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Drawn from The National Center on Addiction and Substance Abuse at Columbia University (2-21-02), this abstract summarizes the impact of substance (alcohol and other drugs) abuse on teenagers. “Alcohol is far and away the top drug of choice by American teens. Children under the age of 21 drink 25 percent of the alcohol consumed in the U.S. The age at which children begin drinking continues to drop; the proportion of children who begin drinking in the eighth grade or earlier is over 36 percent. And there is no longer a gender difference. By any public health standard America has an epidemic of underage drinking that begins in elementary and middle schools with children 9 to 13 years old. Eighty percent of high school students have tried alcohol, while 47 percent have used marijuana. Twenty-nine percent of high school seniors have used some other illegal drugs. This report makes clear the time and place to deal with problematic drinking as well as illicit drug abuse is early adolescence. Teen drinking is the number one source of adult alcoholism. And heavy drinking teenagers are more than 12 times likelier to use illegal drugs than those who do not drink.”

The Adolescent Chemical Dependency Inventory (ACDI) is designed to screen troubled youth for problems that interfere with their life adjustments. Although deliberately short (105 items, 15 to 20 minutes to complete), the ACDI is a comprehensive screening instrument, intake questionnaire or test. The ACDI’s five scales (measures) represent important areas of inquiry,

For example, the Truthfulness Scale measures how truthful the juvenile was while completing the test. This helps us understand juvenile defensiveness, denial and attempts to “fake good.” The Alcohol Scale and Drugs Scale are independent measures of substance use and abuse. The Adjustment Scale serves as a litmus test for problem (home, school and relationships) free adaptation. And the Distress Scale assesses depression, worry, anxiety and angst. Depression is the number one reason juveniles seek counseling.

Applications

◆ Juvenile assessment in school systems and troubled youth programs.

◆ Intake screening in juvenile counseling and treatment programs.

◆ Juvenile substance (alcohol and other drugs) abuse intake screening.

◆ Assist in identifying appropriate intervention, counseling or treatment alternatives.
The ACDI has 105 items and takes on average 15 to 20 minutes to complete. It is an automated (computer-scored) self-report test for juveniles’ (14 to 18 years) assessment. The ACDI screens substance (alcohol and other drugs) use and abuse, overall adjustment and troubled youth concerns.

**Five ACDI Measures (Scales)**

1. **Truthfulness Scale**: Measures the truthfulness of the youth while completing the test. This scale identifies defensive youths that minimize their problems or even try to fake good.

2. **Alcohol Scale**: Measures the severity of alcohol use and abuse. Alcohol refers to beer, wine and other liquor.

3. **Drugs Scale**: Measures illicit drug use and the severity of abuse. Drugs refer to marijuana, crack, cocaine, amphetamines, barbiturates and heroin.

4. **Adjustment Scale**: Measures home, school and relationship adjustment. Quality of peer, family and authoritarian relationships are also explored.

5. **Distress Scale**: Measures anxiety and depression. The term dysthymic combines symptoms of anxiety and depression in the same disorder.

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**Risk Level Classification**

Each ACDI scale score is classified in terms of the risk range it represents. These risk level classifications are calculated individually for each of the six empirically based scales as follows:

<table>
<thead>
<tr>
<th>PERCENTILE</th>
<th>RISK RANGE</th>
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</thead>
<tbody>
<tr>
<td>0 to 39th percentile</td>
<td>Low Risk</td>
</tr>
<tr>
<td>40 to 69th percentile</td>
<td>Medium Risk</td>
</tr>
<tr>
<td>70 to 89th percentile</td>
<td>Problem Risk</td>
</tr>
<tr>
<td>90 to 100th percentile</td>
<td>Severe Problem Risk</td>
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</tbody>
</table>

A person who does not presently engage in alcohol or other drug abuse may score above zero, but would score in the low risk range. In addition, an elevated score (above the 70th percentile) on the Alcohol or Drug Scale could be obtained by a recovering alcoholic or recovering drug abuser. Consequently the client should be asked if he or she is recovering, and if recovering, "how long have they been abstaining" from alcohol or other drug use.
<table>
<thead>
<tr>
<th><strong>Risk Level</strong> <strong>Classification, Continued</strong></th>
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<tbody>
<tr>
<td>It is recommended that staff members do not take the ACDI test. A staff member does not have the same mental set as a troubled youth, consequently, they may invalidate or distort &quot;their&quot; ACDI profile. And, the ACDI is standardized on youth between the ages of 12 and 18 years.</td>
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<table>
<thead>
<tr>
<th><strong>Significant Items</strong></th>
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<tr>
<td><strong>Significant items represent self-admissions or important self-report responses.</strong> They are provided for reference and do not determine the respondent's scale score. For example, a person could have a high scale score and few significant items or vice versa. Significant items are printed on the last page of ACDI reports. Significant items augment scale scores and sometimes provide a more complete understanding of the client. Significant items permit comparison of the client's self-perception and attitude with their objective scale scores.</td>
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<tr>
<th><strong>Multiple Choice Items</strong></th>
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<tr>
<td>Multiple Choice Items responses reflect important self-report motivational, attitudinal and perceptual information. These responses are always printed on the last page of the ACDI report. They represent the juvenile's perception of his or her situation and needs; therefore, they may differ from empirically based and objective scale scores. This enables further comparison of client's motivation and attitudes with the client's objectively attained scale scores. For example, persons may report &quot;no problem&quot; with regard to their alcohol-related drinking pattern, even though their score on the Alcohol Scale is above the 90th percentile (severe problem) range. On the other hand, it is also important to note when the Multiple Choice Item responses are consistent with their corresponding objective scale scores.</td>
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<tr>
<th><strong>Evaluator’s Recommendations</strong></th>
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<td>Space has been provided in the ACDI report for the staff member's observations and recommendations. In most instances, these observations and recommendations will be consistent with ACDI findings. However, in some instances the staff member will have an observation or recommendation that differs from the ACDI report. This is OK! The staff member may obtain important information from another source (offender, relative, records, etc.) which influences their recommendations. In these situations it is recommended that the staff member document in writing this additional source of information along with related recommendations in the space provided.</td>
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<tr>
<th><strong>Unique ACDI Features</strong></th>
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<tr>
<td>The ACDI has been researched and standardized on the juvenile population. This expanding database enables the ACDI to incorporate many unique features. Each of these unique ACDI features is solidly based upon extensive ACDI research. Perhaps of equal importance is the fact that this database research is ongoing in nature.</td>
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</table>
Expanding Database

Copyrighted ACDI software was designed with the capability of "saving" the data from each test in a confidential (no names) manner for ongoing research and analysis. No client names appear in ACDI research or annual program summary reports. The expanding ACDI database is statistically analyzed each year. This feature represents a unique advantage of the ACDI. The database ensures ongoing research at no additional cost to the ACDI user. As the ACDI database continues to grow, new and exciting research discoveries and innovative software remedies are anticipated.

Gender Specific Norms

Research identified significant gender (male/female) differences on two of the ACDI scales. Based on this research, gender specific norms (separate male and female scoring procedures) have been established in the ACDI software program for the Alcohol Scale and the Distress Scale. Significant gender differences were not observed on the Truthfulness (Validity) Scale, Drug Scale or the Adjustment Scale. It is important to note that these gender differences may vary according to geographical area. Thus, it is very important that gender specific research continues. This is an example of the importance of annual database research.

Validity

Definition: Within the context of assessment, validity is a general term for accuracy of measurement. Valid test results are essentially free from error. They are accurate. In contrast, invalidity refers to distortion of test results due to errors in measurement. Invalidity may be due to guardedness, denial, faking, reading things into questions, emotional instability, reading impairments, etc. An invalid test means test results are distorted and not accurate.

When reviewing an ACDI report, staff should check the Validity Scale score. If the Truthfulness (Validity) Scale score is below the 70th percentile--test results are valid and accurate. Truthfulness (Validity) Scale scores between the 70th and 89th percentile are likely valid, but should be interpreted cautiously. Truthfulness (Validity) Scale scores above the 90th percentile indicate that test results are invalid or inaccurate.

Truthfulness or Validity Scale

Self-report tests and interviews are subject to the danger of juvenile’s not telling the truth. An important advance in testing is the Truthfulness (Validity) Scale, which measures how honest the juvenile is while completing the test. It would be naive to believe that all people taking tests always answer questions truthfully. Truthfulness (Validity) Scales identify self-protective and guarded people who attempt to deny, minimize or even conceal information. These scales can also detect functionally illiterate and visually impaired individuals. This feature is of special importance in school, treatment or court-related settings, since
the outcome of a juvenile's test results could affect their level of supervision, nature of treatment and life situation. The Truthfulness Scale identifies attempts to fake or under report problems and concerns.

**Truth-Corrected Scores**

Another sophisticated psychometric technique involves "truth-corrected" scores which are individually calculated for each of the ACDI scales every time a test is scored. The Truthfulness Scale establishes how truthful the client was while completing the ACDI. Correlations between the Truthfulness Scale and all other scales have been statistically determined. This procedure enables the ACDI to identify and add back into each scale score the amount of error variance associated with a person's untruthfulness, resulting in "truth-corrected" scores. Raw scores may only reflect what the client wants you to know. Truth-corrected scores reveal what the client is trying to hide. **Truth-corrected scale scores are more accurate than raw scores because they account for the measured amount of untruthfulness of the client while completing the ACDI.**

Professionals across the country have endorsed the benefits of truth-corrected scores, calling it a "high tech solution to a very common, down-to-earth need." This methodology is easy to use because the computer does all the work, actually calculating these truth-corrected scores every time a test is given. In the past, many evaluators were "turned off" on self-report tests because they were too easy to fake. Validity scales and truth-corrected scores have addressed and largely resolved this problem. They are considered by many as essential in any self-report test.

**Alcohol Scale**

The Alcohol Scale measures a juvenile's alcohol proneness and alcohol-related problems. This is an important area of inquiry when evaluating risk.

A juvenile's scale score is determined by his or her pattern of responding to that scale's items or test questions. For example, the Alcohol Scale has a specific number of scale items, and the client's score is obtained by adding up the number of scale items that were answered in a negative or deviant direction.

In summary, this empirically based scale is a measure of a youth having alcohol-related problems. Alcoholism is a significant problem in our society. Alcoholism has been related to arrest records, illicit substance (drugs) abuse, emotional problems and impaired adjustment. Alcohol refers to beer, wine or other liquor.

The Alcohol Scale correlates (in the positive direction) with other recognized objective measures of alcohol use and abuse.
**Drug Scale**

A drug may be broadly defined as any chemical substance that affects living processes. This definition includes alcohol as well as marijuana, cocaine, crack, ice, heroin, amphetamines, barbiturates, LSD, etc. An important distinction between these substances is legality. The major licit (or legal) drugs are caffeine, nicotine and alcohol. These are generally socially accepted and legally marketed substances.

Increased public awareness of illicit (or illegal) substance abuse and its effects on people's lives is a growing concern. The burgeoning awareness of marijuana and cocaine abuse is but one example of this concern about illicit substance use and abuse.

It is apparent that many people have been exposed to drugs in our society. Frequency and magnitude of drug use or abuse are important factors. The degree of severity of drug use or abuse is measured with the Drug Scale.

The Drug Scale is scored by adding the number of Drug Scale items that were answered in a deviant or negative direction.

The Drug Scale correlates significantly (in the positive direction) with other objective measures of drug use and abuse.

**ACDI Report**

The ACDI report concisely summarizes test data in an accurate and easily understood manner. Staff needs for report-writing, substantiation of decision-making and record-keeping are all met with ACDI reports.

ACDI reports can be individualized to be in compliance with each state's and agency's needs. Recommendations desired in one agency or program may not be appropriate in another. In high volume testing settings, reports can be even further individualized to user's needs.

**Oral Instructions**

It is now clear that juvenile’s minimize their alcohol and/or other drug-related problems by substantially under-reporting their alcohol and/or other drug use. This means the oral instructions to the juvenile before he or she begins the ACDI are important. A straightforward approach is recommended. For example:

"This inventory contains a truthfulness measure to determine how cooperative and truthful you are while completing it. Please answer all of the questions honestly. It is also important that you do not read anything into the questions that is not there. There are no trick questions. Your available records may be checked to verify the accuracy of your answers.

Just answer each question truthfully."

Giving the youth an example often helps them understand. The example that you use will be influenced by your client population, experience, and
intent. It should be individualized to your situation and needs. Although not recommended for use with juveniles, the following example is presented for clarification as to how an example might be included in your oral instructions to the client:

**AN EXAMPLE**

"Last week a client told me while taking the MMPI that he could not answer this true-false question, 'I am attracted to members of the opposite sex.' When asked why, the client replied, 'If I answer True, you will think I am a sex maniac. If I answer False, you will think I am a homosexual.' I told the client that this test item does not ask you about being a sex maniac or a homosexual. It simply asked if you are attracted to members of the opposite sex. When you interpreted it to refer to sex maniacs or homosexuals, you were answering a different question. Do not read anything into these questions that isn't there, because if you do, you will invalidate the test and may have to take it over. Simply answer the questions True or False. **There are no trick questions or hidden meanings.** If you misinterpret or change the questions in the test, you will invalidate the test."

A few minutes of oral instructions can put the youth at ease while providing structure and clarifying expectations. Such procedures can greatly reduce the number of invalid tests while making the assessment procedure more acceptable to the youth. Some agencies type out oral instructions for the staff so that they can have them as a ready reference.

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**Control of ACDI Reports**

The standard ACDI report is designed for staff use. It is not recommended that ACDI reports be given to the juvenile. It is not recommended that the juvenile take any ACDI materials, including the report, out of the office. The youth being evaluated should **not** be given the ACDI reports, nor allowed to take any ACDI materials (including the test booklet) out of the office.

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**Check answer Sheet for Completeness**

Check the juvenile's answer sheet for completeness when it is turned in and before the youth leaves. No items should be skipped and both true and false should not be answered for the same question. In these instances the youth should be informed that each question must be answered in accordance with the instructions, and be given the opportunity to correct or complete their answer sheet. **Skipped answers are scored by the computer in the deviant direction,** since it is assumed that these items were omitted to avoid admitting a "negative" response.
Extra Validity Explanation Page

When the Truthfulness (Validity) Scale score is at or above the 95th percentile, an extra (one page) explanation of invalidity is printed out in addition to the usual ACDI report. This "explanation" is designed to assist the staff member. It should be noted that even with an invalid report, the "significant items" and multiple choice items" can still provide some important information.

Valid - Invalid Test Profiles

Invalidity is defined in terms of a client attaining a Truthfulness (Validity) Scale score in the 90 to 100 percentile range. Yet, even with this type of a Truthfulness (Validity) Scale score you can identify different valid-invalid test profiles. Five examples are given for clarification.

Example #1: An elevated (at or above the 90th percentile) Truthfulness (Validity) Scale score with all other ACDI scale scores at or above the 90th percentile. This profile is often associated with impaired reading skills, acute emotional turmoil, or a deviant response set.

Further inquiry is needed with the youth before deciding whether to retest. If impaired reading abilities are evident, you might consider interviewing the youth. If emotionally upset, you might want to settle the youth down before retesting. Although relatively rare, some juveniles do not take the testing situation seriously and might randomly respond to test questions. Regardless of the reason, this ACDI test profile is invalid.

Example #2: An elevated Truthfulness (Validity) Scale score with at least one other scale score above the 69th percentile and at least one other scale score below the 40th percentile. This may be a valid profile where the youth was either inadvertently "reading things into the questions" or attempting to be "absolutely honest." After reviewing the instructions, this youth would likely be retestable. However, a "focused interview" may be all that is needed to complete this assessment.

Example #3: An elevated Truthfulness (Validity) Scale score with all other scale scores at or below the 39th percentile. This juvenile was attempting to minimize problems and "look good" but was detected by the Validity Scale. This is a classically invalid profile. This youth can be expected to be defensive, guarded and manifest denial. Faking is likely. A direct approach is recommended, e.g., "you were either attempting to minimize your problems or you were reading things into the questions that weren't there." Retest would be contingent upon the youth's attitude.

Example #4: A low risk Truthfulness (Validity) Scale score with other scale scores variable is usually considered a valid profile. However, in very rare instances, this could represent a "test wise" staff
member playing "beat the test." Earlier it was noted that staff members do not have the same mental set as a juvenile offender and it was recommended that they do not take the ACDI. It would be unusual and rare for a juvenile to be that "test wise." First year college students in psychology classes were asked to "lie but don't get caught" and were detected.

The respondent's motivation should be established on the basis of the overall assessment.

It should be noted that the "significant items" and the "multiple choice items" sections of the ACDI report are independent of the scale scores and reflect the juvenile's perception, attitudes and opinions. However, even when you have an invalid ACDI report, helpful information can sometimes be obtained from the "significant items" and "multiple choice items." In these instances, it is advisable to review the youth's available records and interview them closely.

**Example #5: In very rare instances, a respondent might answer all items True or False.** If all items are answered True, the Truthfulness (Validity) Scale score would be very low (around the sixth percentile) and all other scale scores would be very high (around the 99th percentile). This type of a response set is so rare, and the response pattern so unusual, that we simply mention it for future reference. Similarly, if the respondent answers all items False, the Truthfulness (Validity) Scale score would be very high (around the 99th percentile) and other scores would be low. The high Truthfulness (Validity) Scale score would indicate that the test protocol is invalid. Each of these situations represents a very rare occurrence. Yet, should they occur, straightforward inquiry with the youth is all that is usually needed to clarify the matter. Contingent upon the youth's attitude, retesting might be considered after the verbal instructions are reviewed.

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**Retest**

If juveniles invalidate their ACDI, it is recommended that they be given the opportunity to be retested. Prior to retesting, the oral instructions should be reviewed carefully with the youth. If the retest is still invalid, the youth may be untestable at that time.

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**Time Savings**

The ACDI is specifically designed for juvenile risk evaluation and assessment. It provides a vast amount of relevant information quickly and accurately. The ACDI facilitates a “focused” interview that can result in significant savings in time with no compromise in the quality of the service being provided.
Focused Interview

The ACDI provides relevant self-report information in a timely (within minutes) manner, thereby facilitating a “focused interview.” The focused interview may require 30 minutes to complete, with no compromise in effectiveness or quality. Focused interviews “zero in” on juvenile problems and concerns. Problem areas are identified so the interview can focus on these areas of concern.

Database

A database of juvenile information and test data is very useful. It makes possible ongoing cost-effective research and also provides the capability to summarize results for administrative, budgeting and planning purposes. Behavior Data System’s copyrighted built-in expanding database provides both a research and program summary capability. Copyrighted software "saves" the test data from each test that is administered. This data is downloaded in a confidential (no names) manner to the ACDI database.

The ACDI database provides a cost effective approach to ongoing research. Used diskettes are returned to Behavior Data Systems, Ltd., and test data is placed in the ACDI database. The ACDI database is analyzed annually. This means that on an annual basis the ACDI is essentially restandardized. This ensures accuracy and fairness. ACDI databases are established on a state as well as departmental/agency basis. Small volume test users incorporate their databases with others, while large volume agencies can maintain their own databases.

These same databases provide a cost effective means by which testing programs can be summarized-again in a confidential (no names) manner. Annual summary reports describe the population that was tested. Population statistics, demographics, emerging trends and much more can be provided in these reports on an annual basis.

Technical Support

If you have a problem or question, email Professional Online Testing Solutions, Inc. at info@online-testing.com, this is operational from 9 a.m. to 4 p.m. business hours (Mountain Standard Time), Monday through Friday.