Juvenile Substance Abuse Profile

(JP)

An Inventory of Scientific Findings

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The Juvenile Profile is designed specifically for troubled youth
(male and female) assessment in juvenile programs, school
systems, and treatment agencies.

PREFACE

Juvenile Profile research and development began in the 1980's and has continued to the present. The Juvenile Profile evolved from the ACDI and ACDI-Corrections Version. The copyrighted Juvenile Profile database ensures continued research and development. The Juvenile Profile is a brief, easily administered and automated (computer scored) test that is designed for troubled youth, school systems and juvenile substance (alcohol and other drugs) abuse assessment. It includes true/false and multiple choice items and can be completed in 20 minutes or less. The Juvenile Profile contains five empirically based scales: Truthfulness, Aggressiveness, Alcohol, Drugs, and Stress Coping Abilities. The Juvenile Profile has been researched on adjudicated juvenile delinquents, students, juvenile offenders and others.

The Juvenile Profile report explains client's attained scores and makes specific intervention and treatment recommendations. It also presents Truth-Corrected scores, significant items, a concise "structured interview" and much more. It is a risk and needs assessment instrument. This document summarizes much of the Juvenile Profile research.

The Juvenile Profile has demonstrated reliability, validity and accuracy. It correlates impressively with both experienced staff judgment and other recognized tests. Juvenile Profile tests can be given directly on the computer screen or in paper-pencil test booklet format. All tests are computer scored on-site. Juvenile Profile reports are available within three minutes of test completion. Diskettes contain all of the software needed to score tests, build a database and print reports. The Juvenile Profile Windows version also has an optional human voice audio presentation that presents the test on the computer screen with accompanying auditory presentation of the text seen on the computer screen.

Juvenile Profile users are typically not clinicians or diagnosticians. Their role is usually to identify client risk, substance (alcohol and other drugs) abuse and client need prior to recommending intervention, supervision levels and/or treatment. The Juvenile Profile is to be used in conjunction with a review of available records and respondent interview. No decision or diagnosis should be based solely on Juvenile Profile results. Client assessment is not to be taken lightly as the decisions made can be vitally important as they effect people's lives. Juvenile Profile research is ongoing in nature, so that evaluators can be provided with the most accurate information possible.

INTRODUCTION

JUVENILE PROFILE

Increased public awareness of substance (alcohol and other drugs) abuse as a nationwide juvenile health problem has clarified the need for identification, intervention and treatment of these disorders. Troubled youth, their families, juvenile probation departments and juvenile courts are now requiring substantiation and documentation of juvenile staff decision making. Substance (alcohol and other drugs) abuse problems must now be measured with quantitative risk-related recommendations substantiating intervention and treatment.

Juvenile Profile test items were developed from large item pools. Item selection was initially a rational process by three psychologists and five juvenile counselors having clearly understood definitions of each scale. The original pool of potential test items was analyzed and items with the best statistical properties were retained. The Juvenile Profile test was then administered to a variety of juvenile groups, e.g., adjudicated delinquent juveniles, students and juvenile offenders. Test items with the best statistical properties have been retained.

Information on the Juvenile Profile is available in the Juvenile Profile Orientation & Training Manual. Computer scoring information is contained in the Juvenile Profile Computer Operating Guide. Each of these manuals can be obtained upon request.

JUVENILE PROFILE MEASURES (SCALES)

Users of the Juvenile Profile should be familiar with each Juvenile Profile scale. A description of each Juvenile Profile scale follows.

JUVENILE PROFILE SCALES

   1. Truthfulness Scale: measures the truthfulness of the client while they were completing the Juvenile Profile. This scale identifies self-protective, defensive or guarded people who minimize or even fake answers.

   2. Aggressiveness Scale: measures how outgoing, bold, threatening, hostile and combative the troubled youth is. This scale identifies juveniles who are willing to take issue, quarrel, argue and are inclined to fight.

   3. Alcohol Scale: measures the frequency and magnitude of alcohol-related problems. Alcoholism is a significant problem in our society.

   4. Drug Scale: measures drug (e.g., marijuana, cocaine, crack, heroin, etc.) abuse problems. Increased awareness of illicit (or illegal) substance abuse and its effects on juvenile's lives is a growing concern.

   5. Stress Coping Abilities Scale: measures a person's experienced stress level in comparison to that person's ability to cope with stress.

The following studies summarize research conducted on a variety of youths, e.g., adjudicated juvenile delinquents, students, juvenile offenders and community correction clients.

Juvenile Profile research is presented chronologically in the order it was conducted. Chronological presentation enables the reader to follow the evolution of the Juvenile Profile into a state-of-the-art automated (computerized) screening instrument. The Juvenile Profile evolved from the ACDI and ACDI-Corrections Version, which have a long history of research and development. More recent studies (toward the end of this document) are most representative of current Juvenile Profile statistics.

JUVENILE PROFILE RESEARCH

Initially, a large item pool was rationally developed for Juvenile Profile scale consideration. Consensual agreement among three Ph.D. level psychologists and five juvenile counselors familiar with Juvenile Profile scale definitions reduced the initial item pool markedly. Final item selection was empirical - comparing statistically related item configurations to known substance abuse groups. Items chosen had acceptable inter-item reliability coefficients and correlated highest with their respective scales. Final item selection was based on each item's statistical properties. Items with the best statistical properties were retained. The Juvenile Profile was then objectively standardized and normed on juvenile populations.

1. A Study of Juvenile Profile Test-Retest Reliability

Any approach to detection, assessment, or measurement must meet the criteria of reliability and validity. Reliability refers to an instrument's consistency of results regardless of who uses it. This means that the outcome must be objective, verifiable, and reproducible. Ideally, the instrument or test must also be practical, economical, and accessible. Psychometric principles and computer technology insures Juvenile Profile accuracy, objectivity, practicality, cost-effectiveness and accessibility.

Reliability is a measure of the consistency of a test in obtaining similar results upon re-administration of the test. One measure of test reliability, over time, is the test-retest correlation coefficient. In this type of study, the test is administered to a group and then the same test is re-administered to the same group at a later date.

Method
College students at two different colleges enrolled in introductory psychology classes participated in this study (1984). A total of 115 students participated and received class credit for their participation. The students were administered the Juvenile Profile in a paper-pencil test format. One week later they were re-tested with the Juvenile Profile again.

Results
The results of this study revealed a significant test-retest product-moment correlation coefficient of $r = 0.71$, p<.01. These results support the reliability of the Juvenile Profile. Test-retest consistency was very high and indicates that the Juvenile Profile scores are reproducible and reliable over a one-week interval.

2. Validation of the Truthfulness Scale

The Truthfulness Scale in the Juvenile Profile is an important psychometric scale as these scores establish how truthful the respondent was while completing the Juvenile Profile. Truthfulness Scale scores determine whether or not Juvenile Profile profiles are accurate and are integral to the calculation of Truth-Corrected Juvenile Profile scale scores.

The Truthfulness Scale identifies respondents who are self-protective, recalcitrant and guarded, as well as those who minimized or even concealed information while completing the test. Truthfulness Scale items are designed to detect respondents who try to fake good or put themselves into a favorable light. These scale items are statements about oneself that most people would agree to. The following statement is an example of a Truthfulness Scale item, "Sometimes I worry about what others think or say about me."

This preliminary study used the 21 Truthfulness Scale items in the Juvenile Profile to determine if these Truthfulness Scale items could differentiate between respondents who were honest from those trying to fake good. It was hypothesized that the group trying to fake good would score higher on the Truthfulness Scale than the group instructed to be honest.

Method
Seventy-eight Arizona State University college students (1985) enrolled in an introductory psychology class were randomly assigned to one of two groups. Group 1 comprised the "Honest" group and Group 2 comprised the "Fakers" group. Group 1 was instructed to be honest and truthful while completing the test. Group 2 was instructed to "fake good" while completing the test, but to respond "in such a manner that their faking good would not be detected." The test, which included the Juvenile Profile Truthfulness Scale, was administered to the subjects and the Truthfulness Scale was embedded in the test as one of the five scales. Truthfulness Scale scores were made up of the number of deviant answers given to the 21 Truthfulness Scale items.

Results
The mean Truthfulness Scale score for the Honest group was 2.71 and the mean Truthfulness Scale score for Fakers was 15.77. The results of the correlation (product-moment correlation coefficient) between the Honest group and the Fakers showed that the Fakers scored significantly higher on the Truthfulness Scale than the Honest group ($r = 0.27$, $p < .05$).

The Truthfulness Scale successfully measured how truthful the respondents were while completing the test. The results of this study reveal that the Truthfulness Scale accurately detects "Fakers" from those students that took the test honestly.

3. Validation of the Juvenile Profile Truthfulness Scale using Criterion Measures

In general terms, a test is valid if it measures what it is supposed to measure. The process of confirming this statement is called validating a test. A common practice when validating a test is to compute a correlation between it and another (criterion) test that purports to measure the same thing and that has been previously validated. For the purpose of this study (1989), the Juvenile Profile Truthfulness Scale was validated with comparable scales on the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI was selected for this validity study because it is the most researched, validated and widely used objective personality test in the United States. The Juvenile Profile Truthfulness Scale was validated

with the MMPI F Scale and L Scale. High scores on the F scale indicate lack of cooperation, desire to fake bad, haphazard approach to testing or failure to understand the items. High L Scale scores indicate attempts to fake good, deceptiveness or a need to appear in a good light. High scores on the Juvenile Profile Truthfulness Scale reflect guardedness, evasiveness, recalcitrance or impaired reading abilities.

Method
Thirty-three (33) adjudicated delinquent adolescents (1989) were administered both the Juvenile Profile and the MMPI. Tests were counterbalanced for order effects -- half were given the Juvenile Profile first and half the MMPI first. There were 29 males and 4 females and they ranged in age from 15 to 18 years (average age 16.1). All participants had at least a 6th grade equivalent reading level.

Results and Discussion
Product-moment correlation coefficients were calculated between Juvenile Profile scales and MMPI scales. These results are summarized in Table 1. Correlation results presented in Table 1 show that the Juvenile Profile Truthfulness Scale significantly correlated (.01 level of significance) with all represented MMPI scales. In addition, the correlations were in predicted directions.

**Table 1. (1989) Product-moment correlations
between MMPI scales and Juvenile Profile Truthfulness Scale**

MMPI SCALES (MEASURES)	Juvenile Profile Scale (Measure)	
	Truthfulness	Significance Level
F Scale	0.687	0.01
L (Lie) Scale	0.590	0.01

These findings strongly support the validity of the Juvenile Profile Truthfulness Scale. The Juvenile Profile Truthfulness Scale was highly correlated with the MMPI criterion scales it was tested against. The large correlation coefficients support the validity of the Juvenile Profile Truthfulness Scale. The product-moment correlation coefficients testing the relation between Juvenile Profile Truthfulness Scale and MMPI scales were significant at the $p < .01$ level.

4. Validation of Juvenile Profile Scales

The Juvenile Profile is a juvenile assessment instrument. It is designed for use in schools, counseling programs, juvenile courts, juvenile probation and adolescent community corrections. The Juvenile Profile is a specific test designed for a specific population. The present study (1989) was conducted to validate Juvenile Profile scales.

Selected scales in the Minnesota Multiphasic Personality Inventory (MMPI) were used as criterion measures for the different Juvenile Profile scales. The Truthfulness Scale was validated with MMPI L Scale. The Alcohol Scale was validated with the MMPI MacAndrew Scale. The Drug Scale was validated with the MacAndrew Scale and the Psychopathic Deviate Scale. The Stress Coping Abilities Scale was validated with the MMPI Taylor Manifest Anxiety Scale and Depression Scale. The Aggressiveness Scale was validated with the MMPI Manifest Hostility Scale and Authority Conflict Scale. The MMPI scales were chosen to compare to the Juvenile Profile scales because they measure similar attributes.

Method
The subjects used in the study (1989) were 100 juvenile offenders. There were 86 males and 14 females.

Their ages ranged between 15 and 18 years with a mean age of 16.2 years of age. All participants had a 6th grade or better reading level. The Juvenile Profile and MMPI were administered in counterbalanced order.

Results and Discussion
The product-moment correlation results are summarized in Table 2.

Table 2. Juvenile Profile -MMPI Product-moment Correlations (1989, N=100)

MMPI Scales (Measures)	Juvenile Profile Scales (Measures)	Correlation Coefficient	Significance Level
L (Lie)	Truthfulness	0.57	0.01
MacAndrew	Alcohol	0.61	0.01
MacAndrew	Drug	0.57	0.01
Psychopathic Deviate	Drug	0.52	0.01
Taylor Manifest Anxiety	Stress Coping Abilities	0.57	0.01
Depression	Stress Coping Abilities	0.56	0.01
Manifest Hostility	Aggressiveness	0.55	0.01
Authority Conflict	Aggressiveness	0.53	0.01

These findings strongly support the validity of the Juvenile Profile scales in this sample of juvenile offenders. All of the Juvenile Profile scales were highly correlated with the MMPI criterion scales they were tested against. The large correlation coefficients support the Juvenile Profile as a valid instrument for juvenile assessment.

The Juvenile Profile demonstrates concurrent validity with the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI is the most widely accepted and respected personality test in the United States. Validity refers to a test measuring what it is purported to measure. The quality of a test is largely determined by its validity. Concurrent (criterion related) validity correlates the independent scales of the test being validated with corresponding measures from an established test. The Juvenile Profile - MMPI relationships are impressive and support the validity of the Juvenile Profile.

5. Replication Study of the Validation of Juvenile Profile Scales

Another study was conducted (1990) to replicate a previous validation study of the Juvenile Profile scales and to further evaluate the validity of the Juvenile Profile in a different juvenile sample. Again, selected scales in the Minnesota Multiphasic Personality Inventory (MMPI) were used as criterion measures for the different Juvenile Profile scales. The Truthfulness Scale was validated with MMPI L Scale. The Alcohol Scale was validated with the MMPI MacAndrew Scale. The Drug Scale was validated with the MacAndrew Scale and the Psychopathic Deviate Scale. The Stress Coping Abilities Scale was validated with the MMPI Depression Scale and Psychasthenia Scale. The Aggressiveness Scale was validated with the MMPI Delinquency Scale and Family Discord Scale.

Method
The subjects used in this study (1990) were 35 private school students. There were 19 males and 16 females. Their ages ranged between 15 and 18 years of age. The Juvenile Profile and MMPI were administered in counterbalanced order.

Results and Discussion

The product-moment correlation results are summarized in Table 3. Since this study is important in understanding Juvenile Profile validity, each Juvenile Profile scale is briefly summarized below.

Table 3. Juvenile Profile-MMPI Product-moment Correlations (1990, N=35)
Private School Students

MMPI Scales (Measures)	Juvenile Profile Scales (Measures)	Correlation Coefficient	Significance Level
L (Lie)	Truthfulness	0.41	0.01
MacAndrew	Alcohol	0.51	0.01
MacAndrew	Drug	0.39	0.01
Psychopathic Deviate	Drug	0.53	0.01
Depression	Stress Coping Abilities	0.40	0.01
Psychasthenia	Stress Coping Abilities	0.44	0.01
Delinquency	Aggressiveness	0.42	0.01
Family Discord	Aggressiveness	0.39	0.01

These findings are consistent with the results of the previous validation study and strongly support the validity of the Juvenile Profile scales in this sample of private school students. All of the Juvenile Profile scales were highly correlated with the MMPI criterion scales they were tested against. This study supports the Juvenile Profile as a valid instrument for juvenile assessment.

The Juvenile Profile **Truthfulness Scale** correlates significantly and in the predicted direction with the MMPI L Scale. When a person attains a high L Scale score on the MMPI, this invalidates other MMPI scale scores due to untruthfulness. Similarly, a high score on the Juvenile Profile Truthfulness Scale invalidates the other Juvenile Profile scale scores.

The Juvenile Profile **Alcohol Scale** correlates significantly and in predicted direction with the MMPI MacAndrew alcoholism scale. This is consistent with the conceptual description of the alcohol scale.

The Juvenile Profile **Drug Scale** correlates significantly and in predicted directions with the MacAndrew and the Psychopathic Deviate (PD) MMPI scales. High PD and MacAndrew MMPI scale scores are often found to be associated with substance (alcohol and other drugs) abuse. The Juvenile Profile Drug Scale is an independent measure (scale) from the Juvenile Profile Alcohol Scale. Without independent measures of alcohol and drugs, many drug (marijuana, cocaine, crack, heroin, etc.) abusers would remain undetected.

The Juvenile Profile **Stress Coping Abilities Scale** correlates significantly and in predicted directions with the MMPI Depression (D) and Psychasthenia (PT) scales. Stress coping abilities is the relationship between experienced stress, such as depression, and stress coping skills. Psychasthenia is a measure of anxiety, self-concern and self-doubt.

The Juvenile Profile **Aggressiveness Scale** correlates significantly and in predicted directions with the MMPI Manifest Hostility Scale, MMPI Authority Conflict Scale, MMPI Delinquency (DL) Scale and MMPI Family Discord Scale. This is consistent with the conceptual description of the Juvenile Profile Aggressiveness scale.

Several MMPI scales were selected for representation in these validity studies because an empirical relationship was predicted with the Juvenile Profile scales. All Juvenile Profile scale correlation's were

significant and in predicted directions. These empirical findings strongly support the validity of the Juvenile Profile.

6. Replication of Juvenile Profile Reliability in a Large Sample of Adjudicated Delinquents

In a replication of earlier Juvenile Profile research, adjudicated delinquents (1990) were used to evaluate the reliability of the Juvenile Profile scales. This study involved combining adjudicated delinquent Juvenile Profile test data from three jurisdictions. Because the Juvenile Profile is a risk and needs juvenile assessment instrument it is important to study Juvenile Profile statistical reliability in different juvenile offender samples.

Method and Results
The Juvenile Profile was administered to 433 adjudicated delinquents from three different jurisdictions. All of the participants were between the ages of 15 and 18 years. Juvenile reading levels were not available. There were 273 males and 160 females. The inter-item coefficient alpha statistics are presented in Table 5. These results are in close agreement to reliability results obtained in an earlier study using adjudicated juvenile delinquents. In some cases the coefficient alphas are higher in the present study as in the previous study. The results of the present study support the reliability of the Juvenile Profile.

Table 5. Inter-item reliability, coefficient alpha.
Adjudicated juvenile delinquents (1990, N = 433).

JUVENILE PROFILE SCALES MEASURES	COEFFICIENT ALPHA	SIGNIFICANCE LEVEL
Truthfulness Scale	0.85	$p < 0.001$
Aggressiveness Scale	0.87	$p < 0.001$
Alcohol Scale	0.87	$p < 0.001$
Drug Scale	0.89	$p < 0.001$
Stress Coping Abilities Scale	0.88	$p < 0.001$

In all of the subject samples studied, the Juvenile Profile scales were demonstrated to be independent measures. This mutual exclusivity (significant at $p<.001$) was demonstrated by a within-subjects measures ANOVA performed on each Juvenile Profile scale. These analyses demonstrate that each Juvenile Profile scale measures one factor or trait. All Juvenile Profile scales demonstrate high inter-item congruency, as reflected in the standardized Cronbach Coefficient Alpha. The items on each Juvenile Profile scale are significantly related to the factor or trait that each scale was designed to measure. In other words, each Juvenile Profile scale measures one factor, and the factor (or trait) being measured differs from scale to scale.

Juvenile Profile scales (measures) have been shown to be both mutually exclusive and have high inter-item scale consistency. The Juvenile Profile has acceptable and empirically demonstrated reliability. In addition, inter-item reliability studies have shown that each Juvenile Profile scale is an independent measure of the trait (factor) it was designed to measure.

This study supports the reliability (internal consistency) or the Juvenile Profile. The Juvenile Profile scales are highly reliable in the offender population for whom the Juvenile Profile is designed.

7. Inter-item Reliability of the Juvenile Profile

Reliability is a measure of the consistency of a test in obtaining similar results upon re-administration. Within-test reliability measures to what extent a test with multiple scales measuring different factors, measures each factor independent of the other factors (scales) in the test. It also measures to what extent items in each scale consistently measures the particular trait (or factor) that scale was designed to measure. Within-test reliability measures are referred to as inter-item reliability. The most common method of reporting within-test (scale) inter-item reliability is with Coefficient Alpha.

Method
This study (1989) included two separate groups of subjects: 98 private school students, 151 adjudicated delinquents -- totaling 249 subjects. Separate inter-item reliability analyses were conducted to compare results across the two groups.

Results and Discussion
The inter-item reliability coefficient alpha and within-test reliability statistics are presented in Table 4. All inter-item reliability coefficient alphas and within-test reliability F-values are significant at $p<.001$. These results support the reliability of the Juvenile Profile. The Juvenile Profile is a highly reliable instrument.

Table 4. Inter-item reliability, coefficient alpha. (1989)
Private School Students and Adjudicated Delinquents (N = 249)

Juvenile Profile Scales Measures	Private School Students (N = 98)	Adjudicated Delinquents (N = 151)
Truthfulness Scale	0.81	0.83
Aggressiveness Scale	0.81	0.87
Alcohol Scale	0.86	0.87
Drug Scale	0.80	0.85
Stress Coping Abilities Scale	0.73	0.89

These results demonstrate the impressive reliability of the Juvenile Profile. Reliability was demonstrated with two different groups of youths (private school students and adjudicated delinquents) taking the Juvenile Profile.

In each of these subject samples, all Juvenile Profile scales (measures) were found to be significantly independent of the other Juvenile Profile scales as shown by the highly significant within-test F statistics. The F statistic is obtained in within-subjects between measures ANOVA performed on each individual Juvenile Profile scale in each of the samples.

The F statistics show that each Juvenile Profile scale measures essentially one factor (or trait). In addition, all Juvenile Profile scales show high inter-item reliability. This is demonstrated by the Standardized Cronbach's Coefficient Alpha - a widely used test of inter-item reliability when using parallel models. This measure reveals that all items in each Juvenile Profile scale are significantly related and measure just one factor. In other words, each Juvenile Profile scale measures one factor, yet the factor being measured is different from scale to scale.

The inter-item reliability coefficients show very similar results across the two subject samples. The Truthfulness Scale, Alcohol Scale, Drug Scale and Aggressive Scale are in close agreement. The Stress Coping Abilities Scale has a somewhat lower coefficient alpha than the other Juvenile Profile scales for

the private school students group perhaps because this scale is not as specific as, say alcohol or drug abuse or that interpretation of distress varies in student populations. These results show that the Juvenile Profile is a reliable instrument.

8. Juvenile Profile Reliability Study in a Samples of Juvenile Offenders

The present (1991) study was conducted to evaluate the statistical properties of the Juvenile Profile in a different juvenile sample. As the Juvenile Profile becomes more widely used it will continue to be our policy to continue to investigate statistical (reliability) properties on the various adolescent population databases.

Method
The participants in this study (1991) consisted of 372 juvenile offenders. The demographic composition of the sample was as follows: Gender: 290 males and 82 females. Age: 9 years old (2, 0.7%); 10 years old (2, 0.7%); 11 years old (3, 1.0%); 12 years old (12, 4.1%); 13 years old (16, 5.5%); 14 years old (35, 12.1%); 15 years old (70, 24.1%); 16 years old (64, 22.1%); 17 years old (63, 21.7%); 18 years old (21, 7.2%); and 19 years old (2, 0.7%). Thus, 197 troubled youths or 67.9% were 15, 16 or 17 years old. Ethnicity: Caucasian (228, 78.6%); Black (44, 15.2%); Hispanic (8, 2.8%); Asian (1, 0.3%); American Indian (8, 2.8%); and Other (1, 0.3%). Education: 6th grade or less (27, 9.3%); 7th grade (32, 11.0%); 8th grade (55, 19.0%); 9th grade (76, 26.2%); 10th grade (43, 14.8%); 11th grade (9, 3.1%); High School Graduate (9, 3.1%); and Partially Completed College (3, 1.0%).

Results and Discussion
Reliability coefficient alphas are presented in Table 6. Number of participants = 372.

Table 6. Reliability coefficient alphas. (1991, N = 372)
All coefficient alphas are significant at p<.001.

Juvenile Profile Scales	Juvenile Offenders N = 372	Significance Level p≤
Truthfulness Scale	0.84	0.001
Aggressiveness Scale	0.84	0.001
Alcohol Scale	0.85	0.001
Drug Scale	0.85	0.001
Stress Coping Abilities Scale	0.84	0.001

The results of this study demonstrate the reliability (internal consistency) of the Juvenile Profile. Reliability coefficient alphas for all Juvenile Profile scales are very high. These results strongly support the reliability of the Juvenile Profile.

9. A Study of Juvenile Profile Reliability in a Sample of Students

This (1992) study was conducted to evaluate the statistical reliability of the Juvenile Profile in an adolescent student sample. As the population of juveniles could conceivably consist of widely varying individuals, it is important to continue to investigate statistical (reliability) properties on the various juvenile population databases.

Method and Results
This study (1992) involved 958 students (675 males and 283 females). The demographic composition of

the sample was the following. Age: 12 years and younger (1, 0.1%); 13 years of age (49, 5.1%); 14 years of age (116, 12.1%); 15 years of age (167, 17.4%); 16 years of age (252, 26.3%); 17 years of age (248, 25.9%); 18 years of age (75, 7.8%); 19 years of age (29, 3.0%) and 20 years of age or older (14, 1.4%). Thus, 923 or 81.7% of these students were between 14 and 17 years of age. Ethnicity: Caucasian (755, 78.8%); Black (70, 7.3%); Hispanic (79, 8.2%); Asian (3, 0.3%); American Indian (10, 1.0%) and Other (1, 0.1%). Education: 6th grade or less (26, 2.7%); 7th grade (88, 9.2%); 8th grade (148, 15.4%); 9th grade (213, 22.7%); 10th grade (234, 24.4%); 11th grade (167, 17.4%); High School Graduate/G.E.D. (52, 5.4%); and Some College (29, 3.0%).

Coefficient Alpha reliability (internal consistency) coefficients are presented in Table 7.

Table 7. Reliability coefficient alphas. (1992, N=958)
All reliability coefficients are significant at p<.001.

Juvenile Profile Scales	Coefficient Alpha
Truthfulness Scale	.85
Aggressiveness Scale	.85
Alcohol Scale	.85
Drug Scale	.85
Stress Coping Abilities Scale	.84

This study supports the reliability of the Juvenile Profile. The coefficient alpha is the most widely used statistic of internal consistency or reliability. The Juvenile Profile produces similar results upon repetition. The Juvenile Profile is a reliable juvenile assessment instrument.

10. A Study of Juvenile Profile Reliability in a Sample of Juvenile Offenders

The present study (1993) was conducted to investigate reliability of the Juvenile Profile using juvenile offender participants. Since the Juvenile Profile is a risk and needs assessment instrument designed for troubled youth, it is important to test the reliability of the Juvenile Profile on juvenile offenders.

Method and Results
There were 1,707 juvenile offender participants included in this study (1993). There were 1,705 males and 2 females. The demographic composition of these participants is the following: Age: Eleven years or younger (6, 0.4%); 12 years of age (23, 1.3%); 13 years of age (140, 8.2%); 14 years of age (270, 15.8%); 15 years of age (457, 26.8%); 16 years of age (582, 34.1%); 17 years of age (168, 9.8%); 18 years of age and older (61, 3.6%). Ethnicity: Caucasian (552, 32.3%); Black (1,127, 66.0%); Hispanic (10, 0.6%); Asian (1, 0.1%); American Indian (1, 0.1%); and missing information (9, 0.5%). Education: 6th grade or less (170, 10.0%); 7th grade (320, 18.7%); 8th grade (579, 33.9%); 9th grade (462, 27.1%); 10th grade (133, 7.8%); 11th grade (15, 0.9%); High School Graduate/G.E.D. (3, 0.2%); Some College (1, 0.1%); and missing information (24, 1.4%).

Reliability coefficient alphas are presented in Table 8. All coefficient alphas were significant at p<.001. These results support the reliability of the Juvenile Profile in the assessment of juvenile offender participants.

Table 8. Reliability coefficient alpha. Juvenile offenders (1993, N = 1,707).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scales	Coefficient Alpha
Truthfulness Scale	.85
Aggressiveness Scale	.84
Alcohol Scale	.88
Drug Scale	.89
Stress Coping Abilities Scale	.85

These results are in close agreement with reliability coefficient alphas found in previous Juvenile Profile studies. These results again demonstrate the internal consistency of the Juvenile Profile. The Juvenile Profile is a reliable risk and needs assessment instrument for juvenile offender assessment.

11. A Study of the Juvenile Profile in a Sample Community Corrections Youths

Youth aggression became a major concern in juvenile court and probation department assessment in the 90's. Consequently, a Aggressiveness Scale was included in the Juvenile Profile. Juvenile courts and probation departments desiring to know how aggression prone the juvenile offender is can use the Juvenile Profile. The purpose of the present study (1994) was to evaluate the reliability of the Juvenile Profile in a sample of community corrections youths. The subjects used in this study were juvenile adjudicated defendants.

Method and Results
There were two groups of juvenile participants included in this study (1994). There were 459 participants in Group 1 and 462 participants in Group 2. Demographic composition of **Group 1** participants is as follows: Age: 12 years old (8, 1.7%); 13 years (19, 4.1%); 14 years (68, 14.8%); 15 years (114, 24.8%); 16 years (137, 29.8%); 17 years (103, 22.4%); 18 years (7, 1.5%) and missing information (3, 0.7%). Ethnicity: Caucasian (227, 49.5%); Black (90, 19.6%); Hispanic (75, 16.3%); Asian (8, 1.7%); American Indian (5, 1.1%); Other (26, 5.7%) and missing information (28, 6.1%). Education: 7th grade or less (19, 4.2%); 8th grade (43, 9.4%); 9th grade (93, 20.3%); 10th grade (122, 26.6%); 11th grade (96, 20.9%); High School Graduate/G.E.D. (12, 2.6%); Some College (2, 0.4%) and missing information (72, 15.7%).

Group 2 demographic composition is as follows: There were 356 males and 106 females. Age: 12 years old (7, 1.5%); 13 years (26, 5.6%); 14 years (75, 16.2%); 15 years (99, 21.4%); 16 years (144, 31.2%); 17 years (99, 21.0%); 18 years (11, 2.4%); 19 years and older (3, 0.6%) and missing information (1, 0.2%). Race: Caucasian (312, 67.5%); Black (43, 9.3%); Hispanic (58, 12.6%); Asian (3, 0.6%); American Indian (37, 8.0%); Other (7, 1.5%) and missing information (2, 0.4%). Education: 6th grade or less (19, 4.1%); 7th grade (44, 9.5%); 8th grade (91, 19.7%); 9th grade (105, 22.7%); 10th grade (100, 21.6%), 11th grade (65, 14.1%); High School Graduate or G.E.D.(13, 2.8%); Some College (7, 1.5%); missing information (18, 3.9%).

The Juvenile Profile was administered to 921 juvenile participants as part of routine evaluation programs. Subjects were administered the Juvenile Profile individually in paper-pencil test format. Reliability coefficient alphas for the two groups (total N = 921) are presented in Table 9.

These results support the reliability of the Juvenile Profile. Coefficient alphas for all scales are highly significant. Reliability coefficients for the two samples are in close agreement. These results support the

reliability of the Juvenile Profile.

Table 9. Reliability coefficient alphas for the Juvenile Profile (1994, N = 921).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Adjudicated Defendants N = 459	Juvenile Probation N = 462
Truthfulness Scale	.86	.88
Aggressiveness Scale	.86	.86
Alcohol Scale	.92	.91
Drug Scale	.90	.92
Stress Coping Abilities Scale	.88	.90

12. Juvenile Profile Reliability Study on Different Samples of Juveniles

In 1995 several juvenile samples (total N = 5,872) were studied to test the reliability of the Juvenile Profile. There were three juvenile samples included in the study. **Group 1** consisted of 1,195 juvenile offenders, 900 males and 295 females. Demographic composition of this group is as follows: Age: 12 years of age and younger (50, 4.1%); 13 years (87, 7.3%); 14 years (192, 16.1%); 15 years (280, 23.4%); 16 years (254, 21.3%); 17 years (266, 22.3%); 18 years (59, 4.9%); 19 and older (7, 0.6%). Ethnicity: Caucasian (882, 73.8%); Black (197, 16.5%); Hispanic (63, 5.3%); Asian (10, 0.8%); American Indian (16, 1.3%); and Other (27, 2.3%). Education: 6th grade or less (63, 5.3%); 7th grade (109, 9.1%); 8th grade (210, 17.6%); 9th grade (300, 25.1%); 10th grade (230, 19.2%); 11th grade (227, 19.0%); High School Graduate/G.E.D. (39, 3.3%); and Some College (17, 1.4%).

Prior history information for Group 1 participants is as follows: Age of first arrest: 10 years (33, 2.7%); 11 years (37, 3.1%); 12 years (89, 7.4%); 13 years (164, 13.7%); 14 years (238, 19.9%); 15 years (235, 19.7%); 16 years (202, 16.9%); 17 years (119, 10.0%); 18 years (20, 1.7%); 19 and older (4, 0.4%); and missing information (54, 4.5%).

Probation: Never been on probation (881, 72.9%); been on probation once (218, 18.2%); two times (83, 6.9%); three times (11, 0.9%); four or more times (2, 0.2%); and missing information (55, 4.6%). Probation revocation: None (1,092, 91.4%); once (39, 3.2%); twice or more (10, 5.5%); missing information (55, 4.6%). Number of times arrested: None (247, 20.7%); once (470, 39.3%); twice (225, 18.8%); three times (90, 7.5%); four times (56, 4.7%); five times (16, 1.3%); six or more times (38, 3.3%); and missing information (53, 4.4%).

Juvenile detention: None (1,016, 85.0%); once (87, 7.3%); twice (15, 1.3%); three times (7, 0.6%); four times (6, 0.5%); and five or more times (9, 0.9%). There were 55 cases (4.6%) of missing information. Alcohol arrests: None (953, 79.7%); one (148, 12.4%); two (32, 2.7%) three or more (7, 0.6%); and missing information (55, 4.6%). Drug arrests: None (1,064, 79.7%); one (65, 5.4%); two (8, 0.7%); three or more (3, 0.3%); and missing (55, 4.6%).

Group 2 consisted of 3,364 juveniles, 2543 (75.6%) males and 816 (24.3%) females. Demographic composition is as follows: Age: 12 years or younger (95, 2.8%); 13 years (285, 8.5%); 14 years (525, 15.6%); 15 years (864, 25.7%); 16 years (1,065, 31.7%); 17 years (469, 13.9%); 18 years (47, 1.4%); 19 years (12, 0.4%); and missing (2, 0.1%). Ethnicity: Caucasian (1,962, 58.3%); Black (602, 17.9%); Hispanic (547, 16.3%); Asian (34, 1.0%); Native American (54, 1.6%); Other (74, 2.2%); and missing

information (91, 2.7%). Education: 6th grade or less (174, 5.2%); 7th grade (338, 10.0%); 8th grade (678, 20.2%); 9th grade (854, 25.4%); 10th grade (629, 18.7%); 11th grade (372, 11.1%); High School Graduate (56, 1.7%); G.E.D. (244, 7.3%); Some College (18, 0.5%); and missing information (1, 0.1%).

Group 3 consisted of 1,313 juvenile probation participants. Demographic composition is summarized as follows. Males (1,029; 78.4%); Females (284, 21.6%). Age: 10 years old (3, 0.2%); 11 years (13, 1.0%); 12 years (43, 3.3%); 13 years (86, 6.5%) 14 years (200, 15.2%); 16 years (335, 25.5%); 17 years (274, 20.9%); 18 years (83, 6.3%); and 19 years and over (2, 0.2%). Ethnicity: Caucasian (944, 71.9%); Black (199, 15.2%); Hispanic (92, 7.0%); Asian (16, 1.2%); Native American (26, 2.0%); and Other (36, 2.7%). Education: 6th grade or less (78, 5.9%); 7th grade (121, 9.2%); 8th grade (195, 14.9%); 9th grade (316, 24.1%); 10th grade (293, 22.3%); partially completed High School (245, 18.7%); High School Graduate/G.E.D. (65, 5.0%).

Prior history information for Group 3 is as follows: Age of first of arrest: 10 years of age (43, 3.3%); 11 years (51, 3.9%); 12 years (98, 7.5%); 13 years (170, 12.9%); 14 years (244, 18.6%); 15 years (272, 20.7%); 16 years (250, 19.0%); 17 years (162, 12.3%); 18 years (17, 1.3%); 19 years and older (6, 0.5%). Number of times on probation: None (918, 69.9%); once (317, 24.1%); twice (57, 4.3%); three or more times (20, 1.6%). Probation revocations: None (1,254, 95.5%); one (47, 3.6%); two (6, 0.5%); three or more (5, 0.4%).

Number of times in juvenile detention: None (956, 72.8%); once (255, 19.4%); twice (52, 4.0%); three times (28, 2.1%); four or more times (21, 1.8%). Number of juvenile hearings: None (206, 15.7%); one (630, 48.0%); two (277, 21.1%); three (92, 7.0%); four (43, 3.3%); five (16, 1.2%); six (15, 1.1%); seven or more (32, 2.6%). Alcohol arrests: None (1,108, 84.4%); one (176, 13.4%); two (19, 1.4%); three (4, 0.3%); four (4, 0.3%); and five or more (1, 0.1%). Drug arrests: None (1,244, 94.7%); one (61, 4.6%); two or more (1, 0.1%).

Reliability coefficient alphas for all three groups (total N = 5,872) are presented in Table 10.

Table 10. Reliability coefficient alphas. (1995, N = 5,872)
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Group 1 N = 1,195	Group 2 N = 3,364	Group 3 N = 1,313
Truthfulness Scale	.86	.86	.87
Aggressiveness Scale	.85	.86	.85
Alcohol Scale	.89	.92	.88
Drug Scale	.90	.91	.89
Stress Coping Abilities Scale	.89	.85	.89

These results support the reliability (internal consistency) of the Juvenile Profile. The Juvenile Profile is an objective and reliable assessment instrument. Reliability coefficient alphas across the three groups of juvenile offender participants are in close agreement. These results suggest that the Juvenile Profile is applicable across different national juvenile offender samples. It is important to emphasize that Juvenile Profile reliability statistics are very high in the offender population it is designed to test. The Juvenile Profile is a reliable juvenile risk assessment instrument.

13. Juvenile Profile Reliability

A study (1995) was conducted to determine the reliability of the Juvenile Profile in a sample of juvenile offenders. There were 2,417 juvenile offenders included in the study. Demographic composition of participants is as follows. Gender: 2,040 males and 377 females. Education: 6th grade or less (129, 5.3%); 7th grade (318, 13.2%); 8th grade (605, 25.0%); 9th grade (596, 24.7%); 10th grade (407, 16.8%); 11th grade (291, 12.0%); High School Graduate/G.E.D. (48, 2.0%); Some College (13, 0.5%); and missing information (10, 0.4%). Ethnicity: Caucasian (1,427, 59.0%); Black (864, 35.7%); Hispanic (43, 1.8%); Asian (7, 0.3%); Native American (40, 1.7%); Other (26, 1.1%); and missing information (10, 0.4%).

Reliability coefficient alphas are represented in Table 11 and represent 2,417 juvenile offenders.

Table 11. Reliability coefficient alphas (1995, N = 2,417).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Juvenile Offenders N = 2,417
Truthfulness Scale	.85
Aggressiveness Scale	.85
Alcohol Scale	.89
Drug Scale	.91
Stress Coping Abilities Scale	.88

These results support the internal consistency (reliability) of the Juvenile Profile for this sample of juvenile offenders. Reliability coefficients are consistent with those reported in previous studies on other juvenile offender samples. Similar results will be obtained upon replication or retest. Outcomes are objective, verifiable and reproducible. Juvenile Profile test results are reliable.

14. Juvenile Profile Reliability in a Sample of Students

A study (1995) was conducted to determine the reliability of the Juvenile Profile in a sample of 710 students. Demographic composition of this sample was the following: Gender: 682 Males and 28 Females. Age: 12 years old (13, 1.8%); 13 years (37, 5.2%); 14 years (127, 17.9%); 15 years (201, 28.3%); 16 years (226, 31.8%); 17 years (99, 13.9%); and 18 years (7, 1.0%). Ethnicity: Caucasian (250, 35.2%); Black (419, 59.0%); Hispanic (31, 4.4%); Asian (1, 0.1%); Other (7, 1.0%); and missing information (2, 0.3%). Education: 6th grade or less (49, 6.9%); 7th grade (101, 14.2%); 8th grade (265, 37.3%); 9th grade (189, 26.6%); 10th grade (74, 10.4%); 11th grade (21, 3.0%); High School Graduate/G.E.D. (7, 1.0%); Some College (2, 0.3%); and missing information (2, 0.3%).

Reliability coefficient alphas are represented in Table 12 and represent 710 student participants.

These results support the reliability of the Juvenile Profile for this sample of student. These results are similar to those reported earlier on other client populations. All coefficient alphas are significant at p<.001. These results support the reliability of the Juvenile Profile.

Table 12. Reliability coefficient alphas (1995, N = 710).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Students N = 710
Truthfulness Scale	.85
Aggressiveness Scale	.85
Alcohol Scale	.86
Drug Scale	.86
Stress Coping Abilities Scale	.87

15. Reliability of the Juvenile Profile in Two Samples of Juvenile Offenders

Reliability of the Juvenile Profile was investigated in the present study (1996) in two samples of juvenile offenders.

Method and Results
The subjects in this study consisted of 2,124 juveniles in two samples. **Group 1 consisted of 611 juvenile offenders.** There were 455 males and 156 females. Demographic composition of this sample is as follows: Age: 11 years of age (3, 0.5%); 12 years (14, 2.3%); 13 years (65, 10.6%); 14 years (123, 20.1%); 15 years (177, 29.0%); 16 years (193, 31.6%); 17 years (33, 5.4%); and missing information (3, 0.5%). Ethnicity: Caucasian (465, 76.1%); Black (80, 13.1%); Hispanic (25, 4.1%); Asian (22, 3.6%); Native American (10, 1.6%); Other (2, 0.3%); and missing information (7, 1.1%). Education: 6th grade or less (17, 2.8%); 7th grade (46, 7.5%); 8th grade (139, 22.7%); 9th grade (213, 34.9%); 10th grade (130, 21.3%); 11th grade (38, 6.2%); High School Graduate/G.E.D. (1, 0.2%); Some College (3, 0.5%); and missing information (24, 3.9%).

Group 2 consisted of 1,513 juvenile offenders. Demographic composition of this sample is as follows: Gender: 1,101 males (72.8%), and 412 females (27.2%). Age: 12 years or younger (56, 3.7%); 13 years (143, 9.5%); 14 years (229, 15.1%); 15 years (318, 21.0%); 16 years (349, 23.1%); 17 years (328, 21.7%); 18 years (87, 5.8%); 19 years (2, 0.1%); and missing information (1, 0.1%). Ethnicity: Caucasian (1,107, 73.2%); Black (227, 15.0%); Hispanic (120, 7.9%); Asian (6, 0.4%); Native American (21, 1.4%); and Other (32, 2.1%). Education: 6th grade or less (84, 5.6%); 7th grade (144, 9.5%); 8th grade (257, 17.0%); 9th grade (358, 23.7%); 10th grade (348, 23.0%); 11th grade (244, 16.1%); High School Graduate/G.E.D. (65, 4.3%); and Some College (13, 0.9%).

Reliability coefficient alphas are presented in Table 13 for both juvenile offenders samples (Total N = 2,124).

The results of the study support the reliability of the Juvenile Profile. All coefficient alphas are significant at p<.001. All scale reliability coefficients maintained high levels. These results show that the Juvenile Profile is a reliable juvenile offender risk assessment instrument.

Table 13. Reliability coefficient alphas (1996, N = 2,124).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Group 1 N = 611	Group 2 N = 1,513
Truthfulness Scale	.86	.86
Aggressiveness Scale	.85	.85
Alcohol Scale	.87	.88
Drug Scale	.90	.89
Stress Coping Abilities Scale	.89	.88

16. A Study of Sex Differences in the Juvenile Profile

People often develop firm masculine and feminine identifications that contribute to consistent "sex differences" or gender differences on psychometric tests. The Juvenile Profile is a risk assessment instrument that measures risk from a variety of perspectives, notably, risk of alcohol and drug abuse, violence, adjustment and distress or mental health. If sex differences exist in these areas then male and female respondents are likely to score differently on these Juvenile Profile scales. The purpose of the present study (1996) was to investigate sex differences in Juvenile Profile scales.

Method
There were 393 juvenile offenders included in the present study (1996). The Juvenile Profile was administered to each participant individually as part of routine evaluation programs. There were 348 males (88.5%) and 45 females (11.5%). Demographic composition of the subjects is as follows: Age: 12 years or younger (8, 2.0%); 13 years (38, 9.7%); 14 years (70, 17.8%); 15 years (111, 28.2%); 16 years (148, 37.7%); and 17 years (18, 4.6%). Ethnicity: Caucasian (277, 70.5%); Black (106, 27.0%); Hispanic (2, 0.5%); and Other (8, 2.0%). Education: 6th grade or less (40, 10.2%); 7th grade (76, 19.3%); 8th grade (108, 27.5%); 9th grade (92, 23.4%); 10th grade (55, 14.0%); 11th grade (10, 2.5%); High School Graduate/G.E.D. (4, 1.0%); and Some College (3, 0.8%).

Results and Discussion
Reliability coefficient alpha results are presented in Table 14.

Table 14. Reliability statistics, coefficient alpha. (1996, N = 393)
All coefficient alphas are significant as p<.001.

Juvenile Profile Scales	Juvenile Offenders N = 393
Truthfulness Scale	.82
Aggressiveness Scale	.80
Alcohol Scale	.93
Drug Scale	.92
Stress Coping Abilities Scale	.87

Coefficient Alpha is considered the most important index of internal consistency or reliability. This study demonstrates the reliability (internal consistency) of the Juvenile Profile scales with juvenile offender participants. Reliability refers to consistency of test results regardless of who uses the test. Juvenile Profile test results are reliable, objective, verifiable and reproducible. These results support the internal consistency (reliability) of the Juvenile Profile.

T-tests were calculated for all Juvenile Profile scales to assess possible sex or gender differences. T-test results are presented in Table 15.

Table 15. T-test comparisons of sex differences. (1996, N =393)
Juvenile Offenders Sex Differences

Juvenile Profile Scale	Juvenile Offenders N = 393
Truthfulness Scale	t=2.4, p<.02
Aggressiveness Scale	n.s.
Alcohol Scale	n.s.
Drug Scale	n.s.
Stress Coping Abilities Scale	t=3.1, p<.002

Significant sex differences were demonstrated on two of the six scales, i.e., Truthfulness Scale and Stress Coping Abilities Scale. The Truthfulness Scale is composed of items to which most people would agree. The present analyses (1996) found that females were more open (candid or honest) in their answers to these test items than males. In other words, males tend to fake good, deny or minimize more than females as represented on the Juvenile Profile Truthfulness Scale.

Based on this (1996) study, gender specific norms (or separate male and female scoring procedures) have been established in the Juvenile Profile software program for males and females on the Truthfulness Scale and Stress Coping Abilities Scale. Significant sex differences were not observed on the other Juvenile Profile scales. This is an example of the value of ongoing Juvenile Profile research. With more accurate and fair measures, assessment personnel can be more confident in their assessment-related decisions.

17. Reliability of the Juvenile Profile

Reliability of the Juvenile Profile was investigated in the present study (1997) in three samples of juvenile offenders. There was a total of 4,216 juveniles included in three samples. **Group 1 consisted of 3,312 juvenile offenders.** There were 2,516 males (76%) and 796 females (24%). Demographic composition of this sample is as follows: Age: 12 years of age or younger (79, 2.4%); 13 years (278, 8.4%); 14 years (520, 15.7%); 15 years (855, 25.8%); 16 years (1,053, 31.8%); 17 years (456, 13.8%); 18 years (47, 1.4%); 19 years or older (12, 0.4%); and missing information (12, 0.4%). Ethnicity: Caucasian (1,917, 57.9%); Black (602, 18.2%); Hispanic (546, 16.5%); Asian (34, 1.0%); Native American (52, 1.6%); Other (74, 2.2%); and missing information (87, 2.6%). Education: 6th grade or less (162, 4.9%); 7th grade (332, 10.0%); 8th grade (671, 20.3%); 9th grade (841, 25.4%); 10th grade (619, 18.7%); 11th grade (368, 11.1%); High School Graduate/G.E.D. (55, 1.7%); Some College (18, 0.5%); and missing information (246, 7.4%).

Group 2 consisted of 854 juvenile offenders. Demographic composition of this sample is as follows: Gender: 628 males (73.5%), and 226 females (26.5%). Age: 12 years or younger (27, 3.2%); 13 years (59, 6.9%); 14 years (124, 14.5%); 15 years (183, 21.4%); 16 years (201, 23.5%); 17 years (191, 22.4%); 18 years (65, 7.6%); and 19 years (4, 0.5%). Ethnicity: Caucasian (623, 73.0%); Black (125, 14.6%); Hispanic (70, 8.2%); Asian (9, 1.1%); Native American (12, 1.4%); and Other (15, 1.8%). Education: 6th grade or less (32, 3.7%); 7th grade (63, 7.4%); 8th grade (131, 15.3%); 9th grade (214, 25.1%); 10th grade (211, 24.7%); 11th grade (144, 16.9%); High School Graduate/G.E.D. (49, 5.7%); and Some College (10, 1.2%).

Group 3 consisted of 50 juvenile offenders. Demographic composition of this sample is as follows: Gender: 17 males (34%) and 33 females (66%). Age: 12 years or younger (2, 4%); 13 years (10, 20%); 14 years (12, 24%); 15 years (7, 14%); 16 years (10, 20%); 17 years (7, 14%); and 18 years (2, 4%). Ethnicity: Caucasian (39, 78%); Black (1, 2%); Native American (2, 4%); and Other (8, 16%). Education: 6th grade or less (2, 4%); 7th grade (12, 24%); 8th grade (6, 12%); 9th grade (11, 22%); 10th grade (6, 12%); 11th grade (11, 22%); and High School Graduate/G.E.D. (2, 4%).

Reliability coefficient alphas are presented in Table 16 for the three juvenile offender samples (Total N = 4,216).

Table 16. Reliability coefficient alphas (1997, N = 4,216).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Group 1 N = 3,312	Group 2 N = 854	Group 3 N = 50
Truthfulness Scale	.84	.86	.89
Aggressiveness Scale	.84	.80	.82
Alcohol Scale	.92	.86	.84
Drug Scale	.91	.87	.89
Stress Coping Abilities Scale	.89	.88	.91

The results of the study support the reliability of the Juvenile Profile. All coefficient alphas are significant at p<.001. Scale reliability coefficients for all juvenile groups maintained high levels. These results show that the Juvenile Profile is a reliable juvenile offender risk assessment instrument.

18. Reliability and Scale Risk Range Accuracy of the Juvenile Profile

This study (1998) was conducted to test the reliability and accuracy of the Juvenile Profile for the assessment of juvenile offenders. Risk range percentile scores are calculated for each Juvenile Profile scale. These risk range percentile scores are derived from scoring equations based on responses to scale items and Truth-Corrections, then converted to percentile scores. There are four risk range categories: **Low Risk** (zero to 39th percentile), **Medium Risk** (40 to 69th percentile), **Problem Risk** (70 to 89th percentile) and **Severe Problem or Maximum Risk** (90 to 100th percentile). Risk range percentile scores represent degree of severity.

Analysis of the accuracy of Juvenile Profile risk range percentile scores involves comparing the risk range percentile scores obtained from Juvenile Profile test results to the predicted risk range percentages as defined above. The percentages of participants expected to fall into each risk range are the following: Low Risk **(39%)**, Medium Risk **(30%)**, Problem Risk **(20%)** and Severe Problem or Maximum Risk **(11%)**. The actual percentage of individuals falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages.

Method and Results
The subjects in this study (1998) consisted of 713 juvenile offenders. There were 566 males (79.4%) and 147 females (20.6%). Demographic composition of these participants is as follows: Age: 12 years or younger (33, 4.6%); 13 years (66, 9.3%); 14 years (116, 16.3%); 15 years (150, 21.0%); 16 years (163, 22.9%); 17 years (165, 23.1%); and 18 years (20, 2.8%). Ethnicity: Caucasian (496, 69.6%); Black (143, 20.1%); Hispanic (52, 7.3%); Asian (3, 0.4%); Native American (14, 2.0%); and Other (5, 0.7%).

Education: 6th grade or less (37, 5.2%); 7th grade (75, 10.5%); 8th grade (123, 17.3%); 9th grade (165, 23.1%); 10th grade (181, 25.4%); 11th grade (109, 15.3%); High School Graduate/G.E.D. (20, 2.8%); and Some College (3, 0.4%).

Reliability coefficient alphas are presented in Table 17 for 713 juvenile offenders.

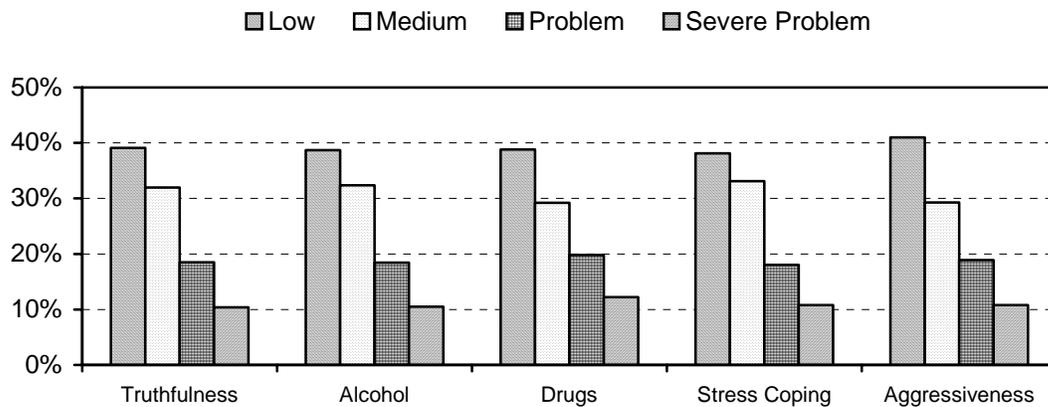### Table 17. Reliability coefficient alphas (1998, N = 713).
All coefficient alphas are significant at p<.001.

Juvenile Profile Scale	Juvenile Offenders N = 713
Truthfulness Scale	.84
Aggressiveness Scale	.80
Alcohol Scale	.88
Drug Scale	.89
Stress Coping Abilities Scale	.88

The results of the study support the reliability of the Juvenile Profile. All coefficient alphas are significant at p<.001. All scale reliability coefficients maintained high levels. These results show that the Juvenile Profile is a reliable risk assessment instrument for juvenile offenders.

The risk range percentile score results for juvenile offenders using the Juvenile Profile are presented in Table 18.

Table 18. Risk Range Percentile Scores, N = 713 juvenile offenders (1998).

□Low □Medium ▥Problem ▧Severe Problem

Risk Range	Truthfulness	Alcohol	Drug	Stress Coping	Aggressiveness	**Predicted**
Low	39.1	38.7	38.8	38.1	41.0	**39%**
Medium	32.0	32.4	29.2	33.1	29.3	**30%**
Problem	18.5	18.4	19.8	18.0	18.9	**20%**
Maximum	10.4	10.5	12.2	10.8	10.8	**11%**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the five Juvenile Profile scales presented in Table 18 for the juvenile offenders included in the study. **These results indicate that the Juvenile Profile is a very accurate juvenile offender risk assessment instrument.**

The results of the comparisons between obtained risk percentages and predicted percentages show that all obtained scale risk range percentile scores were within 3.1 percent of predicted. For the Problem Risk and

Maximum Risk categories, all comparisons showed that the obtained percentages were within two percentage points of predicted. **This is very accurate assessment.**

19. Juvenile Profile Reliability, Validity and Accuracy

This study (2001) examined the reliability, validity and accuracy of the Juvenile Profile (JP). Data for this study was obtained from a Midwest statewide program for juvenile offenders.

Method and Results
The subjects in this study (2001) consisted of 2,248 juvenile offenders. There were 1,813 males (80.6%) and 435 females (19.4%). Demographic composition of these participants is as follows: Age: 15 years or younger (10, 0.4%); 16 years (224, 10.0%); 17 years (670, 29.8%); 18 years (459, 20.4%); 19 years (412, 18.3%); 20 years (294, 13.1%); and 21 years or older (179, 8.0%). Ethnicity: Caucasian (2,114, 94.3%); Black (68, 3.0%); Hispanic (21, 0.9%); Asian (7, 0.3%); Native American (12, 0.5%); and Other (19, 0.8%). Education: 6th grade or less (4, 0.2%); 7th grade (5, 0.2%); 8th grade (32, 1.4%); 9th grade (144, 6.5%); 10th grade (413, 18.5%); 11th grade (670, 30.1%); High School Graduate/G.E.D. (724, 32.5%); and Some College (236, 10.6%).

Reliability coefficient alphas are presented in Table 19.

Table 19. Reliability coefficient alphas (2001, N = 2,248).

Juvenile Profile Scale	Coefficient Alpha
Truthfulness Scale	.86
Aggressiveness Scale	.87
Alcohol Scale	.86
Drug Scale	.89
Stress Coping Abilities Scale	.89

All coefficient alphas are significant at p<.001. All scale reliability coefficients were at 0.86 or higher. These results demonstrate empirically that the Juvenile Profile is a reliable juvenile offender test.

The risk range percentile score results for juvenile offenders using the Juvenile Profile are presented in Table 20.

Table 20. Risk Range Percentile Scores, N = 2,248 juvenile offenders (2001).

Risk Range	Truthfulness	Alcohol	Drugs	Stress Coping	Aggressiveness	**Predicted**
Low	37.6	39.3	38.8	38.6	41.5	**39%**
Medium	30.7	30.6	31.1	30.2	27.1	**30%**
Problem	20.9	19.7	19.4	20.5	20.7	**20%**
Maximum	10.8	10.4	10.7	10.7	10.7	**11%**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the five Juvenile Profile scales presented in Table 20 for the juvenile offenders included in the study. **These results demonstrate that the Juvenile Profile is a very accurate juvenile offender risk assessment instrument.**

20. Juvenile Profile Test Statistics

This study (2003) examined the test statistics of the Juvenile Profile (JP). JP reliability, validity and accuracy were studied. Data for this study was obtained from a Midwest statewide program for juvenile offenders. Test statistics used in the previous study were replicated.

Method and Results

The subjects in this study (2003) consisted of 1,487 juvenile offenders. There were 1,203 males (80.9%) and 284 females (19.1%). Demographic composition of these participants is as follows: Age: 15 years or younger (6, 0.4%); 16 years (145, 9.8%); 17 years (469, 31.5%); 18 years (292, 19.6%); 19 years (279, 18.8%); 20 years (213, 14.3%); and 21 years or older (83, 5.6%). Ethnicity: Caucasian (1,394, 93.8%); Black (43, 2.9%); Hispanic (20, 1.3%); Asian (2, 0.1%); Native American (7, 0.5%); and Other (20, 1.3%). Education: 6th grade or less (5, 0.3%); 7th grade (3, 0.2%); 8th grade (30, 2.0%); 9th grade (116, 7.9%); 10th grade (332, 22.5%); 11th grade (415, 28.1%); High School Graduate/G.E.D. (465, 31.5%); and Some College (110, 7.5%).

Reliability coefficient alphas are presented in Table 21.

Table 21. Reliability coefficient alphas (2003, N = 1,487).	
Juvenile Profile Scale	**Coefficient Alpha**
Truthfulness Scale	.87
Aggressiveness Scale	.85
Alcohol Scale	.86
Drug Scale	.88
Stress Coping Abilities Scale	.89

All scale reliability coefficients were at 0.85 or higher. All coefficient alphas are significant at p<.001.These results replicate the previous study and demonstrate empirically that the Juvenile Profile is a reliable juvenile offender test.

The risk range percentile score results for juvenile offenders using the Juvenile Profile are presented in Table 22.

Table 22. JP Scales Risk Range Accuracy								
Scale	**Low Risk (39%)**		**Medium Risk (30%)**		**Problem Risk (20%)**		**Severe Problem (11%)**	
Truthfulness	37.2	**(1.8)**	32.5	**(2.5)**	19.3	**(0.7)**	11.0	**(0.0)**
Alcohol	40.0	**(1.0)**	30.0	**(0.0)**	19.0	**(1.0)**	11.0	**(0.0)**
Drugs	38.1	**(0.9)**	30.5	**(0.5)**	20.8	**(0.8)**	10.6	**(0.4)**
Aggressiveness	39.4	**(0.4)**	29.2	**(0.8)**	20.8	**(0.8)**	10.6	**(0.4)**
Stress Coping	39.5	**(0.5)**	29.2	**(0.8)**	20.5	**(0.5)**	10.8	**(0.2)**

These results demonstrate that juvenile offender obtained risk range percentages were accurate. All risk categories except one were within 1.8 percentage points of the predicted percentages. Juvenile Profile scales are over 98 percent accurate.

The validity analysis involves comparing the Low Risk (zero to 39th percentile range) and High Risk (70th to 100th percentile range) groups, on the basis of treatment versus no treatment (alcohol or drugs). Aggressiveness problems use direct admissions. Of offenders who have had treatment a high percentage are expected to score in the High Risk range. The Low Risk group could have offenders who had treatment but consider themselves "cured," but, someone who had treatment may still believe they have

a problem even when they are abstaining.

The results of this analysis demonstrate that JP Alcohol Scale scores correctly identified 96.4 percent of the juvenile offenders who had been treated for drinking problems. Of the juveniles who had alcohol treatment, 96.4 percent scored in the problem range on the Alcohol Scale. The Drugs Scale identified all of the juveniles who had been treated for drug problems. The Aggressiveness Scale accurately identified 95.0 percent of offenders who admitted being very aggressive. These results empirically demonstrate that the Juvenile Profile is a valid juvenile offender test.

Summary of JP Findings

The Juvenile Profile was administered to 1,487 juvenile offenders. There were 1,203 males (80.9%) and 284 females (19.1%). Nearly seventy percent of the juveniles (69.9%) were between the ages of 17 and 19. Whites comprised the largest ethnicity group (93.8%). Two educational clusters were represented, i.e., Completed 11th Grade (28.1%) and High School graduates/GED or better (31.5%).

Arrests and Court Histories (offender self-report)

- There were 886 (60.1%) offenders with one or no arrest and 589 (37.9%) offenders with 2 or more arrests excluding the 12 juveniles with missing data.
- 47.4% of the juvenile offenders had been placed on probation
- 12.6% of the juveniles reported having their first arrest before the age of 16
- 66.7% of the juveniles had their first arrest between the ages of 16 and 18

Over one-third of the juveniles had been arrested two or more times. Nearly half of the juveniles were placed on probation at least once. Over 79 percent of the juveniles were arrested before they reached the age of 19. This data demonstrates that many of these juveniles have a history of arrests and troubles with the law. The Juvenile Profile helps evaluators determine the severity of juvenile problems and contribution to criminal behavior.

Alcohol and Drug Problems (offender self-report)

- 73% of the juvenile offenders had one or more alcohol-related arrests and 12.7% had two or more arrests
- 27.5% of the juvenile offenders had at least one drug-related arrest and 5.7% had two or more arrests

Nearly three-fourths of the juveniles had been arrested on an alcohol-related charge. Nearly 13 percent had two or more alcohol-related arrests. Over one-fourth of the juveniles had been arrested on drug-related charges. In addition to having arrest histories many juveniles have substance (alcohol and drugs) problems. It was empirically demonstrated that the Juvenile Profile accurately assesses juvenile substance abuse problems.

21. Juvenile Profile Troubled Youth Analysis

This study (2008) examined Juvenile Profile (JP) results. Juveniles were tested between June 1, 2006 and May 31, 2008. There were 1,031 juvenile offenders included. JP reliability, validity and accuracy were studied.

Method

The participants in this study (2008) consisted of 1,031 troubled youth. There were 765 (74.2%) males and 266 (25.8%) females. Demographic composition of the sample is: Age: 15 years or younger (4, 0.4%); 16 years (127, 12.3%); 17 years (334, 32.4%); 18 years (230, 22.3%); 19 years (189, 18.3%); 20 years (103, 10.0%); and 21 years or older (16, 1.6%). Ethnicity: Caucasian (974, 94.5%); Black (18, 1.7%); Hispanic (21, 2.0%); Asian (1, 0.1%); Native American (2, 0.2%); and Other (12, 1.2%). Education: 6th grade or less (2, 0.2%); 7th grade (2, 0.2%); 8th grade (25, 2.4%); 9th grade (69, 6.7%); 10th grade (209, 20.3%); 11th grade (308, 29.9%); High School Graduate (330, 32.0%); and Some College (77, 7.5%).

Reliability

Test reliability refers to a scale's consistency of measurement. A scale is reliable if a person gets the same score when re-tested as he/she did when originally tested. Perfect reliability is 1.00, and the professionally accepted reliability standard is .75.

Table 23. Juvenile Profile (JP) Reliability
(N=1,031, 2008)

JP Scale	Alpha Coefficient
Truthfulness Scale	.87
Alcohol Scale	.85
Drugs Scale	.88
Aggressiveness Scale	.87
Stress Coping Abilities	.91

As shown in Table 23, **all JP scales have a reliability of .85 or higher** and well-exceed the professionally accepted reliability standard of .75. These results demonstrate that the Juvenile Profile is a reliable screening instrument or test.

Accuracy

Test accuracy is demonstrated by how close attained scale scores are to predicted scores. Four categories of risk are assigned: Low Risk (zero to 39th percentile), Medium Risk (40 to 69th percentile), Problem Risk (70 to 89th percentile), and Severe Problem Risk (90 to 100th percentile). The top row of Table 1 shows the percentages of juveniles that were predicted to score within each risk range. (These predicted percentages for each JP scale risk category were obtained from JP standardization data.) The body of Table 1 presents actual attained risk category percentages. Differences between attained and predicted percentages are shown in bold in parentheses. For example, in terms of the Low Risk range for the Truthfulness Scale: 39% of offenders were predicted to score within this range; the attained percentage of offenders who scored in this range was 41.2%, which is a difference of 2.2 percentage points from what was predicted.

Table 24. Juvenile Profile(JP) Scales Accuracy
(N=868, 2008)

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	41.2	**(2.2)**	30.2	**(0.2)**	17.7	**(2.3)**	10.8	**(0.2)**
Alcohol	42.2	**(3.2)**	29.7	**(0.3)**	18.3	**(1.7)**	9.8	**(1.2)**
Drugs	43.4	**(4.4)**	27.4	**(2.6)**	19.4	**(0.6)**	9.8	**(1.2)**
Aggressiveness	41.8	**(2.8)**	32.3	**(2.3)**	15.3	**(4.7)**	10.6	**(0.4)**
Stress Coping	39.1	**(0.1)**	30.1	**(0.1)**	20.0	**(0.0)**	10.8	**(0.2)**

Seventeen out of 20 attained risk range percentiles were within **2.6** points of the predicted percentages**.** (The three exceptions- the Low Risk percentiles for the Alcohol and Drugs Scales and the Problem Risk percentile for the Aggressiveness Scale- were all within just 4.7 points of the predicted percentages.) The average difference between attained percentages and predicted percentages was only **1.5** points. These results strongly support the accuracy of the Juvenile Profile.

Validity

Validity refers to a test's ability to measure what it is purported to measure. The quality of a test is largely determined by its validity. Concurrent validity correlates the independent scales of the test being validated with corresponding measures from another established test. This type of validation (concurrent validation) has been conducted in numerous studies on Juvenile Profile scales, which are presented earlier in this document.

The validity of the Juvenile Profile was examined by way of a predictive validity analysis comparing juveniles that had received substance abuse treatment with juveniles that had never received treatment. The objective was to see whether juveniles that had been treated for alcohol and/or drug problems would be identified by higher (70th percentile and above) scores on the Alcohol and/or Drugs scales. The analysis involved comparing scale scores of the treatment group with scale scores of the non-treatment group for each scale. It was predicted that the treatment group's scores would be significantly higher than the non-treatment group's scores. For the Alcohol Scale, scores for juveniles that had been treated for alcohol problems were compared with scores for juveniles that had not been treated for alcohol problems (average scores: 18.86 and 9.76, respectively). T-test results indicated that the difference in scores was statistically significant ($t(862) = 9.23$, p<.001, $d = 1.14$). For the Drugs Scale, a second analysis compared scores of juveniles that had been treated for drug problems with juveniles that had not been treated for dug problems (average scores: 19.84 and 10.29, respectively). Again, a t-test resulted in a statistically significant difference in scores ($t(863) = 8.31$, p < .001, $d = 0.87$) between the "treatment" and "non-treatment" group.

These highly significant scale score differences demonstrate that Alcohol and Drugs Scale scores differentiate between juveniles that have "been treated" for alcohol and/or drugs problems and juveniles that have "not been treated". These results support the validity of the Juvenile Profile.

Another analysis was performed for the Aggressiveness Scale. Two comparative groups- "aggressive" and "non-aggressive"- were established using direct admissions. The aggressive group made the self-admission that they were very aggressive, whereas the non-aggressive group did not. It was predicted that aggressive juveniles would be identified by their notably high scores on the Aggressiveness Scale. Scale percentile scores for the aggressive and non-aggressive groups were compared (average scores: 20.50 and 10.33, respectively). T-test results revealed that score differences were statistically significant

($t(863)= 11.69, p < .001, d = 1.35$).

These results demonstrate that Aggressiveness Scale scores differentiate between juveniles that admit to aggressiveness and those that do not. Scale scores effectively predict "aggressiveness". This finding provides further support for the validity of the Juvenile Profile.

The highly significant differences in the scale scores of the comparative groups indicate that the Alcohol, Drugs, and Aggressiveness Scales were effectively able to identify juveniles who had received treatment and who admitted to being very aggressive and distinguish them from juveniles who did not. These results strongly support the predictive validity of the Juvenile Profile and empirically demonstrate that the Juvenile Profile is a valid juvenile offender test.

SUMMARY

The Juvenile Profile evolved from the ACDI and ACDI-Corrections Version. Research on the ACDI began in the 1980's and has continued to the present. This research has led to refinements in the Juvenile Profile and development of the Juvenile Profile specifically for juvenile corrections, school systems and treatment agencies. The ACDI and Juvenile Profile have a long history of research and development. The ACDI and Juvenile Profile are state-of-the-art in juvenile assessment.

With regard to reliability, all Juvenile Profile scales have reliability coefficients at .80 or higher. As shown in the most recent study (presented on page 19) all Juvenile Profile scales reliability coefficients are at or above .85, and 5 of the 7 scales are close to or above .90. These are very impressive reliability statistics, well above the accepted reliability coefficient standard of .80. The research studies presented in this document show that the Juvenile Profile is a highly statistically reliable juvenile assessment instrument.

With regard to validity, the Juvenile Profile scales have been shown to be highly correlated with established criterion measures. For example, the Juvenile Profile Truthfulness Scale is highly statistically correlated with MMPI L Scale and F Scale. Juvenile Profile Alcohol Scale is correlated with MMPI MacAndrew Scale. Juvenile Profile Drug Scale is correlated with MMPI MacAndrew and Psychopathic Deviate scales. Juvenile Profile Stress Coping Abilities Scale is correlated with MMPI Taylor Manifest Anxiety, Depression and Psychasthenia scales. The Juvenile Profile Aggressiveness Scale is correlated with MMPI Manifest Hostility, Authority Conflict, Delinquency and Family Discord scales.

With regard to accuracy, comparisons between obtained scale scores risk range percentages and predicted risk range percentages show that the Juvenile Profile is accurate to within 3 percentage points. Compared to the predicted risk ranges (39% Low risk, 30% Medium risk, 20% Problem risk and 11% Maximum risk) the actual percentage of clients that are placed in each risk range based on their Juvenile Profile scale scores has been shown, in the study on page 19, to be very close to these predicted percentages. Most scale risk ranges are within two percent of predicted (shown on page 20) and only a few risk ranges are more than two percentage points of predicted. This is very accurate assessment.

In summary, the statistical properties of the Juvenile Profile are very impressive and strongly support reliability, validity and accuracy of the Juvenile Profile. It should be emphasized that the Juvenile Profile test have been researched on the juvenile population the tests were designed for and Juvenile Profile scoring procedures are standardized on these juvenile populations. Studies reported herein contain thousands of Juvenile Profile test results from several areas of the country and jurisdictions. The Juvenile Profile have been researched on adjudicated juvenile delinquents, students, juvenile offenders, and adolescent community corrections program clients. Research on the Juvenile Profile is on-going and refinements will continue to be made to keep pace with the ever changing needs of today's juvenile population.

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