ Data from Harrison et al. 1998.

² Data from Lewinsohn et al. 1996.

³ Data from Cohen et al. 1993

tolerance, has low specificity in that its presence does not clearly distinguish adolescents with different levels of drinking problems (Martin et al. 1995); (2) the one-symptom threshold for DSM-IV diagnosis of substance abuse, in conjunction with the broad range of problems covered by abuse symptoms, produces a great deal of heterogeneity among those with an abuse diagnosis (Winters 1992); (3) abuse symptoms are usually considered prodromal to the onset of dependence symptoms, but the onset of abuse symptoms does not always precede the onset of dependence symptoms (Martin et al. 1996); and (4) some youth fall between the “diagnostic crack” in that they report only one or two dependence symptoms, which falls short of meeting the three-or-more symptom rule for a substance dependence disorder, and also manifest no abuse symptoms, which fails to qualify them for an abuse diagnosis (Hasin and Paykin 1998; Martin and Winters 1998).

Cognitive Factors

Developmental considerations are relevant with respect to assessing cognitive factors that may be linked to AOD use. A growing body of research

highlights the role of beliefs or schemas in the onset and course of AOD use (Keating and Clark 1980; Christiansen and Goldman 1983). This research has been directed at demonstrating either that groups with different behaviors, such as alcohol consumption patterns, possess different cognitions (Johnson and Gurin 1994) or, conversely, that groups with different cognitions show more likelihood of future alcohol use behaviors (Christiansen et al. 1989).

Generally speaking, four broad factors have been the focus of these cognitive-related investigations: reasons for drug use, drug use-related expectancies, readiness for behavior change, and self-efficacy.

Reasons for Drug Use

Adolescent AOD use may involve recreational benefits (e.g., to have fun), social conformity, mood enhancement, and coping with stress (Petratis et al. 1995). Youth with a substance use dependence disorder assign more importance to the social conformity and mood enhancement effects of drug use compared with less-experienced adolescent AOD users (Henly and Winters 1988).

Drug Use–Related Expectancies

Relevant expectancies for young people include negative physical effects, negative psychosocial effects, future health concerns, positive social effects, and reduction of negative affect (e.g., Brown et al. 1987). It is common for adolescent AOD users to ignore or discount its negative effects or consequences, and many have an illusion of control over such use (Botvin and Tortu 1988). It stands to reason that a diminished concern about the dangers of AOD use translates to a lower motivation to seek treatment or to change one's behavior when faced with treatment.

Readiness for Behavior Change

This domain involves a host of related motivational factors, including problem recognition, readiness for action, treatment suitability (availability and accessibility), and influences that lead to coercive pressure to seek treatment. These factors may influence attitude toward subsequent treatment, including adherence to treatment plans (Prochaska et al. 1992). Although little empirical work has been published on the determinants of motivational variables that promote positive change in adolescents, adolescents are probably subject to many of the same underlying motivational forces that influence change in adults suffering from addictions (Prochaska et al. 1992; H.J. Shaffer 1997). For example, AOD users are keenly aware that AOD involvement produces several personal benefits, and these benefits may prevent users from recognizing the personal costs of such use. Until the users begin to realize that the costs of the addictive behavior exceed the benefits, they are unlikely to want to stop. For developmental reasons, young people may have more trouble than adults projecting the consequences of their use into the future (Erikson 1968). Their AOD use has not occurred over an extended period of time, and thus chronic negative consequences have not yet accumulated.

To further aggravate the change process, the adolescents may have experienced coercive pressure to seek and continue treatment.

Self-Efficacy

Self-efficacy, or the confidence in personal ability, has been shown to predict a variety of health behavior outcomes (O'Leary 1985; Grembowski et al. 1993), including alcohol treatment outcome (Miller and Rollnick 1991). Self-efficacy may increase attention to goal attainment; thus it is important to measure goal setting and achievement, as well as other constructs believed to underlie self-efficacy, such as the client's perceptions of personal ability to overcome barriers to change (Miller 1983).

Measurement Implications

An important developmental consideration for the assessment process is that many adolescents are developmentally delayed in their social and emotional functioning (Noam and Houlihan 1990). These developmental delays may affect perception and willingness to report AOD use experiences and resulting problems. Admitting a personal problem with substances to an adult counselor requires a modicum of self-insight. Various motivations, attitudes, and behaviors common to adolescents, such as self-centeredness, risk taking, and rebellion against traditional values, are unlikely to promote personal insight into the seriousness of one's drug use. This issue may underlie why counselors lament that adolescent clients so often lack "insight" about the importance of changing their AOD use lifestyle.

Another measurement consideration within the context of developmental progress of young people is the selection of appropriate assessment instruments. Assessment questionnaires and interviews require that the assessor consider the developmental suitability of the tool. Some assessment instruments have been primarily normed and validated

on older adolescents (e.g., over 16 years), and thus their use among younger teenagers may not be appropriate. Also, it is important that pencil-and-paper assessment tools be written at a grade level that is appropriate for the majority of potential clients. Given the high base rate of learning and reading problems among drug-abusing adolescents (Latimer et al. 1997), questionnaires that are long and written at too high a grade reading level may prove to be quite difficult for many young clients.

VALIDITY OF SELF-REPORT

The use of questionnaires and interview schedules assumes that self-report is valid. The extent to which individuals in clinical and legal settings deny AOD involvement, or exaggerate AOD use behaviors, has been the focus of attention for many researchers (Babor et al. 1987). Fortunately for those who rely on the self-report method, there are several lines of evidence for the validity of adolescent self-reports of AOD problems (Winters et al. 1991; Maisto et al. 1995): A large proportion of youth in drug treatment settings admit to use of substances; few treatment-seeking adolescents endorse questions that indicate blatant faking of responses (e.g., admit to the use of a fictitious drug); agreement with data collected in other ways, such as urinalysis and parent reports; and consistency of disclosures across time.

Several factors appear to increase the validity of self-report: providing confidentiality of self-report (Harrell 1997), building rapport with the client, using biological assays such as urinalysis (Wish et al. 1997), and using standardized tests. Also, given the pitfalls of collecting retrospective data, it is becoming more commonplace in alcohol research to utilize the Timeline Followback (TLFB) procedure developed by Sobell and Sobell (1992). The TLFB was originally developed as an interviewing procedure designed to gather retrospective reports of daily occurrence of alcohol

consumption and quantities consumed. There is an extensive literature demonstrating the reliability and accuracy of up to 1-year retrospective timeline alcohol data collected from clinical and nonclinical samples ages 18 and over (Sobell and Sobell 1992), and there are early indications that this procedure is promising for collecting information on daily use of other drugs and among adolescents (Brown et al. 2000).

Despite these data supporting the validity of self-report among adolescent drug abusers, several cautions about this method are noteworthy. Some settings, such as the juvenile criminal justice system, may not contribute to voluntary disclosure of drug use. For example, data from the Drug Use Forecasting study suggest that nearly half of all adolescents who are arrested deny or minimize illicit use of drugs (Harrison 1995; Magura and Kang 1997). Another issue is the reliability of self-report for substance use that is infrequent; teenagers have been shown to be inconsistent about their self-reported drug use over a 1-year period for drugs that were used on an infrequent basis (Single et al. 1975). Then there is the question of the reliability of information from the youths' parents, a commonly used information source regarding adolescent AOD use. Clinical experience has long suggested, however, that many parents cannot provide meaningful details about their child's AOD involvement and may underreport their child's AOD use compared with the child's report (Winters et al. 2000). Empirical studies on this topic have yielded inconsistent results. Investigators comparing diagnoses of substance use disorders based on parent reports with those based on self-reports have found diagnostic agreement ranging from 17 percent (Weissman et al. 1987) to 63 percent (Edelbrock et al. 1986).

MAJOR CLASSES OF INSTRUMENTS

This section provides an overview of instruments within major classes of clinically oriented instruments

available in the adolescent AOD assessment field. The types of instruments described in this section are screening tools, comprehensive measures (this group is divided into diagnostic interviews, problem-focused interviews, and multiscale questionnaires), expectancy measures, and measures of problem recognition and readiness for change. Owing to the nature of psychoactive substance use by young people, most of these instruments address alcohol and other drugs rather than alcohol use only. Descriptive and administrative information on these instruments is provided in tables 2A and 2B (the instruments are listed in alphabetical order by full name), and an overview of the reliability and validity data is presented in table 3.

Screening

Clinicians and researchers working with adolescents, like those working with adults, have available a wide range of approaches to screen substance use disorders and related characteristics. One approach is to use screening instruments—most commonly self-report questionnaires—to determine the possible or probable presence of a drug problem. One group of screening tools focuses exclusively on alcohol use. Another group of screening tools includes the relatively short measures that nonspecifically cover all drug categories, including alcohol. A third type assesses only drugs other than alcohol. The final group of screening tools consists of two multiscreen instruments that address several domains in addition to AOD involvement.

Tools That Assess Alcohol Use Only

There are four screening tools that focus exclusively on alcohol use. The first is the Adolescent Alcohol Involvement Scale (AAIS) (Mayer and Filstead 1979), a 14-item self-report questionnaire that examines the type and frequency of alcohol use, as well as several behavioral and perceptual

aspects of drinking. An overall score, ranging from 0 to 79, labels the adolescent's severity of alcohol abuse (i.e., nonuser/normal user, misuser, abuser/dependent). Test scores are significantly related to substance use diagnosis and ratings from other sources, such as independent clinical assessments and parents, and estimates of internal consistency range from 0.55 in a clinical sample to 0.76 in a general sample (Moberg 1983). Norms for both clinical and nonclinical samples are available in the 13- to 19-year-old range.

Another alcohol-only screening tool is the Adolescent Drinking Index (Harrell and Wirtz 1989). This instrument's 24 items examine adolescent problem drinking by measuring psychological symptoms, physical symptoms, social symptoms, and loss of control. Written at a fifth-grade reading level, it yields a single score with cutoffs, as well as two research subscale scores (self-medicating drinking and rebellious drinking). The Adolescent Drinking Index yields high internal consistency reliability (coefficient alpha, 0.93–0.95) and has demonstrated validity in measuring the severity of adolescent drinking problems (e.g., it has revealed a very favorable hit rate of 82 percent in classification accuracy).

The third measure in the group is the 23-item Rutgers Alcohol Problem Index (RAPI) (White and Labouvie 1989). The RAPI measures consequences of alcohol use pertaining to family life, social relations, psychological functioning, delinquency, physical problems, and neuropsychological functioning. Based on a large general population sample, the RAPI was found to have high internal consistency (0.92) and, among heavy alcohol users, a strong correlation with DSM-III-R criteria for substance use disorders (0.75–0.95) (American Psychiatric Association 1987; White and Labouvie 1989).

The final measure in this group is the Adolescent Obsessive-Compulsive Drinking Scale (A-OCDS) (Deas et al. 2001). Developed to identify problem drinking, this 14-item instrument contains one scale that measures obsessive thoughts

TABLE 2A.—Adolescent assessment instruments: Descriptive information

Instrument	Purpose	Clinical utility	Adolescent groups used with	Norms avail.?	Normed groups
AAIS	Screen for alcohol use problem severity	Quick screen	Those referred for emotional or behavioral disorders	Yes	Normals; substance abusers
ADI	Assess DSM-IV substance use disorders and other life areas	Aids in case ID, referral, and treatment	Those suspected of substance use problems	NA	NA
ADAD	Assess substance use and other life problems	Aids in case ID, referral, and treatment	Those suspected of alcohol use problems	Yes	Normals; substance abusers
A-OCDS	Screen for craving and problem drinking	Screen	Those suspected of alcohol use problems	Yes	Alcohol abusers
AEQ-A	Assess adolescents' perceptions of alcohol effects	Aids in prevention and treatment planning	Those suspected of substance use problems	Yes	Normals
ASMA	Screen for drug use problem severity	Quick screen	Those referred for emotional or behavioral disorders	Yes	Normals
CMRS	Measure treatment receptivity	Aids in evaluating appropriateness of treatment	Those referred for drug abuse treatment	Yes	Substance abusers
CASI-A	Assess substance use and other life problems	Aids in case ID, referral, and treatment	Those suspected of substance use problems	NA	NA

TABLE 2A.—Adolescent assessment instruments: Descriptive information *(continued)*

Instrument	Purpose	Clinical utility	Adolescent groups used with	Norms avail.?	Normed groups
CDDR	Assess DSM-IV substance use disorders and other life areas	Aids in case ID, referral, and treatment	Those suspected of substance use problems	NA	NA
DAST-A	Screen for drug use problem severity	Quick screen	Those referred for emotional or behavioral disorders	Yes	Substance abusers
DAP	Screen for drug use problem severity	Quick screen	Those referred for emotional or behavioral disorders	Yes	Pediatric population
DUSI-R	Screen for substance use problem severity and related problems	Screen	Those referred for emotional or behavioral disorders	Yes	Substance abusers
GAIN	Assess substance use and other life problems	Aids in case ID, referral, and treatment	Those suspected of substance use problems	NA	NA
PBDS	Assess reasons for drinking/drug use	Aids in prevention and treatment planning	Those suspected of substance use problems	Yes	Normals; substance abusers
PEI	Measure substance involvement and related psychosocial factors	Aids in case ID, referral, and treatment	Those suspected of substance use problems	Yes	Normals; substance abusers
PESQ	Screen for substance use problem severity	Quick screen	Those referred for emotional or behavioral disorders	Yes	Normals; substance abusers

TABLE 2A.—Adolescent assessment instruments: Descriptive information (continued)

Instrument	Purpose	Clinical utility	Adolescent groups used with	Norms avail.?	Normed groups
POSIT	Screen for substance use problem severity and related problems	Screen	Those referred for emotional or behavioral disorders	Yes	Normals; substance abusers
PRQ	Assess recognition of substance use problems	Screen	Those at risk for substance use problems	Yes	Substance abusers
RAPI	Screen for alcohol use problem severity	Quick screen	Those at risk for alcohol use problems	Yes	Normals; substance abusers
SCID SUDM	Assess DSM-IV substance use disorders	Aids in case ID, referral, and treatment	Those suspected of substance use disorders	NA	NA
SASSI-A	Screen for substance use problem severity and related problems	Screen	Those referred for emotional or behavioral disorders	Yes	Normals; substance abusers
T-ASI	Assess substance use and other life problems	Aids in case ID, referral, and treatment	Those at risk for substance use problems	NA	NA
T-TSR	Assess the type and number of program services	Aids in describing services received	Those receiving treatment for substance use problems	NA	NA

Note: This table is based on information provided by the literature or by authors of the measures. The instruments are listed in alphabetical order by full name. DSM-IV = *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*; ID = identification; NA = not applicable.

TABLE 2B.—Adolescent assessment instruments: Administrative information

Instrument	Format	Time to administer (min.)	Training needed?	Time to score (min.)	Computer scoring avail.?	Fee for use?
AAIS	14-item questionnaire	5	No	5	No	No
ADI	Structured interview	45	Yes	15–20	No	Yes
ADAD	Structured interview	45–55	Yes	10	No	Yes
A-OCDS	14-item questionnaire	5–10	No	1	No	No
AEQ-A	90-item questionnaire	20–30	No	10	No	No
ASMA	8-item questionnaire	5	No	2	No	No
CMRS	25-item questionnaire	10	No	5	No	No
CASI-A	Semi-structured interview	45–55	Yes	15	Yes	Yes (computer version)
CDDR	Structured interview	10–30	Yes	10	No	No
DAST-A	27-item questionnaire	5	No	5	No	No
DAP	30-item questionnaire	10	No	5	No	No
DUSI-R	159-item questionnaire	20	No	10–15	Yes	Yes
GAIN	Semi-structured interview	45–90	Yes	15	Yes	No
PBDS	10-item questionnaire	5	No	5	No	No
PEI	276-item questionnaire	45–60	No	5	Yes	Yes
PESQ	40-item questionnaire	10	No	5	No	Yes
POSIT	139-item questionnaire	20–25	No	10–15	Yes	No
PRQ	24-item questionnaire	5	No	5	No	No
RAPI	23-item questionnaire	10	No	5	No	No
SCID SUDM	Semi-structured interview	30–90	Yes	10–15	No	No
SASSI-A	81-item questionnaire	10–15	No	5	Yes	Yes
T-ASI	Semi-structured interview	20–45	Yes	10	No	No
T-TSR	Semi-structured interview	10–15	Yes	5	No	No

Note: This table is based on information provided by the literature or by authors of the measures. The instruments are listed in alphabetical order by full name; see the text for the full names of the instruments.

TABLE 3.—Availability of psychometric data on adolescent assessment instruments

Instrument	Reliability			Validity		
	Temporal stability	Split-half	Internal consistency	Content	Criterion	Construct
AAIS	•		•		•	•
ADI	•		•*	•	•	•
ADAD	•		•*	•	•	•
A-OCDS	•		•	•	•	
AEQ-A			•	•	•	•
ASMA			•	•	•	•
CMRS			•	•	•	
CASI-A	•		•	•	•	•
CDDR	•	•	•	•	•	•
DAST-A	•		•	•	•	•
DUSI-R	•	•	•	•	•	•
GAIN	•	•	•	•	•	•
PEI	•		•	•	•	•
PESQ	•		•	•	•	•
POSIT	•		•	•	•	•
PRQ			•	•	•	
RAPI		•	•	•	•	
SCID SUDM			•*	•	•	
SASSI-A			•	•	•	
T-ASI	•		•*	•	•	•
T-TSR	•			•		

Note: This table is based on information provided by the literature or by authors of the measures. Instruments are listed in the same order as they appear in table 2; see text for full names of instruments.

*Reliability estimates based on interrater reliability.

about drinking and a second scale that measures compulsive drinking behaviors. The A-OCDS has very favorable reliability evidence, and it has shown the ability to differentiate adolescent problem drinkers from less severe groups of adolescent drinkers (Deas et al. 2001).

Tools That Assess All Drug Categories

Examples of this group of screening tools are the Drug and Alcohol Problem (DAP) Quick Screen

(Schwartz and Wirtz 1990), the Personal Experience Screening Questionnaire (PESQ) (Winters 1992), and the Substance Abuse Subtle Screening Inventory for Adolescents (SASSI-A) (Miller 1985).

The 30-item DAP was tested in a pediatric practice setting (Schwartz and Wirtz 1990), in which the authors report that about 15 percent of the respondents endorsed 6 or more items, considered by the authors to be a cut score for “problem” drug use. Item analysis indicates that the items

contribute to the single dimension score, but no reliability or criterion validity evidence is available.

The 40-item PESQ consists of a problem severity scale (coefficient alpha, 0.91–0.95) and sections that assess drug use history, select psychosocial problems, and response distortion tendencies (“faking good” and “faking bad”). Norms for normal, juvenile offender, and drug-abusing populations are available. The test is estimated to have an accuracy rate of 87 percent in predicting need for further drug abuse assessment (Winters 1992).

The 81-item adolescent version of its adult companion tool, the SASSI-A yields scores for several scales, including face valid alcohol, face valid other drug, obvious attributes, subtle attributes, and defensiveness. Validity data indicate that SASSI-A scale scores are highly correlated with Minnesota Multiphasic Personality Inventory (MMPI) scales and that its cut score for “chemical dependency” corresponds highly with intake diagnoses of substance use disorders (Risberg et al. 1995). However, claims that the SASSI-A is valid in detecting *unreported* drug use and related problems are not empirically justified (Rogers et al. 1997).

Tools That Assess Only Drugs Other Than Alcohol

The Adolescent Drug Involvement Scale (ADIS) (Moberg and Hahn 1991) is a modified version of the AAIS. Psychometric studies on the 13-item questionnaire reveal favorable internal consistency (0.85) for the drug abuse severity scale. Validity evidence indicates that the ADIS correlates 0.72 with drug use frequency and 0.75 with independent ratings by clinical staff. A successor instrument to the ADIS that screens for substance abuse problems including alcohol is being field tested by the authors.

The Drug Abuse Screening Test for Adolescents (DAST-A) (Martino et al. 2000) was adapted from Skinner’s adult tool, the Drug Abuse Screening Test (Skinner 1982). The 27-item DAST-

A reveals favorable reliability data and is highly predictive of DSM-IV drug-related disorder when tested among adolescent psychiatric inpatients.

The Assessment of Substance Misuse in Adolescence (ASMA) (Willner 2000) is an 8-item questionnaire that has been tested in a large sample of general students. It has a very favorable internal consistency (0.90), and total score was significantly related to several indices of drug and alcohol use.

Multiscreen Tools That Assess AOD Use and Other Domains

The 139-item Problem Oriented Screening Instrument for Teenagers (POSIT) (Rahdert 1991) is part of the Adolescent Assessment and Referral System developed by the National Institute on Drug Abuse. It screens for 10 functional adolescent problem areas: substance use, physical health, mental health, family relations, peer relationships, educational status, vocational status, social skills, leisure and recreation, and aggressive behavior/delinquency. Cut scores for determining need for further assessment have been rationally established, and some have been confirmed with empirical procedures (Latimer et al. 1997). Convergent and discriminant evidence for the POSIT has been reported by several investigators (e.g., McLaney et al. 1994; Dembo et al. 1997).

The Drug Use Screening Inventory (revised) (DUSI-R) is a 159-item instrument that describes AOD use problem severity and related problems. It produces scores on 10 subscales as well as one lie scale. Domain scores were related to DSM-III-R substance use disorder criteria in a sample of adolescent substance abusers (Tarter et al. 1992). An additional psychometric report provides norms and evidence of scale sensitivity (Kirisci et al. 1995).

Comprehensive Assessment

If an initial screening indicates the need for further assessment, clinicians and researchers can

use various diagnostic interviews, problem-focused interviews, and multiscale questionnaires. These instruments yield information that can more definitively assess the nature and severity of the drug involvement, to assign a substance use disorder and to identify the psychosocial factors that may predispose an individual to drug involvement and maintain the involvement.

Diagnostic Interview

Diagnostic interviews, which address DSM-based criteria for substance use disorders, include both general psychiatric interviews that contain specific sections for assessing substance use disorders and interviews that primarily focus on AOD use disorders. The majority of them are structured, that is, the interview directs the interviewer to read verbatim a series of questions in a decision-tree format, and the answers to these questions are restricted to a few predefined alternatives. The respondent is assigned the principal responsibility to interpret the question and decide on a reply.

There are four well-researched diagnostic interviews that address a wide range of psychiatric disorders. The first one, the Diagnostic Interview for Children and Adolescents (DICA) (Herjanic and Campbell 1977; Reich et al. 1982), is a 416-item structured interview that currently has a DSM-IV version available (Reich et al. 1991). Psychometric evidence specific to substance use disorders has not been published on the DICA, but some of the other sections have been evaluated for reliability and validity (Welner et al. 1987).

An instrument that has undergone several adaptations is the Diagnostic Interview Schedule for Children (DISC) (Costello et al. 1985; D. Shaffer et al. 1993, 1996). Separate forms of the interview exist for the child and the parent. As part of a larger study focusing on several diagnoses, Fisher and colleagues (1993) found the DSM-IV-based DISC to be highly sensitive in correctly identifying youth who had received a

hospital diagnosis of any substance use disorder ($n = 8$). Both interview forms (parent and child) had a sensitivity of 75 percent. For the one parent-child disagreement case, the parents indicated that they did not know any details about their child's substance use.

The Schedule for Affective Disorders and Schizophrenia for School-Aged Children (Kiddie-SADS or K-SADS) is a well-known semi-structured interview organized around Research Diagnostic Criteria and adapted for young clients based on the Schedule for Affective Disorders and Schizophrenia developed by Endicott and Spitzer (1978). The DSM-IV alcohol and drug questions are contained in the lifetime version of the interview (K-SADS-E-5) (Orvaschel 1995). However, no psychometric data on the substance use disorder section of the K-SADS-E-5 have been reported.

The fourth general psychiatric interview for consideration is the Structured Clinical Interview for the DSM (SCID) (Spitzer et al. 1987). Interviewers rate each symptom as absent, subclinical, or clinically present. The SCID Substance Abuse Disorders Module (SUDM) is widely used to assess substance use disorders among adults and has shown good reliability in field trials (e.g., Williams et al. 1992). Martin and colleagues (1995) modified the DSM-III-R version of the SCID to assess DSM-IV substance use disorders among adolescents. Symptoms and diagnoses showed good concurrent validity, and preliminary analyses suggested moderate to good interrater reliability for this interview (Martin et al. 2000).

Another set of diagnostic interviews focus on alcohol and other substance use disorders. The Adolescent Diagnostic Interview (ADI) (Winters and Henly 1993) assesses DSM-IV symptoms associated with psychoactive substance use disorders as well as other content domains of interest to clinicians (e.g., substance use consumption history, psychosocial stressors, other psychiatric disorders). Evidence that support the interview's psychometric

properties has been reported (Winters and Henly 1993; Winters et al. 1993, 1999a).

The other substance use disorder–focused interview is the Customary Drinking and Drug Use Record (CDDR) (Brown et al. 1998). The CDDR measures AOD use consumption, DSM-IV substance dependence symptoms (including a detailed assessment of withdrawal symptoms), and several types of consequences of AOD involvement. There are both lifetime and prior 2 years versions of the CDDR. Psychometric studies provide supporting evidence for this instrument’s reliability and validity (Brown et al. 1998).

Problem-Focused Interviews

Many problem-focused interviews are adapted from the well-known adult tool, the Addiction Severity Index (ASI) (McLellan et al. 1980). Content typically measured by interviews in this group are drug use history; drug use–related consequences and other functioning difficulties often experienced by drug-abusing adolescents such as legal, school, and social problems; and, in some instances, formal diagnostic criteria for abuse and dependence.

The Adolescent Drug Abuse Diagnosis (ADAD) (Friedman and Utada 1989) is a 150-item structured interview that measures medical status, drug and alcohol use, legal status, family background and problems, school/employment, social activities and peer relations, and psychological status. The interviewer uses a 10-point scale to rate the patient’s need for additional treatment in each content area. These severity ratings translate to a problem severity dimension (no problem, slight, moderate, considerable, and extreme problem). The drug use section includes a detailed drug use frequency checklist and a brief set of items that address aspects of drug involvement (e.g., polydrug use, attempts at abstinence, withdrawal symptoms, and use in school). Psychometric studies on the ADAD, using a broad

sample of clinic-referred adolescents, provide favorable evidence for its reliability and validity. A shorter form (83 items) of the ADAD intended for treatment outcome evaluation is also available.

The Adolescent Problem Severity Index (APSI) was developed by Metzger and colleagues (Metzger et al. 1991) of the University of Pennsylvania/VA Medical Center. The APSI provides a general information section that measures the reason for the assessment and the referral source, as well as the adolescent’s understanding of the reason for the interview. Additional sections of the APSI include drug/alcohol use, family relationships, education/work, legal, medical, psychosocial adjustment, and personal relationships. Limited validity data for the alcohol/drug section have been reported (Metzger et al. 1991).

Another ASI-adapted interview is the Comprehensive Addiction Severity Index for Adolescents (CASI-A) (Meyers et al. 1995). The CASI-A measures education, substance use, use of free time, leisure activities, peer relationships, family (including family history and intrafamilial abuse), psychiatric status, and legal history. At the end of several major topics, space is provided for the assessor’s comments, severity ratings, and ratings of the quality of the respondent’s answers. An interesting feature of this interview is that it incorporates results from a urine drug screen and observations from the assessor. Psychometric studies on the CASI-A have been reported (Meyers et al. 1995).

The fourth ASI-adapted interview is the Teen Addiction Severity Index (T-ASI) (Kaminer et al. 1991). The T-ASI consists of seven content areas: chemical (substance) use, school status, employment/support status, family relationships, legal status, peer/social relationships, and psychiatric status. A medical status section was not included because it was deemed to be less relevant to adolescent drug abusers. Patient and interviewer severity ratings are elicited on a 5-point scale for

each of the content areas. Psychometric data indicate favorable interrater agreement and validity evidence (Kaminer et al. 1993). Kaminer has developed a health service utilization tool that compliments the T-ASI, named the Teen Treatment Services Review (T-TSR) (Kaminer et al. 1998). This interview examines the type and number of services in and out of the program that the youth received during the treatment episode.

The final instrument for consideration in this group is the Global Appraisal of Individual Needs (GAIN) (Dennis 1999). This semi-structured interview covers recent and lifetime functioning in several areas, including substance use, legal and school functioning, and psychiatric symptoms. Very favorable reliability and validity data are associated with the GAIN, including data for the substance use disorders section when administered to a treatment-seeking adolescent population (Dennis 1999; Buchan et al. 2002). A shortened version of the GAIN is being developed.

Multiscale Questionnaires

The self-administered multiscale questionnaires range considerably in length; some can be administered in fewer than 20 minutes, whereas others may take an hour. Yet many of them share several characteristics: Measures of both drug use problem severity and psychosocial risk factors are provided; strategies are included for detecting response distortion tendencies; the scales are standardized to a clinical sample; and the option of computer administration and scoring is available. Five examples of instruments in this group are summarized here.

The Adolescent Self-Assessment Profile (ASAP) was developed on the basis of a series of multivariate research studies by Wanberg and colleagues (Wanberg 1992). The 225-item instrument provides an in-depth assessment of drug involvement, including drug use frequency and drug use consequences and benefits, as well as the

major risk factors associated with such involvement (e.g., deviance, peer influence). Supplemental scales, which are based on common factors found within the specific psychosocial and problem severity domains, can be scored as well. Extensive reliability and validity data based on several normative groups are provided in the manual.

The Chemical Dependency Assessment Profile (CDAP) (Harrell et al. 1991) has 232 items and assesses 11 dimensions of drug use, including expectations of use (e.g., drugs reduce tension), physiological symptoms, quantity and frequency of use, and attitude toward treatment. A computer-generated report is provided. Limited normative data are available thus far on only 86 subjects (Harrell et al. 1991).

The Hilson Adolescent Profile (HAP) (Inwald et al. 1986) is a 310-item questionnaire (true/false) with 16 scales, two of which measure AOD use. The other content scales correspond to characteristics found in psychiatric diagnostic categories (e.g., antisocial behavior, depression) and psychosocial problems (e.g., home life conflicts). Normative data have been collected from clinical patients, juvenile offenders, and normal adolescents (Inwald et al. 1986).

Another true/false questionnaire is the 108-item Juvenile Automated Substance Abuse Evaluation (JASAE) (ADE, Inc. 1987). This is a computer-assisted instrument that produces a five-category score, ranging from no use to drug abuse (including a suggested DSM-IV classification), as well as a summary of drug use history, measure of life stress, and a scale for test-taking attitude. The JASAE has been shown to discriminate clinical groups from nonclinical groups.

The Personal Experience Inventory (PEI) (Winters and Henly 1989) consists of several scales that measure chemical involvement problem severity, psychosocial risk, and response distortion tendencies. Supplemental problem screens measure eating disorders, suicide potential, physical/sexual abuse, and parental history of

drug abuse. The scoring program provides a computerized report that includes narratives and standardized scores for each scale, as well as other various clinical information. Normative and psychometric data are available (Winters and Henly 1989; Winters et al. 1996, 1999b).

Expectancy Measures

The Alcohol Expectancy Questionnaire—Adolescent Form (AEQ-A) is a 90-item questionnaire that measures an individual's expected or anticipated effects of alcohol use (marijuana and cocaine versions are available as well) (Brown et al. 1987). Six positive expectancies are measured (global positive effects, social behavior change, improvement of cognitive/motor abilities, sexual enhancement, increased arousal, and relaxation/tension reduction), and one negative expectancy is measured (deteriorated cognitive/behavioral functioning). Favorable reliability and validity evidence exists for the AEQ-A (Brown et al. 1987; Christiansen et al. 1989; Smith et al. 1995).

The Decisional Balance Scale consists of a 16-item scale that measures two drinking factors: advantages of drinking and disadvantages of drinking. Both scales have adequate internal reliability (0.81 and 0.87) (Migneault et al. 1997).

The final expectancy measure is Petchers and Singer's (1987) Perceived Benefit of Drinking Scale (PBDS). This 10-item scale was constructed to serve as a nonthreatening problem severity screen. It is based on the approach that beliefs about drug use, particularly regarding expected personal benefits of drug use, reflect actual use. Five perceived-benefit questions are asked regarding use of alcohol and then are repeated for drug use. The scale has moderate internal reliability (0.69–0.74) and is related to several key indicators of drug use behavior when tested in school and adolescent inpatient psychiatric samples (Petchers and Singer 1990).

Problem Recognition and Readiness for Change Measures

Two adolescent measures of motivational variables associated with changing one's AOD behavior were located in the literature. The 24-item Problem Recognition Questionnaire (PRQ) consists of separate factors pertaining to drug use problem recognition and readiness for treatment (i.e., action orientation). The scale was developed with a combination of rational and empirical procedures. The PRQ factors have adequate internal reliability and were shown to be predictive of posttreatment functioning in an adolescent substance-abusing population (Cady et al. 1996).

The therapeutic community treatment research group at the National Development and Research Institutes, Inc., in New York developed the Circumstances, Motivation, Readiness and Suitability (CMRS) scales (DeLeon et al. 1994). Although the CMRS was originally developed for use with adults in a therapeutic community setting, it has been evaluated for use with drug-abusing adolescents (Jainchill et al. 1995). The questionnaire consists of four scales, and the total score is designed to predict retention of treatment. The scales are Circumstances (external motivation), Motivation (internal motivation), Readiness (for treatment), and Suitability (perceived appropriateness of the treatment modality). The scales have favorable internal consistency (alphas ranging from 0.77 to 0.80), and they moderately predict short-term (30-day) retention.

Treatment Planning

It is worthwhile to consider the assessment instruments reviewed above in terms of how they can contribute to the treatment referral and planning process. Screening tools are appropriate for settings where the need is great to efficiently screen a high volume of young people for suspected problems. Several of the available

screening tools contain scoring rules that specifically guide the user as to the likelihood that the client needs a comprehensive assessment.

The comprehensive instruments more directly assist the user with the treatment planning process in several ways. The reality of many treatment programs is that eligibility for treatment requires formally demonstrating the presence of a DSM-based alcohol or substance use disorder. Thus, the many adolescent diagnostic interviews that are organized around the DSM-based criteria for abuse and dependence disorders are quite relevant for this purpose (e.g., ADI, CDDR, DISC). The multiscale questionnaires and problem-focused interviews, with their attention to several characteristics of AOD use and to underlying psychosocial risk factors that may have contributed to the AOD involvement, can provide meaningful information to assist the counselor in developing client-tailored treatment goals.

Many of the comprehensive and other (expectancy and readiness to change) instruments reviewed above contain scales that measure negative consequences of drug use, psychosocial and social reasons for drug use, and individual and environmental risk factors commonly associated with the onset or maintenance of adolescent drug use (e.g., peer drug use). Examples of such instruments are the ASAP, the CASI-A, the PEI, and the T-ASI. These scales can aid the counselor in helping the young client gain insight about his or her drug problems, as well as highlighting the inter- and intrapersonal factors that need to be targeted to reverse the drug habit (e.g., heavy peer drug use points to the need for increasing non-drug-using friends in the person's social life).

RESEARCH NEEDS

Reviews of existing adolescent AOD involvement instruments indicate that, as a whole, there is a wealth of evidence that relevant constructs can be

measured reliably and validly in this field (Leccese and Waldron 1994). As summarized in table 3, the extant psychometric data are quite abundant for temporal stability, internal consistency, and content and criterion validity. However, several instruments lack important validity data. For example, many tests do not report validity evidence among subpopulations of young people defined by age, race, and type of setting (e.g., juvenile detention program or treatment program), and data regarding the test's ability to measure clinical treatment outcomes are almost nonexistent. Whereas available measures are generally adequate for assessing predisposing risk factors and relevant AOD treatment outcomes, most have not been formally evaluated as a measure of change (Stinchfield and Winters 1997). A good measure of change should meet the condition that its standard error of measurement is sufficiently minimal to permit its use in detecting small to medium change over time (Jacobson and Truax 1991).

Beyond these psychometric considerations, other issues pertaining to the research and clinical utility of adolescent assessment instruments remain unresolved. One issue is whether current assessment tools can adequately identify several distinct levels along the problem severity continuum. As already noted, it is unclear whether the distinction between substance abuse and substance dependence is diagnostically meaningful when applied to adolescents, and there is the need for more precise measures of the heterogeneous group of youth that meet criteria for abuse, particularly alcohol abuse (Martin and Winters 1998). A second major unresolved issue is the need for more precise identification of related psychosocial problems that may contribute to the onset and maintenance of AOD involvement. Many existing tools assess psychosocial risk factors historically, which does not permit an understanding of the extent to which risk factors may precede the AOD use or be a consequence of it. A final research issue is that most current assessment instruments do not readily translate into specific treatment interventions for primary and

secondary problems, nor do they facilitate the “matching” of subgroups of adolescent AOD abusers with different levels of treatments.

CONCLUSION

Considerable progress has been achieved since the mid-1980s in the development of a vast array of assessment tools for the identification, assessment, and treatment of adolescents suspected of involvement with alcohol, marijuana, and other drugs. The decision to include a separate chapter on adolescent assessment in the second edition of this *Guide* is a testament to the maturation of this sector of the assessment instrumentation field. Despite some needs for further growth and sophistication, this assessment foundation bodes well for the field as it continues to fill knowledge gaps in epidemiology, prevention, and treatment.

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