

# **SEXUAL ADJUSTMENT INVENTORY - JUVENILE**

## **An Inventory of Scientific Findings**

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## TABLE OF CONTENTS

Preface.....	ii
Introduction.....	1
Unique Features.....	2
Description of Scales.....	3
Test Item Truthfulness.....	3
Sex Item Truthfulness Scale.....	4
Sexual Adjustment Scale.....	4
Child Molest Scale.....	4
Sexual Assault Scale.....	5
Exhibitionism Scale.....	5
Incest Scale.....	5
Alcohol Scale.....	6
Drug Scale.....	6
Violence Scale.....	6
Antisocial Scale.....	6
Distress Scale.....	7
Judgment Scale.....	7
Summary of Paraphilias.....	8
Research Studies.....	8
SAI.....	9
Validation of the Test Item Truthfulness Scale.....	9
A Reliability Study of the SAI.....	10
Reliability of the SAI in Two Samples of Convicted Sex Offenders.....	10

Validation of the SAI Test Item and Sex Item Truthfulness Scales.....	11
Discriminant Validity of the SAI Sexual Adjustment Scale .....	11
Validation of the SAI with Evaluator Ratings .....	13
Reliability of the SAI with the Addition of the Antisocial and Violence Scales .....	15
Reliability of the SAI in Two Samples of Convicted Sex Offenders.....	15
SAI-Juvenile Research .....	17
SAI-Juvenile Reliability in a Sample of Juvenile Sex Offender .....	17
Validity, Reliability and Accuracy of the SAI.....	18
A Replication Study of Reliability, Validity and Accuracy of the SAI .....	23
SAI Reliability, Validity and Accuracy (2000) .....	27
An Examination of SAI-Juvenile Reliability, Validity and Correlations.....	30
SAI-Juvenile Reliability & Validity Using a Clinical Practice Sample.....	33
Reliability Using a Small Clinical Sample of Juvenile Sexual Offenders.....	36
Summary .....	37

## PREFACE

This document is a cumulative research record of the evolution of the Sexual Adjustment Inventory – Juvenile (SAI-Juvenile) into a state-of-the-art juvenile sex offender assessment instrument. The SAI-Juvenile evolved from the adult Sexual Adjustment Inventory, yet it is designed specifically for juvenile sex offenders. It should be noted that research studies are presented chronologically, from 1985 to the present, in the same order each of the research analyses was done. **Recent studies are most representative of the SAI-Juvenile.** No attempt has been made to incorporate all SAI-Juvenile research into this document. However, it is representative of the SAI-Juvenile's reliability, validity and accuracy.

The SAI-Juvenile is an automated computerized assessment instrument designed specifically for the assessment of juvenile sex offenders. The proprietary SAI-Juvenile database ensures continued research and development. The SAI-Juvenile is a brief, easily administered and automated (computer scored) test. It includes true/false and multiple choice items and can be completed in one hour or less. The SAI-Juvenile contains thirteen empirically based scales: Test-item Truthfulness, Sex-item Truthfulness, Sexual Adjustment, Child Molest, Sexual Assault (Rape), Incest, Exhibitionism, Violence (Lethality), Antisocial, Alcohol, Drug, Distress and Judgment. The SAI-Juvenile has been researched on juvenile sex offenders, college students, outpatients, inpatients, probationers and others.

The SAI-Juvenile 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. The SAI-Juvenile is designed to measure the severity of juvenile sex offender problems in judicial, correctional, probation and parole systems. It is a risk and needs assessment instrument. The SAI-Juvenile has demonstrated reliability, validity and accuracy. It correlates impressively with both experienced staff judgment and other recognized tests.

SAI-Juvenile tests can be given directly on the computer screen or in paper-pencil test booklet format. All tests are computer scored on-site. SAI-Juvenile 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 SAI-Juvenile 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.

SAI-Juvenile 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 SAI-Juvenile is to be used in conjunction with a review of available records and respondent interview. No decision or diagnosis should be based solely on SAI-Juvenile results. Client assessment is not to be taken lightly as the decisions made can be vitally important as they effect peoples lives. SAI-Juvenile research is ongoing in nature, so that evaluators can be provided with the most accurate information possible.

## **INTRODUCTION**

### **SEXUAL ADJUSTMENT INVENTORY - JUVENILE**

Increased public awareness of juvenile sexual abuse and substance (alcohol and other drugs) abuse as a nationwide health problem has clarified the need for identification and treatment of these disorders. Rising costs have placed increasing responsibilities on all persons working with perpetrators of sexual abuse and substance abusers. Workers in the field must now document and substantiate their intervention and treatment. Patients, clients, their families, probation departments, the courts, diversion programs, corrections programs and funding agencies are now requiring substantiation and documentation of staff decision making. Substance abuse and dependency problems must now be measured in terms of degree of severity, with quantitative statements substantiating intervention and treatment.

The Sexual Adjustment Inventory - Juvenile (SAI-Juvenile) was developed to help meet the needs of judicial court screening and assessment. The SAI-Juvenile is designed for juvenile sex offender assessment. It is available in English and Spanish. The SAI-Juvenile helps to identify sexually deviate and paraphiliac behavior in juveniles accused or convicted of sexual offenses. It can be used to measure the severity of sex offender problems in judicial, correctional, probation and parole systems. SAI-Juvenile reports are particularly useful at pre-sentence hearings. In these reports quantitative information is obtained by empirically based measures (scales) which independently generate risk (percentile) scores. Scale development is based upon over 25 years of research. In addition, explanatory paragraphs describe attained scores and contain specific score-related recommendations. And each scale is presented graphically in the SAI-Juvenile profile.

#### **Sexual Adjustment Inventory - Juvenile** **Measures or Scales**

- 1. Test-item Truthfulness Scale**
- 2. Sex-item Truthfulness Scale**
- 3. Sexual Adjustment Scale**
- 4. Child Molest Scale**
- 5. Sexual Assault (Rape) Scale**
- 6. Exhibitionism Scale**
- 7. Incest Scale**
- 8. Alcohol Scale**
- 9. Drug Scale**
- 10. Distress Scale**
- 11. Judgment Scale**
- 12. Antisocial Scale**
- 13. Violence Scale**

The SAI-Juvenile is a brief, easily administered and interpreted juvenile sex offender screening or assessment instrument. It is particularly useful in judicial, correctional, probation and parole systems. The SAI-Juvenile represents the latest developments in psychometric techniques and computerized technology. The SAI-Juvenile can be administered on a computer (PC compatibles) screen or by using paper-pencil test booklets. Regardless of how the SAI-Juvenile is administered, all tests are scored and interpreted with a computer which generates SAI-Juvenile reports.

The SAI-Juvenile requires approximately one hour for completion and is appropriate for juveniles 15 through 18 years of age. The SAI-Juvenile is composed of True-False and multiple-choice items. It can be administered individually or in groups. The language is direct, non-offensive and uncomplicated. Automated scoring and interpretive procedures help insure objectivity and accuracy. The SAI-Juvenile is to be used in conjunction with a review of available records, a focused interview and experienced court staff judgment.

The SAI-Juvenile was designed to provide carefully developed measures (called scales) of several behavioral patterns and traits of interest to those working with sex offenders. The measures (scales) chosen for inclusion in the SAI-Juvenile further the understanding of the juvenile sex offender. In addition, they provide important information on the client's test taking attitude, emotional/behavioral adjustment, and much more.

## UNIQUE FEATURES

**Truth Correction:** A sophisticated psychometric technique permitted by computerized technology involves "truth-corrected" scores which are calculated individually for SAI-Juvenile scales. Since it would be naive to assume everybody responds truthfully while completing any self-report test, the Truthfulness Scale was developed. **The Truthfulness Scale establishes how honest or truthful a juvenile is while completing the SAI-Juvenile.** Correlation's between the Truthfulness Scale and all other scales permit identification of error variance associated with untruthfulness. This error variance can then be added back into scale scores, resulting in more accurate "Truth-Corrected" scores. Unidentified denial or untruthfulness produces inaccurate and distorted results. 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 scores are more accurate than raw scores.

**Risk Range Percentile Scores:** Each SAI-Juvenile scale is scored independently of the other scales. SAI-Juvenile scale scoring equations combine client pattern of responding to scale items, Truthfulness Scale and prior history that is contained on the SAI-Juvenile answer sheet. The Truthfulness Scale applies a truth-correction factor so that each scale score is referred to as a Truth-Corrected scale score. These Truth-Corrected scale scores are converted to the percentile scores that are reported in the client SAI-Juvenile report.

SAI-Juvenile scale percentile scores represent "degree of severity." Degree of severity is defined for all scales as follows: **Low Risk** (zero to 39th percentile), **Medium Risk** (40th to 69th percentile), **Problem Risk** (70th to 89th percentile), and **Severe Problem** or **Maximum Risk** (90th to 100th percentile).

Standardization data is statistically analyzed where percentile scale scores are derived from obtained scale scores from offender populations. The cumulative distributions of truth-corrected scale scores determine the cut-off scores for each of the four risk range and severity categories. Individual scale score calculations are automatically performed and results are presented in the SAI-Juvenile report numerically (percentile), by attained risk category (narrative) and graphically (SAI-Juvenile profile).

**SAI Database:** Every time an SAI-Juvenile is scored the test data is automatically stored on the diskette for inclusion in the SAI-Juvenile database. This applies to SAI-Juvenile diskettes used anywhere in the United States and Canada. When the preset number of tests are administered (or used up) on a SAI-Juvenile diskette, the diskette is returned for replacement and the test data contained on these used diskettes is input, in a confidential (no names) manner, into the SAI-Juvenile database for later analysis.

This database is statistically analyzed annually, at which time future SAI-Juvenile diskettes are adjusted to reflect demographic changes or trends that might have occurred. This unique and proprietary database also enables the formulation of annual summary reports that are descriptive of the populations tested. Summary reports provide important testing information, for budgeting, planning, management and program description.

**Confidentiality (Delete Client Names):** Many agencies and programs are rightfully concerned about protecting their client's confidentiality. The proprietary Delete Client Names option is provided to allow deletion of client names from test diskettes prior to their being returned to Risk & Needs Assessment. This is optional and once the names have been deleted they are gone and cannot be retrieved. Deleting client names does not delete demographic information or test data. It only deletes the client names when the option is used. The option is available at any time and can be used whether the diskette is full or not. Once the client names are deleted there can no further editing of the client names. This procedure insures client confidentiality and compliance with HIPAA (federal regulation 45 C.F.R. 164.501).

## **DESCRIPTION OF EMPIRICALLY BASED MEASURES OR SCALES**

SAI-Juvenile test items were developed from large item pools. Initial item selection was a rational process based upon clearly understood definitions of each scale. Subsequently, scales and test items were analyzed for inclusion on the basis of their statistical properties. The SAI-Juvenile was then administered to convicted juvenile sex offenders. **Final item selection was based upon each item's statistical properties.** In brief, SAI-Juvenile scales were developed by statistically relating scale items to the sex offender population. The SAI-Juvenile was then standardized on the sex offender population. Thus, the SAI-Juvenile has been researched and standardized on the juvenile sex offender population itself. It is important that users of the SAI-Juvenile familiarize themselves with the definition of each scale. For that purpose a description of each SAI-Juvenile scale follows.

### **Test Item Truthfulness**

This Scale measures how truthful the client was while completing the SAI-Juvenile. A high risk Truthfulness Scale score may invalidate other scale scores.

All interview and self-report information is subject to the dangers of untrue answers due to defensiveness, guardedness, or even deliberate falsification. The straightforward nature of any self-report test or interview procedure may appear to some people as intrusive -- giving rise to denial and distortion. This is of particular concern when evaluating juvenile sex offenders, as they often attempt to minimize problems and concerns in an effort to influence sentencing or supervision. The Test Item Truthfulness Scale helps identify these self-protective, recalcitrant, and guarded clients who minimize and conceal information. The Test Item Truthfulness Scale also identifies the reading impaired, i.e., reading comprehension below the 6th grade.

The Test Item Truthfulness Scale goes beyond establishing the truthfulness of the client. The correlation between the Test Item Truthfulness Scale and other SAI-Juvenile scales has been established to provide Truth-Corrected scale scores. Truth-Corrected scale scores are more accurate than raw scores. Raw scores reflect what the client wants you to know. Truth-Corrected scores reveal what the client is trying to hide. Since the outcome of a person's assessment can affect their lives -- it would be naive to believe that all clients answer all questions truthfully. Juvenile sex offenders can be expected to attempt to substantially under-report their problems and concerns. Truth-Corrected scores are more accurate than raw scores.

### **Sex Item Truthfulness**

This is another truthfulness or validity scale. It measures how truthful the client is while answering sex-related items and questions. Some clients may respond truthfully to non-sex items and attempt to minimize or even deceive when answering sex-related items. The Sex Item Truthfulness Scale is designed to detect these defensive, guarded, and deceptive people. When evaluating sexual adjustment, all interviews and tests are subject to the dangers of untrue answers and even deliberate falsification. People accused of sex-related offenses can be expected to under-report their sexual problems and concerns.

A high score on the Sex Item Truthfulness Scale may invalidate other scales that have an obvious sexual relationship, e.g., child molest, rape, exhibitionism, and incest. However, a high score on the Sex Item Truthfulness Scale may not invalidate other SAI-Juvenile scales that do not have an obvious sexual content, e.g., alcohol, drugs, distress, judgment, antisocial, and violence. The Sex Item Truthfulness Scale allows comparison of a client's truthfulness to non-sexual items and sexual items. This information is important in determining the respondent's motivation.

### **Sexual Adjustment**

This scale identifies the client's self-reported sexual adjustment. It reflects the client's perception of his or her own sexual adjustment. This scale reflects the client's satisfaction or dissatisfaction with their sex life. A high score reveals dissatisfaction with one's sex life and an impaired or unsatisfying sexual adjustment.

When we evaluate a person's sexual behavior, we compare that person's behavior with society's standards, rules, and norms. Some people develop sexual attitudes and behaviors which are unacceptable in society because these sexual acts are harmful to others. In these cases, we say that these people are sexually maladjusted and represent sexual deviations or paraphilias. We do not have to judge the causes, motives, or purposes of such behaviors to classify them as sexual deviations or paraphilias. Sexual adjustment is defined in terms of one's ability to function effectively, harmoniously, and in a satisfying as well as trouble free sexual manner.

Many juvenile sex offenders do not comprehend the reasons for their compulsions or actions. Since many offenders are unable to comprehend the reasons for their actions, we need a measure of "normal" sexual adjustment. Without such a measure, the examiner is at the mercy of the client's understanding, attitude and statements regarding their sexual adjustment, behavior and acts.

The Sexual Adjustment Scale includes sexual-related items that most people in our society would agree or disagree with. This scale measures "normal" sexual interest and adjustment. Norming the Sexual Adjustment Scale on both the "normal" and "sex offender" populations enables comparison. The greater the disparity or differences between these scores, the greater the impairment in sexual adjustment. High Sexual Adjustment Scale scores reveal impaired sexual adjustment.

### **Child Molest**

This scale measures pedophilia. It measures the client's interest and sexual urges or fantasies involving sexual activity with a prepubescent child. Many people with pedophilia are sexually aroused by both young boys and girls. Isolated sexual acts with children do not necessarily warrant the diagnosis of pedophilia.

Pedophilia is a pathological sexual interest in children. It is variously described as a variant of homosexuality, associated with impotent persons, and an immature psychosexual manifestation.



Regardless of the etiology, in pedophilia, sexual expression is released toward children. The offender is often unable to comprehend the reason for his or her actions.

Pedophiliacs generally report an attraction to children of a particular age range. Those attracted to girls often prefer eight to ten year olds, whereas those attracted to boys often prefer slightly older children. Attraction to girls is reportedly twice as common as attraction to boys. Many pedophiles are sexually aroused by both young boys and young girls. "People with this disorder who act on their urges with children may limit their activity to undressing the child and looking, exposing themselves, masturbating in the presence of a child, or gentle touching and fondling of the child. Others, however, perform fellatio or cunnilingus on the child or penetrate the child's vagina, mouth or anus with their fingers, foreign objects, or penis, and use varying degrees of force to achieve these ends" (DSM III-R, p. 284). The age of the child is generally 13 or younger.

### **Sexual Assault**

This scale measures a person's rape or other sexual assault proneness. Rape refers to sexual assault or sexual intercourse against the will and over the objections of the partner. It is often accompanied by force or the threat of force. Many believe rape is not so much a sexual act as an act of hostility and aggression. Some rapists are primarily brutish and insensitive. Many rapists are seriously disturbed, but a few may be more "normal" than others who act on a sudden impulse or misjudge the reaction of their partner. Rape is essentially a crime of violence.

Rape is an act of hostility and aggression. Both females and males can be raped. Even though often unreported, the incidence of rape is increasing. Rapists usually inflict at least a degree of bodily injury in forcing themselves upon their victims. Rape is considered sexual assault.

### **Exhibitionism**

This disorder refers to exposure of one's genitals to a stranger. When a person acts on exhibitionist urges, there is usually no attempt at further sexual activity with the stranger. Many believe this condition primarily occurs in males, and the victims are usually female children and adults. The Exhibitionism Scale measures the client's exhibitionistic tendencies and related problems.

Exhibition is one of the most common or prevalent sexual deviations. A characteristic common to all forms of sexual deviation is their repetitive, compulsive, and patterned nature. This is particularly evident in exhibitionism. Such behavior is often described as the expression of an uncontrollable urge, committed without logic or rationale. Many sex offenders are unable to comprehend the reasons for their actions.

The Exhibitionism Scale is included in the SAI-Juvenile because of the prevalence of this sexually-related behavior in our society. In addition, some paraphiliacs suffer from several different paraphilias at the same time.

### **Incest**

Incest refers to coitus between persons related by blood or marriage, e.g., parents, siblings, or children. Non-coital forms of sexual intercourse do not constitute incest. Incest does not refer to persons of the same sex. Incest prohibitions of one kind or another have existed since prehistoric times. The Incest Scale measures the client's incestuous behavior.

Incest refers to sexual intercourse between closely related individuals, e.g., parent-child or brother-sister. Incest is most common between brother and sister, and the next most common form is between father and daughter.

Review of contemporary literature reveals a variety of theories related to the etiology, treatment and prognosis of incest. This may be largely due to the fact that incest is a criminal act and legal authorities have the primary responsibility for identification, reporting, and treatment. There is a “taboo mystique” surrounding this behavior. It is assumed that the prevalence of incest offenses are under-reported and therefore grossly underestimated.

### **Alcohol**

This scale measures the client’s alcohol proneness and alcohol-related problems. Frequency and magnitude of alcohol use and abuse are important factors to be considered when evaluating juvenile sex offenders. Alcohol is a major licit or legal drug. Many sexually-related offenses are also alcohol related.

Alcoholism is a significant problem in our society. The harm associated with alcohol abuse -- mental, emotional, and physical -- is well documented. However, the harm associated with alcohol-related disorders has been under-reported. The symptoms of alcohol abuse include aggressiveness, impaired comprehension, emotional lability, anxiety/depression, and impulsive sexual behavior. A person’s usual behavior may be accentuated or altered when intoxicated. The initial effects of alcohol have been described as “disinhibitory.” We are all too familiar with the sex offender’s statement that he or she was drinking prior to the offense.

### **Drug**

The Drug Scale is an independent measure of the client’s illicit drug use and abuse problems. Illicit (or illegal) drug use and its effects are important factors to be considered when evaluating juvenile sex offenders. Without a drug scale many drug abusers would remain undetected. Increased public awareness of drug (marijuana, cocaine, ice, crack, heroin, etc.) abuse emphasizes the importance of this scale.

Psychological and behavioral changes associated with illicit drug abuse include perceptual distortions, impaired comprehension and judgment, paranoid ideation, memory problems, and behavior disorders. The effects and course of illicit drug abuse is unpredictable, and is often related to an individual’s underlying pathology.

### **Violence**

The Violence Scale measures the client’s use of physical force to injure, damage, or destroy. It identifies individuals that are dangerous to themselves and others.

An ever-present concern when evaluating juvenile sex offenders is lethality or violence potential. Violence is a significant problem in our society. The harm associated with violence -- mental, emotional, and physical -- is often under-reported by victims and family. And, there are some people who are “violence prone.” They are sensitive to perceived criticism, seek revenge, and overtly try to hurt, harm, or even destroy.

### **Antisocial**

This term refers to those chronically antisocial individuals who seem to lack the capacity to form significant attachments or loyalties with others or groups. They are often callous, given to immediate pleasure, appear devoid of a sense of responsibility, and fail to learn from experience. They seem to lack

in social judgment. Such individuals often rationalize their behavior in a “seemingly logical” manner and can be very convincing to others.

Underlying characteristics often include personal self-aggrandizement, acquisition of money and material goods, and the control of others. Antisocial individuals are typically selfish, affectionless, ungrateful, narcissistic, and sometimes exhibitionistic. They can be egocentric, “demanding a lot and giving little.” Their conduct often appears hostile from a social standpoint, and they show few feelings of anxiety, guilt, or remorse. They are often restless. The defect, or lacunae, as it has been termed, may be limited to a general style of behavior -- such as stealing, running away, or promiscuity. Antisocial individuals show a moral or ethical blunting and a lack of sympathy or concern for others. They lack a sense of responsibility, engage in purposeless lying, and manifest denial as well as projection.

### **Distress**

The Distress Scale measures anxiety and depression. These two symptom clusters -- anxiety and depression -- represent the most commonly reported symptoms of distress. The blending of these symptom clusters is clear in the definition of dysphoria, i.e., a generalized feeling of anxiety, restlessness, and depression.

Anxiety is an unpleasant emotional state characterized by apprehension, stress, nervousness, and tension. Depression refers to a dejected or self-deprecating emotional state. General symptoms such as melancholy and dysphoric mood are included as well as despair.

Distress represents the major reason people seek help or are referred for counseling. Anxiety and depression are not mutually exclusive and any given case may be difficult to differentiate because people usually have multiple problems.

### **Judgment**

This scale incorporates understanding and comprehension. Understanding refers to a person’s logical and comprehension abilities. Judgment refers to a person’s ability to compare facts or ideas, to understand relationships, and to draw correct conclusions.

It is important to understand whether or not the sex offender’s judgment is impaired. Does the offender understand and comprehend his or her situation, as well as the consequences? High risk scorers on the Judgment Scale may have impaired intellectual abilities and tend to be concrete in their thinking. As noted earlier, judgment incorporates understanding and comprehension.

Judgment provides the individual with a self-regulatory mechanism. With judgment, understanding, and comprehension, the client is able to object or agree to what he and others are about to do. Without judgment and comprehension, human beings cannot develop self-evaluation in terms of “right” and “wrong.” There wouldn’t be remorse. Guilt would not be possible. Judgment and comprehension are necessary for a person to evaluate his or her situation and decide upon future action. Impaired judgment and comprehension could be important factors contributing to inappropriate sexual behavior.

## **SUMMARY OF PARAPHILIAS**

The paraphilias or sexual deviation disorders are characterized by arousal in response to sexual objects or situations that are not part of normal arousal (DSM III-R). “Some paraphiliacs are relatively common, e.g.,

exhibitionism, pedophilia (child molestation), incest, rape or sexual assault. Paraphilias involving another person, e.g., exhibitionism, pedophilia, rape, etc., often lead to arrest and incarceration. Sexual offenses against children constitute a significant proportion of all reported criminal sex acts. People with exhibitionism, pedophilia, and sexual assault make up the majority of apprehended sex offenders. Because of the repetitive nature of paraphiliac behavior, a large percentage of the population has been directly or indirectly victimized by paraphiliacs. People with a paraphilia commonly suffer from several varieties at the same time, e.g., three or four different pedophilias. Frequently people with these disorders state that their behavior causes them no distress and that their only problem is the reaction of others to their behavior. Approximately one-half of people with paraphilias are married (DSM III-R).

Much less common paraphilias are not represented in the SAI-Juvenile because of their rarity. These include fetishism (sexual urges involving non-living objects), frotterism (touching non-consenting persons), transvestic fetishism (cross-dressing), zoophilia (sex with animals), necrophilia (sex with corpses), coprophilia (feces), klismaphilia (enemas), urophilia (urine), etc. These paraphilias are so rare they are not represented in the SAI-Juvenile.

The SAI-Juvenile is much more than simply another sex test. Other areas of inquiry that are important in evaluating sex offenders are included. For example, the Alcohol Scale, Drugs Scale, Judgment Scale, Antisocial Scale, Violence Scale, and Distress Scale provide important information in sex offender cases that may relate to the offender's situation or problem. This is sometimes the case when the client is involved in substance (alcohol and other drugs) abuse, lacks judgment, or is in distress (anxiety or depression). In summary, the Sexual Adjustment Inventory-Juvenile (SAI-Juvenile) measures a wide variety of behaviors commonly considered important in evaluating sexual adjustment, sexual deviations, or sexually related disorders.

## **RESEARCH STUDIES**

The Sexual Adjustment Inventory-Juvenile (SAI-Juvenile) has been researched and normed on the juvenile sex offender population. Reliability refers to consistency of results regardless of who uses the instrument. SAI-Juvenile results are objective, verifiable and reproducible. The SAI-Juvenile is also practical, economical and accessible. Validity refers to a test measuring what it is purported to measure. The SAI-Juvenile was validated in a series of studies that are summarized in this document. However, it should be emphasized that SAI-Juvenile research is ongoing in nature.

SAI-Juvenile research studies are reported chronologically (as they were done). Consequently the most recent SAI-Juvenile research is presented under the most recent years. Over time SAI-Juvenile statistical properties (reliability, validity and accuracy) continue to improve. Thus, the studies presented herein represent the evolution of the SAI-Juvenile into a state-of-the-art juvenile sex offender assessment instrument.

The SAI-Juvenile evolved from the Sexual Adjustment Inventory (SAI) for adult sex offenders. Early in its development the Sexual Adjustment Inventory (SAI) was administered to normals (by definition not sex offenders), college students, substance abuse patients, inmates and Municipal Court defendants. The SAI does differentiate between "normals" and sex offenders. And, scale scores correlate well with other tests measuring similar behaviors.

## **1. Validation of the Test Item Truthfulness Scale**

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

The Test Item Truthfulness Scale identifies respondents who were 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 Test Item Truthfulness Scale item, "Sometimes I worry about what others think or say about me."

This preliminary study used the 21 Test item Truthfulness Scale items in the SAI-Juvenile 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 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 SAI-Juvenile Test Item Truthfulness Scale, was administered to the subjects and the Truthfulness Scale was embedded in the test as one of the six 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 reveals that the Truthfulness Scale accurately detects "Fakers" from those students that took the test honestly.

## **2. A Reliability Study of the SAI**

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 accuracy, objectivity, practicality, cost-effectiveness and accessibility. The purpose of the present study (1991) was to evaluate the reliability of the SAI in a sample of sex offenders and to standardize the SAI scales on the

sex offender population. This SAI test was designed for adult sex offenders from which the SAI-Juvenile evolved.

Within-test reliability measures to what extent a test with multiple scales measuring different factors measures each factor independently of other scales in the test. It also measures to what extent items in each scale consistently measure the particular characteristic (factor) that scale was designed to measure. The most common method of reporting within scale inter-item reliability is with coefficient alpha.

**Method and Results**

The SAI was administered to 358 convicted sex offenders. There were 355 men and 3 women. The demographic composition of this sex offender sample is as follows: Age: 16-25 years (10.6%), 26-35 years (27.9%), 36-45 (30.7%), 46-55 (16.8%) and over 55 (14%). Ethnicity: Caucasian (91.6%), Black (6.4%), Hispanic (1.1%) and Other (0.8%). Education: 8th grade or less (2.2%), Some High School (30.7%), GED (1.1%), High School graduate (35.8%) Some college (14.5%), Business/Technical School (8.9%), College graduate (3.4%), and Graduate/Professional school (3.4%). Marital Status: Married (37.2%), Single (45.8%), Divorced (13.7%), Widowed (2%) and Separated (1.4%).

Reliability coefficient alphas are in Table 1.

**Table 1. Reliability coefficient alphas. Convicted Sex Offenders (N=358, 1991)**  
**All coefficient alphas are significant at p<.001.**

<b><u>SAI SCALES</u></b>	<b><u>Coefficient Alpha</u></b>
Test Item Truthfulness Scale	.84
Sex Item Truthfulness Scale	.87
Sex Adjustment Scale	.84
Exhibitionism Scale	.80
Child Molest Scale	.86
Incest Scale	.90
Sexual Assault (Rape) Scale	.80
Alcohol Scale	.91
Drug Scale	.85
Distress Scale	.87
Judgment Scale	.83

These results strongly support the reliability of the SAI in this sample sex offender defendants. All coefficient alphas were significant at p<.001. This means that the SAI has very high internal consistency. SAI results are objective, verifiable, and reproducible. Computer scoring ensures accuracy, objectivity, and practicality.

In this study, (N=358, 1991) the obtained coefficient alphas -- a widely used test of inter-item reliability with parallel models -- demonstrate that each SAI scale measures essentially one factor (or characteristic) and all scales show high inter-item congruency. In other words, each SAI scale measures one factor, yet the factor being measured is different from scale to scale. All SAI scales demonstrate high inter-item congruency, as reflected in the coefficient alphas. SAI scales have acceptable and empirically demonstrated reliability. In addition, each SAI scale is an independent measure of the trait (characteristic) it was designed to measure.

### **3. Validation of the SAI-Juvenile Test Item and Sex Item Truthfulness Scales**

This study (1992) was conducted to validate the SAI-Juvenile Test Item Truthfulness Scale and Sex Item Truthfulness Scale with truthfulness scales on the Minnesota Multiphasic Personality Inventory (MMPI) as criterion measures. This study again utilized the adult version SAI and adult sex offenders were participants. The SAI-Juvenile truthfulness scales are nearly identical to the adult SAI scales.

The SAI-Juvenile Test Item Truthfulness Scale is designed to detect respondents attempting to minimize their problems or concerns. The L Scale on the MMPI is designed to detect respondents attempting to present an unusually good front (fake good). Both of these scales identify recalcitrant, guarded and defensive individuals who are attempting to appear in a good light. It was hypothesized that these two scales would be positively related.

The SAI Sex Item Truthfulness Scale is designed to detect respondents attempting to minimize their reaction to items with an obvious sexual connotation. The MMPI F Scale is designed to detect respondents' lack of cooperation or attempts to put themselves in a bad light. Both of these scales consist of items upon which almost everyone in the "normal" population agrees. It was hypothesized that these two scales would be positively related.

#### Method and Results

The SAI was administered to 205 convicted sex offenders who had completed the MMPI within the past eighteen months. Eighty-nine percent were given the MMPI within one year, whereas eleven percent were given the MMPI within eighteen months. The SAI Test Item Truthfulness Scale was validated with the MMPI L Scale, the SAI Sex Item Truthfulness Scale was validated with the MMPI F Scale.

Product-moment correlation coefficients indicated that SAI Test Item Truthfulness Scale scores were significantly correlated with both MMPI L Scale raw scores ( $r = .197, p < .05$ ) and L Scale T-Scores ( $r = .195, p < .05$ ). Both correlations were significant and in predicted directions. The Product-moment correlation coefficient between the SAI Sex Item Truthfulness Scale scores and MMPI F Scale raw scores was significant ( $r = .332, p < .01$ ). This correlation was significant and in the predicted direction.

These MMPI-SAI findings support the validity of the SAI Test Item Truthfulness Scale and the SAI Sex Item Truthfulness Scale. It is important to know if the client is guarded or lying with regard to the overall test or to sex-related items. Some offenders attempt to fake answers to the test, whereas others only attempt to fake answers to sex-related items. It's equally important to know when a client is answering test items honestly.

### **4. Discriminant Validity of the SAI Sexual Adjustment Scale**

This study (1992) was conducted to validate the SAI Sexual Adjustment Scale using discriminant analysis to compare convicted adult sex offenders to "normals." Normals were individuals never charged with a sex offense. The purpose of the study was to determine the ability of the Sexual Adjustment Scale to discriminate between convicted sex offenders and normals.

The Sexual Adjustment Scale measures a person's perception of his or her own sexual adjustment in terms of satisfaction or dissatisfaction with one's sex life. A high score on this scale reveals dissatisfaction and an impaired or unsatisfying sexual adjustment. It would be expected that sex offenders score higher than normals. The Sexual Adjustment Scale includes sexual-related items that most people in our society would agree or disagree with. This scale measures normal sexual interest and adjustment.

## Method and Results

There were 227 subjects (91 Normals, and 136 Offenders) who participated in this study. Normals were given a 29-item questionnaire which included 17 items from the Sexual Adjustment Scale, whereas Offenders were given the SAI which included the Sexual Adjustment Scale.

The **Normal group** is summarized as follows: 65 males (71.4%) and 26 females (28.6%). Age: 16 to 20 years (8.8%), 21 to 25 (20.9%), 26 to 30 (19.8%), 31 to 35 (16.5%), 36 to 40 (13.2%), 41 to 45 (7.7%), 46 to 50 (4.4%), 51 to 55 (5.5%), 56 to 60 (1.1%), and over 60 (0.7%). The **Sex Offender group** included: 134 males (98.5%) and 1 female (0.7%). Age: Under 16 (2.2%), 16 to 20 (3.7%), 21 to 25 (10.3%), 26 to 30 (12.5%) 31 to 35 (13.2%), 36 to 40 (16.2%), 41 to 45 (13.2%), 46 to 50 (12.5%), 51 to 55 (5.1%), 56 to 60 (2.9%) and over 60 (7.4%).

Scale scores were obtained by adding deviant responses given to the matched scale items. Scale scores are presented in Table 2.

**Table 2. Sexual Adjustment Scale, Normals vs. Offenders**  
**Total N = 227, 1992**

<u>Group</u>	<u>N</u>	<u>Mean</u>	<u>S. D.</u>	<u>Minimum</u>	<u>Maximum</u>
Normal	91	2.49	2.87	0	14
Offender	136	8.57	5.56	0	23

The t-test comparison of the difference between the means demonstrated that Offender scores were significantly higher ( $t = 9.6, p < .001$ ) than Normal scores. A test comparing the distributions indicated that the variances of the two groups were different. The scores were transformed by taking the square root of the scores. The t-test comparison of transformed scores showed the difference between means was again highly significant ( $t = 9.7, p < .001$ ).

An Analysis of Variance test compared group scores, as well as demographics, and indicated that the groups differed in terms of age, where Normals were younger and more educated, on average, than Offenders. To eliminate these differences, a group of Normals were matched with a group of Offenders on age and education. There were 72 Normals and 112 Offenders. Analysis of Variance (ANOVA) demonstrated that these subgroups were significantly different in terms of Sexual Adjustment Scale scores. No significant differences on the Sexual Adjustment Scale were found for marital status.

ANOVA results demonstrated Normals responded significantly differently than Offenders on all Sexual Adjustment Scale items, except for two. One of these items was, "I have engaged in unusual sexual activity." Normals were nearly evenly divided as were offenders. There may be widely varied interpretations of "unusual sexual activities." The other item was, "I cruise for pick-ups or sex partners." Offenders indicated that these activities are no more frequent, or deviant, than "normals." These two items were deleted from the SAI.

Throwing out 7 cases from the Normal group who responded "their sexual adjustment was deviant" and/or "they were not sexually active" the data was reanalyzed. The t-test comparison indicates a significant difference ( $t = 11.34, p < .001$ ) between the Normal and Offender groups on Sexual Adjustment scores and a significant difference in transformed scores ( $t = 10.53, p < .001$ ).



**These t-test statistics demonstrate a significant difference between Normals' and Offenders' scores on the SAI Sexual Adjustment Scale.** These differences, when the 7 cases are taken out, are slightly greater than the differences demonstrated with all Normals included. The Offender group scored significantly higher than Normals on Sexual Adjustment items. The distribution of Sexual Adjustment Scale scores for these two groups differed in that Offender scores were more dispersed. Minimum-maximum scores were: 0-23 for Offenders, and 0-14 for Normals. Transforming the data using the square root eliminated the difference in distributions, yet the groups remained significantly different. Offenders gave more deviant responses than Normals on all Sexual Adjustment Scale items. Offenders appear to be more sensitive to sex-related problems than Normals.

### **5. Validation of the SAI With Evaluator Rating**

This study (1993) investigated the relationship between sex therapist ratings and SAI scales. Fourteen established sex therapists participated. All sex therapists had over five years experience. Three sex therapists had Masters Degrees and eleven had Ph.D. degrees. The purpose of the study was to validate the SAI sex-related scales with evaluator ratings of these measures. While evaluator rating studies tend to be adversely affected by inter-rater reliability, these studies can provide sound validation when the measures to be rated are well defined. Adult sex offenders were tested with the adult SAI.

Sex therapists rated participants (convicted sex offenders) risk on behaviors measured by SAI scales. Risk ratings were Low, Medium, Problem, and Severe Problem. SAI measures or scales included: Test Item Truthfulness Scale; Sex Item Truthfulness Scale; Sexual Adjustment Scale; Child Molest Scale; Sexual Assault (Rape) Scale; Incest Scale; Exhibitionist Scale; Alcohol Scale; Drugs Scale; Judgment Scale; and Distress Scale. Therapist ratings were made without awareness of SAI scale scores. The SAI was given as part of each counselor's usual evaluation procedure. Therapists' evaluation procedures varied, yet all therapists interviewed each client extensively. Some therapists gave the SAI first, whereas others completed their interview first.

There were 136 convicted male sex offenders, who were in sex counseling or treatment, included in the study. The demographic composition of the offenders is as follows: Age: Under 16 years of age (2.2%), 16 to 20 years (3.7%), 21 to 25 years (10.4%), 26 to 30 years (12.8%), 31 to 35 years (13.4%), 36 to 40 years (16.4%), 41 to 45 years (12.7%), 46 to 50 years (12.7%), 51 to 55 years (5.2%), 56 to 60 years (3.0%), and over 60 years (7.5%). Ethnicity: Caucasian (81.3%), Black (12.7%), Hispanic (5.2%), and American Indian (0.7%). Education: 8th grade or less (12.7%), Some High School (18.7%), GED (6.7%), High School graduate (36.6%), Some college (14.2%), Technical/Business School (1.5%), College graduates (6.7%) and Professional/Graduate School (3.0%).

Several sex therapists knew their clients very well and, in some cases, their professional relationship extended over several years. However, sex therapists were not asked how long they knew their clients, nor how long each client had been in sex therapy. This oversight was inadvertent.

### Results

Reliability coefficient alphas for these 136 convicted sex offenders are presented in Table 3. Agreement coefficients (correlations) between staff ratings and SAI scale scores are presented in Table 4.

**Table 3. Reliability coefficient alphas. Convicted sex offenders (N=136, 1993)**

<b><u>SAI Scales</u></b>	<b><u>Coefficient Alpha</u></b>	<b><u>Significance Level</u></b>
Test Item Truthfulness Scale	.87	p<.001
Sex Item Truthfulness Scale	.88	p<.001
Sexual Adjustment Scale	.84	p<.001
Child Molest Scale	.90	p<.001
Sexual Assault (Rape) Scale	.88	p<.001
Exhibitionism Scale	.87	p<.001
Incest Scale	.90	p<.001
Alcohol Scale	.92	p<.001
Drug Scale	.88	p<.001
Distress Scale	.85	p<.001
Judgment Scale	.88	p<.001

These results strongly support the reliability or internal consistency of SAI scales. SAI results are objective, verifiable, and reproducible.

**Table 4. Agreement coefficients. Staff ratings and SAI scale scores  
N = 136, 1993**

<b><u>SAI Scales</u></b>	<b><u>Agreement Coefficients</u></b>	<b><u>Significance Level</u></b>
Test Item Truthfulness Scale	.10	p<.02
Sex Item Truthfulness Scale	.09	p<.02
Sexual Adjustment Scale	.35	p<.01
Child Molest Scale	.32	p<.01
Sexual Assault (Rape) Scale	.41	p<.01
Exhibitionism Scale	.37	p<.01
Incest Scale	.34	p<.01
Alcohol Scale	.33	p<.01
Drug Scale	.12	p<.02
Distress Scale	.09	p<.02
Judgment Scale	.02	n.s.

The non-significant correlation involving client judgment is of interest because it is a non-pathological scale, whereas other non-pathological scales (i.e., Truthfulness Scales) also demonstrated weaker (although significant) coefficients. The focus of sex therapy is on sexual matters, sexual problems, and sexual pathology. It is possible that sex therapists may not focus (or emphasize) non-sexual, non-deviant, or non-pathological inquiry. It is also possible that the concept of “judgment” is not as clearly defined as other sexual, pathological, or clinical terms.

The results of this study support the validity of the SAI. Product-moment correlation coefficients between staff ratings and SAI scale scores were significant. There was a strong positive relationship between staff ratings and SAI scale scores. The SAI was shown to be a valid instrument for assessment of convicted sex offenders.

## 6. Reliability of the SAI with the Addition of the Antisocial and Violence Scales

In 1994 the Antisocial Scale and the Violence Scale were added to the Sexual Adjustment Inventory (SAI). These two scales were researched in another test (SAQ-Adult Probation II) in 1993. With the expanded use of the SAI in probation and correctional settings, the Antisocial and Violence scales added other important perspectives to sex offender assessment. The purpose of this study was to examine the reliability of the SAI and in particular the Antisocial Scale and Violence Scale in a sample of adult sex offenders.

### Method and Results

The SAI was administered to 520 convicted sex offenders. This sample consisted of 489 men (94%) and 31 women (6%). Demographic composition of the offenders is as follows: Age: 18-25 years (9%); 26-35 years (14%); 36-45 years (23%); 46-55 years (21%); and Over 55 (33%). Ethnicity: Caucasian (49%); Black (27%); Hispanic (14%); American Indian (9%); and Other (1.0%). Education: 8th Grade or less (3%); Some High School (15%); GED (14%); High School graduates (24%); Some college (20%); Business/Technical School (9%); College graduates (12%) and Graduate School/Professional Degree (3%). Marital Status: Married (34%); Single (41%); Divorced (18%); Widowed (3%) and Separated (4%).

Reliability coefficient alphas are presented in Table 5. All coefficient alphas were significant at  $p < .001$ . These results support the reliability (internal consistency) of the SAI. The Antisocial Scale and Violence Scale also have very high coefficient alphas and supports the reliability of these scales in this sample of convicted sex offenders. The value of database research is demonstrated by ongoing, cost effective research.

**Table 5. Reliability coefficient alphas. Convicted sex offenders (N=520, 1994)**  
**All coefficient alphas are significant at  $p < .001$ .**

<u>SAI Scales</u>	<u>Coefficient Alpha</u>
Test Item Truthfulness Scale	.86
Sex Item Truthfulness Scale	.88
Sexual Adjustment Scale	.86
Child Molest Scale	.88
Sexual Assault (Rape) Scale	.87
Exhibitionism Scale	.85
Incest Scale	.90
Alcohol Scale	.92
Drug Scale	.91
Distress Scale	.87
Judgment Scale	.85
Antisocial Scale	.87
Violence Scale	.89

## 7. Reliability of the SAI in Two Samples of Convicted Sex Offenders

Any approach to detection, assessment, or measurement must meet the criteria of reliability and validity. Reliability refers to an instruments 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 ensures accuracy, objectivity, practicality, cost-effectiveness and accessibility.

This study, began in 1995 and completed in 1996, was conducted to test the reliability of the SAI scales in two different samples of adjudicated adult sex offenders. 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 measure 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

The Sexual Adjustment Inventory (SAI) was administered to two samples of sex offenders. **Group 1 consisted of 258 adjudicated sex offenders in treatment.** This sample includes 252 (97.7%) males and 6 (2.3%) females. The demographic composition of this sample is as follows: Age: 19 and younger (6.6%); 20 to 29 (25.6%); 30 to 39 (39.1%); 40 to 49 (17.4%); 50 to 59 (5.4%) and 60 or older (5.4%). Ethnicity: Caucasian (81.0%); Black (14.0%); Hispanic (4.3%); Asian (0.4%); Native American (0.4%). Education: 8th grade or less (7.8%); Some High School (24.8%); GED (11.6%); High School graduate (37.6%); Some college (14.0%); Technical/Business School (0.4%) and College graduate (3.1%). Marital Status: Single (39.5%); Married (36.4%); Divorced (17.1%); Separated (6.6%) and Widowed (0.4%). Employment Status: Employed (61.6%) and Unemployed (38.4%).

**Group 2 consisted of 276 convicted sex offenders who were in counseling for sex offender treatment.** This sample consisted of 263 males, 11 females and 2 people did not write their sex on the answer sheet. The demographic composition of this sample is as follows: Age: 19 or younger (10.9%); 20 to 29 (23.9%); 30 to 39 (34.4%); 40 to 49 (14.5%); 50 to 59 (9.4%) and 60 or older (5.8%). Ethnicity: Caucasian (78.3%); Black (15.2%); Hispanic (0.7%); Native American (1.1%) and Other (0.7%). Education: 8th grade or less (10.9%); Some High School (33.0%); GED (9.1%); High School graduate (27.5%); Some college (14.1%); College graduate (1.4%) and Professional/Graduate School (0.4%). Marital Status: Single (37.0%); Married (30.1%); Divorced (20.3%); Separated (6.5%); Widowed (1.8%). Employment Status: Employed (47.5%) and Unemployed (49.3%).

Reliability coefficient alphas are presented in Table 6. These results are similar to those reported in earlier research studies and support the reliability (internal consistency) of the thirteen SAI scales. All coefficient alphas were significant at  $p < .001$ .

**Table 6. Reliability coefficient alphas. Total N=534 (1995-1996)**  
**All coefficient alphas are significant at  $p < .001$ .**

<b>SAI Scales</b>	<b>1 Sex Offenders N = 258</b>	<b>2 Sex Offenders N = 276</b>
Test Item Truthfulness Scale	.90	.86
Sex Item Truthfulness Scale	.85	.82
Sexual Adjustment Scale	.88	.88
Child Molest Scale	.85	.86
Sexual Assault (Rape) Scale	.84	.85
Incest Scale	.84	.86
Exhibitionism Scale	.84	.85
Violence Scale	.85	.86
Antisocial Scale	.84	.84

Alcohol Scale	.94	.93
Drug Scale	.91	.92
Distress Scale	.87	.84
Judgment Scale	.85	.85

These results support the internal consistency (reliability) of the SAI. Coefficient alphas were closely matched across samples and significant at  $p < .001$ . Similar results would be obtained upon retest, regardless of who the examiner is. The SAI was shown to be a reliable self-report test for assessment of sex offenders across different sample of adjudicated sex offenders.

### **SAI - JUVENILE RESEARCH**

The Sexual Adjustment Inventory (SAI) adult test was modified for juvenile (15 to 18 years) assessment. The SAI-Juvenile is designed for juvenile and troubled youth assessment. The 13 SAI-Juvenile scales (measures) are the same as those contained in the SAI but formatted for juveniles. The SAI-Juvenile test reading level was lowered and a few items had to be juvenile oriented. The 13 SAI-Juvenile scales are: Test Item Truthfulness, Sex Item Truthfulness, Sexual Adjustment, Child Molest, Sexual Assault (Rape), Incest, Exhibitionism, Alcohol, Drug, Antisocial, Violence, Distress and Judgment.

In response to many requests, the SAI was modified for use with juveniles and troubled youth. The 13 scales or measures remain the same. And the SAI-Juvenile incorporates all of the SAI's special features.

#### **8. Reliability Study of the SAI-Juvenile in a Sample of Juvenile Sex Offenders**

In early 1997 the Sexual Adjustment Inventory (SAI) was modified for juveniles (12 to 17 years or age). The present study was conducted to test the reliability of the SAI-Juvenile. The participants in the study were all juvenile sex offenders.

##### Method

The SAI-Juvenile was administered to 44 juvenile sex offenders. There were 41 males (93.2%) and 3 females (6.8%). The demographic composition of the sample is as follows: Age in years: 12 (2.3%), 13 (9.1%), 14 (22.7%), 15 (25%), 16 (27.3%) and 17 (13.6%). Ethnicity: Caucasian (63.6%), Black (11.4%), Hispanic (9.1%), Native American (13.6%) and Other (2.3%). Education: 6th grade or less (4.5%), 7th (15.9%), 8th (27.3%), 9th (29.5%), 10th (6.8%), 11th (11.4%), Some college (4.5%).

##### Results

Reliability coefficient alphas are presented in Table 7.

**Table 7. Reliability coefficient alphas. Juveniles Sex Offenders, N=44 (1997)**  
All coefficient alphas are significant at p<.001.

<u>SAI Scales</u>	<u>Juvenile Sex Offenders N = 44</u>
Test Item Truthfulness Scale	.83
Sex Item Truthfulness Scale	.74
Sexual Adjustment Scale	.80
Child Molest Scale	.80
Sexual Assault (Rape) Scale	.86
Incest Scale	.70
Exhibitionism Scale	.72
Violence Scale	.84
Antisocial Scale	.80
Alcohol Scale	.89
Drug Scale	.87
Distress Scale	.83
Judgment Scale	.70

These results support the reliability (internal consistency) of the SAI-Juvenile test. All reliability coefficient alphas were significant at  $p < .001$ . As more juveniles are tested and the SAI-Juvenile database increases these reliability statistics will become even more impressive. The SAI-Juvenile now offers an alternative for troubled youth sex offender assessment. The SAI is appropriate for sex offender assessment and the SAI-Juvenile is an appropriate sex offender assessment instrument for juvenile offenders.

### **9. Reliability, Validity and Accuracy of the SAI-Juvenile**

This study (1998) furthers the research of the reliability, validity and accuracy of the SAI-Juvenile. As more juvenile sex offenders are being tested research will continue. The SAI-Juvenile is being used in a variety of assessment settings. Probation and corrections settings have utilized the SAI-Juvenile as well as community corrections and counseling settings.

Two statistical procedures were used in the present study to test validity. The first procedure involved t-test comparisons between first offenders and multiple offenders (discriminant validity) and the second procedure involved statistical decision-making (predictive validity). For the t-test comparisons, a first offender was defined as an offender who did not have a prior arrest and a multiple offender was defined as an offender who had one or more prior arrests. Several discriminant validity tests were conducted. Number of alcohol arrests was used to define first offenders and multiple offenders to test the Alcohol Scale. Similarly, number of drug arrests was used for the Drug Scale. The answer sheet item “number of sex-related arrests” was used to categorize offenders as either first offenders or multiple offenders for the Sexual Adjustment Scale. Finally, the answer sheet item “total number of arrests” was used to categorize offenders for other scale analyses. Because risk is often defined in terms of severity of problem behavior it is expected that multiple offenders would score significantly higher on the different scales than first offenders. This was an empirical question that was tested in the present study.

In assessment, a measurement can be considered a prediction. For example, the Alcohol Scale is a measure of alcohol abuse or severity of abuse. Alcohol Scale scores would predict if an individual has an alcohol

problem. A benchmark that can be used for the existence of an alcohol problem is treatment. If an individual has been in alcohol treatment then the individual is known to have had an alcohol problem. Therefore, the Alcohol Scale should predict if an individual has been in treatment.

Statistical decision-making is closely related to predictive validity of a test. The quality of statistical decision-making and test validity are both assessed by the accuracy with which the test (Alcohol Scale) classifies “known” cases (treatment). In the present study predictive validity was evaluated in the SAI-Juvenile by using contingency tables defined by scale scores and either treatment or arrests.

Risk range percentile scores are calculated for each SAI-Juvenile scale. These risk range percentile scores are derived from scoring equations based on responses to scale items, Truth-Corrections and prior criminal history information. These scores are 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 SAI-Juvenile risk range percentile scores involves comparing the risk range percentile scores obtained from client SAI-Juvenile test results to the predicted risk range percentages as defined above. The percentages of clients expected to fall into each risk range is the following: Low Risk (**39%**), Medium Risk (**30%**), Problem Risk (**20%**) and Severe Problem or Maximum Risk (**11%**). The actual percentage of probationers falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages.

### Methods and Results

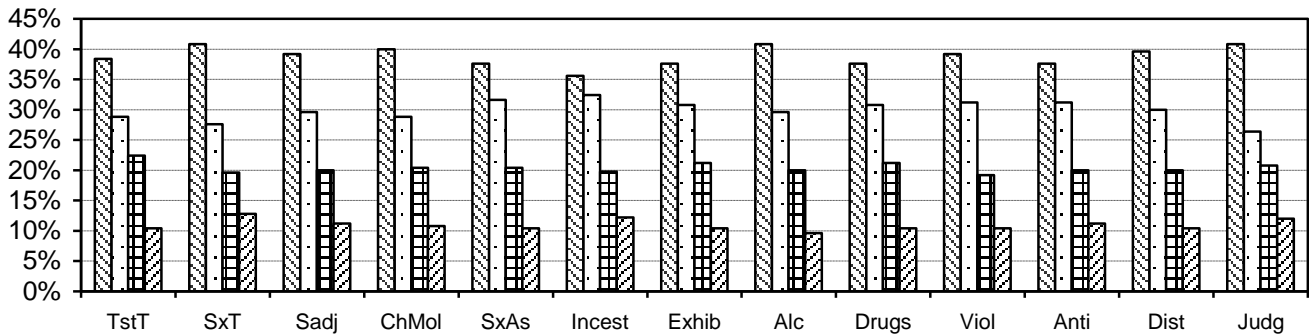
There were 125 juvenile sex offenders included in this study (1998). There were 117 males (93.6%) and 8 females (6.4%). The demographic composition of this group is as follows: Age: 12 & Under (7.2%); 13 (16%); 14 (23.2%); 15 (18.4%); 16 (23.2%); 17 (8%); 18 (2.4%); 19 & Older (1.6%). Ethnicity: Caucasian (76%); Black (19.2%); Hispanic (2.4%); Asian (0%); Native American (0.8%); Other (1.6%). Education: 6th grade or less (12.2%); 7<sup>th</sup> grade (25.2%); 8<sup>th</sup> grade (22.8%); 9<sup>th</sup> grade (18.7%); 10<sup>th</sup> grade (10.6%); 11<sup>th</sup> grade (6.5%); Some College (4.1%).

### Accuracy

Juvenile client risk assessment accuracy is presented in the following graph and table. For a discussion of the procedure see the previous study. There were 125 juvenile sex offenders included in this analysis.

**Table 8. SAI-Juvenile Scales Risk Ranges (1998, N = 125)**

☒ Low ☐ Medium ☒ Problem ☒ Severe Problem



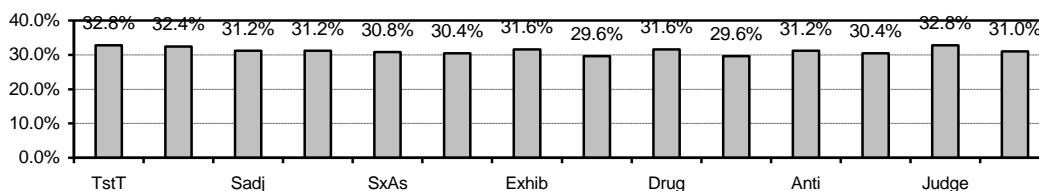
Scale	Low Risk (39%)	Medium Risk (30%)	Problem Risk (20%)	Severe Problem (11%)
Test Item Truthfulness	38.4 (0.6)	28.8 (1.2)	22.4 (2.4)	10.4 (0.6)
Sex Item Truthfulness	40.8 (1.8)	27.6 (2.4)	19.6 (0.4)	12.8 (1.8)
Sexual Adjustment	39.2 (0.2)	29.6 (0.4)	20.0 (0)	11.2 (0.2)
Child Molest	40.0 (1.0)	28.8 (1.2)	20.4 (0.4)	10.8 (0.2)
Sexual (Rape) Assault	37.6 (1.4)	31.6 (1.6)	20.4 (0.4)	10.4 (0.6)
Incest	35.2 (3.8)	34.4 (4.4)	19.2 (0.8)	11.2 (0.2)
Exhibitionism	37.6 (1.4)	30.8 (0.8)	21.2 (1.2)	10.4 (0.6)
Alcohol	40.8 (1.2)	29.6 (0.4)	20.0 (0)	9.6 (1.4)
Drugs	37.6 (1.4)	30.8 (0.8)	21.2 (1.2)	10.4 (0.6)
Violence	39.2 (0.2)	31.2 (1.2)	19.2 (0.8)	10.4 (0.6)
Antisocial	37.6 (1.4)	31.2 (1.2)	20.0 (0)	11.2 (0.2)
Distress	39.6 (0.6)	30.0 (0)	20.0 (0)	10.4 (0.6)
Judgment	40.8 (1.2)	26.4 (3.6)	20.8 (0.8)	12.0 (1.0)

These results demonstrate the accuracy of the SAI-Juvenile. The objectively obtained percentages are very close to the expected percentages for each risk category. All of the obtained risk range percentages were within 4.4 percentage points of the expected percentages and most (44 of 52 possible) were within 1.5 percentage points. Only five obtained percentages were more than 2% from the expected percentage.

For those juveniles who are identified as having problems (Problem and Severe Problem risk ranges or 31% of the clients), the obtained percentages were extremely accurate. The differences between obtained and expected percentages are shown in the following graph. These results demonstrate that the SAI-Juvenile scale scores accurately identify juvenile risk.



**Problematic Risk Profile (70-100 Percentile)**



Discriminant validity

The SAI-Juvenile scales measure severity and the extent to which offenders have problems. It would be expected, then, that multiple offenders (who have previous arrests) have higher scale scores than first time offenders. Therefore **discriminant validity** of the SAI-Juvenile is shown by significant differences between first and multiple offenders. In the following analyses “Number of times arrested,” “Number of alcohol arrests” and “Number of drug arrests” were used to define first offenders and multiple offenders for non sex-related scales. For sex-related scales, admission of sex problem (#190), arrests for rape (#58), exhibitionism (#113) and child molest (#133) are used for the appropriate sex-related scales. There are 125 juvenile sex offenders included in these analyses.

**Table 9. Offender status defined by admission of sex problem and sex-related arrests (1998, N = 125).**

<u>SAI-Juvenile Scale</u>	<u>First Offenders Mean (N=106)</u>	<u>Multiple Offenders Mean (N=19)</u>	<u>T-value</u>	<u>Level of significance</u>
Sex Item Truthfulness	9.18	5.95	t = 3.22	p<.01
Sexual Adjustment	15.68	27.68	t = 6.65	p<.001
Child Molest Scale	5.67	14.94	t = 8.31	p<.001
Sexual Assault	5.67	10.36	t = 2.91	p<.01
Incest Scale	1.78	3.84	t = 3.90	p<.001
Exhibitionism	10.61	17.67	t = 4.82	p<.001

**Offender status defined by number of times arrested.**

<u>SAI-Juvenile Scale</u>	<u>First Offenders Mean (N=84)</u>	<u>Multiple Offenders Mean (N=41)</u>	<u>T-value</u>	<u>Level of significance</u>
Test Item Truthfulness	6.25	3.32	t = 4.31	p<.001
Violence Scale	10.43	21.54	t = 7.19	p<.001
Antisocial Scale	7.63	11.85	t = 4.57	p<.001
Distress Scale	8.60	12.56	t = 3.62	p<.001
Judgment Scale	2.93	2.41	t = 1.57	n.s.

**Offender status defined by number of alcohol arrests.**

<b><u>SAI-Juvenile Scale</u></b>	<b><u>First Offenders Mean (N=120)</u></b>	<b><u>Multiple Offenders Mean (N=5)</u></b>	<b><u>T-value</u></b>	<b><u>Level of significance</u></b>
Alcohol Scale	10.99	28.20	t = 4.51	p<.001

**Offender status defined by number of drug arrests.**

<b><u>SAI-Juvenile Scale</u></b>	<b><u>First Offenders Mean (N=120)</u></b>	<b><u>Multiple Offenders Mean (N=5)</u></b>	<b><u>T-value</u></b>	<b><u>Level of significance</u></b>
Drug Scale	7.28	23.00	t = 3.85	p<.001

For this juvenile sample, these t-test results show significant differences between first and multiple offenders on all of the SAI-Juvenile scales with the exception of the Judgment Scale. These scales accurately differentiated between first offenders and multiple offenders. **These t-test results strongly support the discriminant validity of the Sexual Adjustment, Child Molest, Sexual Assault (Rape), Incest, Exhibitionism, Violence, Antisocial, Distress, Alcohol and Drug Scales.**

The Test-Item Truthfulness Scale and Sex-Item Truthfulness Scale show that first offenders score higher than multiple offenders do. This result is what is found in adult tests where first offenders score higher on the Truthfulness Scale than multiple offenders. This shows that first time sex offender try to fake good more so than multiple offenders. The findings for the Judgment Scale show that first and multiple offenders do not score statistically significantly different.

**Predictive validity**

Juveniles who admit to having serious sexual adjustment problems would identify them as having sexual problems. It would be predicted that these juveniles would score in the Problem risk or higher risk range (70<sup>th</sup> percentile and above). The following **predictive validity** analyses show that the Sexual Adjustment Scale accurately identifies juveniles who admit to serious sexual adjustment problems. Sexual adjustment information is obtained from SAI-Juvenile test item (#190).

There were 8 juveniles who admitted having serious sexual adjustment problems, of these, all 8 juveniles, or 100 percent, had Sexual Adjustment Scale scores at or above the 70th percentile. All juveniles who admitted having serious sexual problems scored in the Problem or Severe Problem risk range on the Sexual Adjustment Scale. The SAI Sexual Adjustment Scale was extremely accurate in identifying clients who admit to having serious sexual adjustment problems.

It is interesting to note that 26 percent of the juveniles who did not admit directly to having serious sexual adjustment problems, nonetheless scored in the Problem risk or higher risk range. These juveniles are found to have sexual adjustment problems, however, they do not admit directly to having serious adjustment problems. These juveniles attempt to minimize their sexual adjustment problems.

**Reliability**

Reliability coefficient alphas are presented in Table 10.

These results are consistent with reliability statistics reported in the earlier juvenile research study of the SAI-Juvenile. With the exception of the Judgment Scale, all reliability coefficients meet or exceed the accepted standard of .80. All coefficient alphas were significant at  $p < .001$ . The Judgment Scale contains fewer test items than the others and this scale is not as well defined as, say the Alcohol or Drug Scales. These results support the statistical reliability of the SAI-Juvenile. The SAI-Juvenile is an objective and reliable sex offender assessment instrument.

**Table 10. Coefficient alphas. Sex Offenders (1998, Total N=125)**  
All coefficient alphas are significant at  $p < .001$ .

<u>SAI-Juvenile Scales</u>	<u>Juvenile Offenders (N=125)</u>
Test Item Truthfulness Scale	.87
Sex Item Truthfulness Scale	.81
Sexual Adjustment Scale	.81
Child Molest Scale	.80
Sexual Assault (Rape) Scale	.85
Incest Scale	.80
Exhibitionism Scale	.84
Violence Scale	.85
Antisocial Scale	.80
Alcohol Scale	.93
Drug Scale	.93
Distress Scale	.80
Judgment Scale	.70

This research has shown that juvenile sex offender assessment with the SAI-Juvenile is accurate, reliable and valid. Juvenile offenders can be reliably tested with the same high accuracy as adults.

### **10. A Study of SAI-Juvenile Reliability, Validity and Accuracy**

This study (1999) examined the reliability, validity and accuracy of the SAI-Juvenile in a sample of juvenile sex offenders. Data for this study was obtained from agencies throughout the US that use the SAI-Juvenile in their juvenile sex offender programs. There were 163 juvenile offenders included in this study.

#### Method and Results

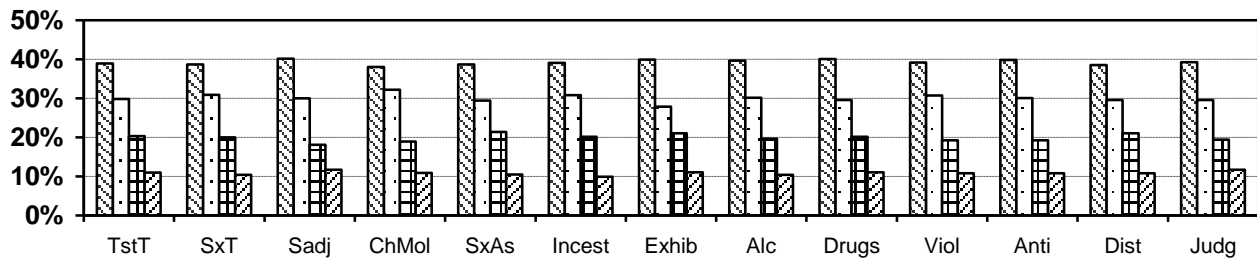
Included in this study (1999) were 163 juvenile sex offenders. There were 157 males (96.3%) and 6 females (3.7%). The demographic composition of this group is as follows: Age: 12 & Under (9.9%); 13 (6.2%); 14 (16.1%); 15 (26.1%); 16 (26.1%); 17 (11.2%); 18 (4.3%). Ethnicity: Caucasian (73.3%); Black (14.9%); Hispanic (5.0%); Asian (0%); Native American (3.1%); Other (3.7%). Education: 6th grade or less (13.6%); 7<sup>th</sup> grade (11.7%); 8<sup>th</sup> grade (17.5%); 9<sup>th</sup> grade (29.2%); 10<sup>th</sup> grade (16.9%); 11<sup>th</sup> grade (8.4%); High School graduate (1.9%); Some College (0.6%).

SAI Accuracy

SAI scale risk range percentages are presented in Table 11. The percentages of offenders classified in each of the four risk ranges (low, medium, problem and severe problem) are compared to the predicted percentages. This analysis includes the 163 offenders tested with the SAI.

**Table 11. SAI Risk Range Percentages (1999, N = 163)**

☐ Low ☐ Medium ☐ Problem ☐ Severe Problem



Scale	Low Risk (39%)	Medium Risk (30%)	Problem Risk (20%)	Severe Problem (11%)
Test-Item Truthfulness	38.9 (0.1)	29.8 (0.2)	20.3 (0.3)	11.0 (0.0)
Sex-Item Truthfulness	38.7 (0.3)	30.9 (0.9)	20.0 (0.0)	10.4 (0.6)
Sex Adjustment Scale	40.2 (1.2)	30.0 (0.0)	18.1 (1.9)	11.7 (0.7)
Child Molest Scale	38.0 (1.0)	32.2 (2.2)	18.9 (1.1)	10.9 (0.1)
Sexual Assault Scale	38.7 (1.3)	29.4 (0.6)	21.4 (1.4)	10.5 (0.5)
Incest Scale	39.1 (0.1)	30.8 (0.8)	20.2 (0.2)	9.9 (1.1)
Exhibitionism Scale	39.9 (0.9)	27.9 (2.1)	21.1 (1.1)	11.1 (0.1)
Alcohol Scale	39.7 (0.7)	30.2 (0.2)	19.7 (0.3)	10.4 (0.6)
Drugs Scale	40.1 (1.1)	28.6 (1.4)	20.2 (0.2)	11.1 (0.1)
Violence Scale	39.2 (0.2)	30.7 (0.7)	19.3 (0.7)	10.8 (0.2)
Antisocial Scale	39.8 (0.8)	30.1 (0.1)	19.3 (0.7)	10.8 (0.2)
Distress Scale	38.5 (0.5)	29.6 (0.4)	21.1 (1.1)	10.8 (0.2)
Judgment Scale	39.3 (0.3)	29.6 (0.4)	19.4 (0.6)	11.7 (0.7)

The percentages of clients falling into each risk range are in close agreement to the predicted percentages. All of the obtained risk ranges were within 2.2 percentage points of the predicted percentages. Of the 52 possible (13 scales x 4 risk ranges) comparisons, 40 obtained risk range percentages were within one percentage point of the predicted. SAI-Juvenile scales are 98 percent accurate.

**Table 12. Reliability of the SAI-Juvenile (1999, N = 163)**  
**All coefficient alphas are significant at  $p < .001$ .**

<u>SAI-Juvenile Scales</u>	<u>Coefficient Alphas</u>
Test-item Truthfulness Scale	.88
Sex-item Truthfulness Scale	.85
Sex Adjustment Scale	.84
Child Molest Scale	.82
Sexual Assault (Rape) Scale	.84
Incest Scale	.80
Exhibitionism Scale	.80
Alcohol Scale	.92
Drugs Scale	.93
Violence Scale	.86
Antisocial Scale	.83
Distress Scale	.85
Judgment Scale	.83

#### Reliability of the SAI-Juvenile

Inter-item reliability coefficients for all SAI-Juvenile scales are presented in Table 12. These reliability statistics show that the SAI-Juvenile is a reliable juvenile sex offender risk assessment test. These results are consistent with previously found reliability statistics reported in earlier research studies of the SAI-Juvenile. All coefficient alphas were significant at  $p < .001$ . These results support the statistical reliability of the SAI-Juvenile in this sample of juvenile sex offenders. The SAI-Juvenile is an objective and reliable juvenile sex offender assessment test that is empirically demonstrated to be statistically reliable.

#### Validity of the SAI-Juvenile

Discriminant validity results are presented in Table 13. The comparisons of SAI-Juvenile scale scores between multiple offenders (2 or more arrests) and first offenders show that, as expected, multiple offenders scored significantly higher than first offenders on nearly all SAI-Juvenile scales. Incest, Exhibitionism and Judgment Scale scores showed no significant difference between offender groups. Higher scores on SAI-Juvenile scales are associated with more severe problems. The Incest Scale scores were low for both offender groups, which suggests that few offenders engaged in incestuous behaviors. Exhibitionism and Judgment scale scores were also low for both offender groups.

**Table 13. Comparisons between First Offenders (1 or no arrest) and Multiple Offenders (2 or more arrests).**

<b>SAI-Juvenile Scale</b>	<b>First Offenders Mean (N=99)</b>	<b>Multiple Offenders Mean (N=64)</b>	<b>T-value</b>	<b>Level of significance</b>
Test Item Truthfulness	5.35	3.45	t = 2.78	p<.01
Sex Item Truthfulness	8.95	6.86	t = 2.93	p<.01
Sexual Adjustment	18.35	31.16	t = 6.48	p<.001
Child Molest Scale	8.53	11.71	t = 2.12	p<.05
Sexual Assault	7.56	11.42	t = 2.26	p<.05
Incest Scale	2.70	2.68	t = 0.03	n.s.
Exhibitionism	3.29	4.19	t = 0.86	n.s.
Alcohol	4.51	26.83	t = 8.21	p<.001
Drugs	6.67	24.89	t = 9.10	p<.001
Violence	12.43	20.19	t = 5.66	p<.001
Antisocial	8.60	12.83	t = 4.68	p<.001
Distress	10.48	12.95	t = 2.36	p<.01
Judgment	4.59	4.73	t = 0.30	n.s.

The Test-item and Sex-item Truthfulness Scales show that first offenders scored significantly higher than multiple offenders. These results suggest that first offenders attempted to minimize their problems or fake good when tested more than multiple offenders. Multiple offenders may be aware of the availability of their records and have largely stopped attempting to minimize their problems.

These discriminant validity results support the validity of the SAI-Juvenile. The offenders who were believed to have more severe problems (multiple offenders) scored significantly higher on these scales than offenders with one or no arrest. Distress Scale results indicate that offenders who have multiple arrests demonstrate more emotional and mental health problems than do offenders with one or no arrest.

Predictive validity results indicate that the SAI-Juvenile correctly identified offenders who have problems (sex-related and non-sex related problems). The percentage of offenders who admitted having problems and who scored in the problem risk range on SAI-Juvenile scales is compared to offenders who scored in the low risk range.

These predictive validity results were as follows. The Sexual Adjustment Scale correctly identified 100 percent of the offenders who admitted they had serious sexual adjustment problems. The Child Molest Scale correctly identified 100 percent of the 38 offenders who had been arrested for child molestation. The Sexual (Rape) Assault Scale identified 100 percent of the 21 offenders who had forced someone to have sexual. The Incest Scale correctly identified 100 percent of the 37 participants who admitted to having sex with a family member. The Exhibitionism Scale correctly identified 100 percent of the offenders who were arrested for exhibitionism. These results strongly support the validity of the SAI-Juvenile sex-related scales.

The predictive validity results for the non-sex related scales were as follows. The Violence Scale correctly identified 100 percent or 32 of the 32 participants who admitted being violent. The Antisocial Scale correctly identified 94.6 percent or 35 of the 37 offenders who admitted to antisocial thinking and

behavior. The Alcohol Scale correctly identified 100 percent of the offenders who admitted to having a drinking problem. The Drugs Scale correctly identified 100 percent of the offenders who admitted having a drug problem. The Distress Scale correctly identified 90.5 percent of the participants who admitted serious emotional or mental health problems. The Judgment Scale correctly identified 97 percent of the offenders who admitted that they did not understand things that peers did. These results provide strong support for the validity of the non sex-related scales.

This study demonstrated that the SAI-Juvenile is a reliable and valid assessment test for juvenile sex offenders. Reliability results showed that all thirteen SAI-Juvenile scales were highly reliable. Reliability is necessary in sex offender screening tests for accurate measurement of juvenile offender risk. Discriminant validity analyses demonstrated that multiple offenders (had prior arrests) scored significantly higher than offenders with one or no arrest. Predictive validity analyses demonstrated that the SAI-Juvenile identified juvenile sex offenders who had sex-related (sex adjustment, child molest, rape, incest and exhibitionism) and non-sex related (violence, antisocial, substance abuse, distress and judgment) problems. Furthermore, obtained risk range percentages on all SAI-Juvenile scales very closely approximated predicted percentages. These results strongly support the validity of the SAI-Juvenile.

## **12. SAI-Juvenile Reliability, Validity and Accuracy (2000)**

This study (2000) evaluated the reliability, validity and accuracy of the SAI in a sample of sex offenders. Data for this study was obtained from the agencies that used the SAI in their programs and returned their data in the year 2000. The statistical analyses presented in previous studies were replicated with the exception of the discriminant validity analysis. In this study, offenders who were in sex treatment were compared to offenders who did not have sex treatment. In the previous study multiple offenders were compared to first-time offenders. Having been in treatment is an indication that an offender is known to have sex-related problems. This study represents ongoing database research of the SAI.

### Method and Results

The participants in this study (2000) were 805 sex offenders. There were 772 males (95.9%) and 33 females (4.1%). The demographic composition of this group is as follows: Age: Under 20 (10.1%); 20 through 29 (28.4%); 30 through 39 (31.1%); 40 through 49 (18.8%); 50 through 59 (8.1%); 60 and older (3.6%). Ethnicity: Caucasian (78.0%); Black (15.3%); Hispanic (5.0%); Asian (0.3%); Native American (1.0%); Other (0.5%). Education: 8th grade or less (7.5%); Some High School (30.3%); GED (9.7%); High School Graduate (33.9%); Some College (12.7%); Technical/Business School (0.8%); College Graduate (4.0%); Professional/Graduate Degree (1.1%). Marital Status: Single (42.4%); Married (28.9%); Divorced (20.1%); Separated (7.8%); Widowed (0.8%). Employment Status: Employed (59.5%); Unemployed (40.5%).

### SAI Accuracy

SAI scale risk range percentages are presented in Table 21. The differences in percentages of offenders classified in each of the four risk ranges (low, medium, problem and severe problem) from the predicted percentages are shown in parentheses within the table. The predicted percentages are presented in the top row of the table.

Scale	Low Risk (39%)	Medium Risk (30%)	Problem Risk (20%)	Severe Problem (11%)
Test-Item Truthfulness	39.2 (0.2)	29.0 (1.0)	20.5 (0.5)	11.3 (0.3)
Sex-Item Truthfulness	39.2 (0.2)	29.4 (0.6)	21.0 (1.0)	10.4 (0.6)
Sex Adjustment Scale	38.6 (0.4)	30.2 (0.2)	20.5 (0.5)	10.7 (0.3)
Child Molest Scale	37.3 (1.7)	31.0 (1.0)	21.2 (1.2)	10.5 (0.5)
Sexual Assault Scale	38.8 (0.2)	30.6 (0.6)	20.5 (0.5)	10.1 (0.9)
Incest Scale	38.0 (1.0)	29.7 (0.3)	21.9 (1.9)	10.4 (0.6)
Exhibitionism Scale	39.2 (0.2)	29.5 (0.5)	21.2 (1.2)	10.1 (0.9)
Alcohol Scale	40.1 (1.1)	30.4 (0.4)	18.7 (1.3)	10.8 (0.2)
Drugs Scale	39.3 (0.3)	30.9 (0.9)	19.1 (0.9)	10.7 (0.3)
Violence Scale	39.2 (0.2)	29.1 (0.9)	21.1 (1.1)	10.6 (0.4)
Antisocial Scale	37.9 (1.1)	31.7 (1.7)	20.0 (0.0)	10.4 (0.6)
Distress Scale	38.3 (0.7)	29.9 (0.1)	20.4 (0.4)	11.4 (0.4)
Judgment Scale	37.3 (1.7)	30.0 (0.0)	21.2 (1.2)	11.5 (0.5)

The small differences between obtained and predicted risk range percentages attests to the accuracy of the SAI. All risk range percentages were within 1.9 percent of the predicted percentages. SAI scales are 98 percent accurate. This is very accurate assessment.

SAI SCALES	Coefficient Alphas	Significance Level
Test-item Truthfulness Scale	.89	p<.001
Sex-item Truthfulness Scale	.86	p<.001
Sex Adjustment Scale	.90	p<.001
Child Molest Scale	.86	p<.001
Sexual Assault (Rape) Scale	.80	p<.001
Incest Scale	.83	p<.001
Exhibitionism Scale	.80	p<.001
Alcohol Scale	.92	p<.001
Drug Scale	.91	p<.001
Violence Scale	.85	p<.001
Antisocial Scale	.86	p<.001
Distress Scale	.88	p<.001
Judgment Scale	.80	p<.001

### Reliability of the SAI

Inter-item reliability coefficients for all SAI scales are presented in Table 26. These results are consistent with previous studies of the SAI. All coefficient alphas were at or above 0.80. These results support the statistical reliability of the SAI.

### Validity of the SAI

A different discriminant validity analysis was done in this study. Comparisons between offenders who had been in sex treatment are compared offenders who never had sex treatment. These comparisons are based on offenders responses to SAI item #203 regarding having been in sex treatment. Offenders who have been in sex treatment one or more times are known to have or have had sex problems. These offenders are expected to score higher on SAI scales than offenders who have not been in treatment. There were 216 (26.8%) offenders who had been in sex treatment.



**Table 23. T-test comparisons between offenders with no treatment and treatment. (2000, N = 805)**

SAI Scale	No Treatment Mean Score	Treatment Mean Score	T-value	Level of significance
Test-item Truthfulness	7.94	6.60	t = 3.29	p<.001
Sex-item Truthfulness	9.26	6.85	t = 6.46	p<.001
Sex Adjustment Scale	9.77	23.82	t = 17.81	p<.001
Child Molest Scale	6.78	11.57	t = 7.08	p<.001
Sexual Assault Scale	4.10	8.61	t = 8.64	p<.001
Incest Scale	0.76	1.63	t = 4.82	p<.001
Exhibitionism Scale	1.11	2.19	t = 3.81	p<.001
Alcohol Scale	5.66	7.26	t = 2.05	p=.041
Drugs Scale	3.33	5.11	t = 3.00	p=.003
Antisocial Scale	1.69	2.42	t = 3.28	p<.001
Violence Scale	3.54	5.79	t = 4.53	p<.001
Distress Scale	6.69	6.60	t = 0.15	n.s.*
Judgment Scale	3.03	3.39	t = 1.64	n.s.*

\* n.s.: Not significant at the 0.05 level.

The Test-Item Truthfulness and Sex-Item Truthfulness Scales show that offenders who have not been treatment scored significantly higher than offenders who did have treatment. Having had treatment has lessened the likelihood that offenders will minimize or deny their problems, or attempt to fake good. The treatment group scored significantly higher than the no treatment on all other SAI scales except Distress and Judgment. Offenders who have sex-related problems (been in sex treatment) demonstrate significantly more problems (higher scale scores) than non-problem offenders on not only sex-related SAI scales but on other non sex-related scale as well. Sex-offenders have substance (alcohol and drugs) abuse, violence and antisocial problems along with their sex problems. These results demonstrate that sex offenders have multiple problems and need more than simply sex counseling or treatment. They also need substance abuse, violence and antisocial intervention.

Predictive validity of the SAI is shown by the correct identification of offenders with problems (sex-related and non-sex related problems). The percentage of offenders who had or admitted to having problems and who scored in the problem risk range on SAI scales in comparison to offenders who scored in the low risk range gives a measure of accuracy. Scales that are accurate have a high percentage (over 90%) of offenders scoring in the problem risk range. For the Alcohol and Drugs Scales problem behavior means the offender had alcohol or drug treatment.

These predictive validity results were as follows. The Sexual Adjustment Scale correctly identified 100 percent of the offenders who admitted they had serious sexual adjustment problems. The Child Molest Scale identified 97.6 percent of the offenders who had been arrested for child molestation. The Rape Scale identified 100 percent of the offenders who had been arrested for sexual assault or rape. The Incest Scale was 100 percent accurate at identifying the offenders who admitted to having sex with a non-spouse family member. The Exhibitionism Scale identified all of the offenders who admitted being an exhibitionist. These results support the validity of the SAI sex-related scales.

The predictive validity results for the non-sex related scales were as follows. The Violence Scale correctly identified 100 percent of the offenders who reported being arrested for assault, domestic violence or a violent crime. The Antisocial Scale identified 100 percent of the offenders who admitted to antisocial thinking and behavior. The Alcohol Scale correctly identified all of the offenders who reported having

been in treatment for their drinking problem. The Drugs Scale identified all of the offenders who had been treated for drug problems. The Distress Scale identified all of the offenders who stated they were in counseling or treatment for anxiety or depression. The Judgment Scale identified all of the offenders who admitted that they did not have a lot of common sense or usually did not make good decisions. These results support for the validity of the non sex-related scales.

In this study the SAI was again demonstrated to be an accurate, reliable and valid sex offender test. Two major points can be derived from these results. First, that sex offenders have multiple problems. Not only are they sex offenders, but they have substance abuse, violence and antisocial problems as well. Second, SAI scales demonstrate remarkable accuracy in identifying sex offenders who have problems. SAI scales differentiate between offenders with demonstrated problems (had treatment) and offenders who have low problem severity. These results show that the SAI is a valuable tool for assessment of sex offenders.

### **13. An Examination of SAI-Juvenile Reliability, Validity and Correlations**

This study (2010) examined the reliability, validity and accuracy of the SAI-Juvenile (SAI-J) in a sample of juvenile sex offenders. Data for this study was obtained from agencies throughout the US that use the SAI-J in their juvenile sex offender programs. There were 799 juvenile offenders included in this study. The SAI-J was revised and launched in the latter part of 2009; this revised version of the SAI-J replaced the previous version. The current (revised) SAI-J consists of 230 items. An Impulsiveness Scale was added, the Exhibitionism Scale was expanded and the Incest Scale, once a measurement scale, became a classification scale. Individual items from each scale were revised or replaced with new items. In addition, new self-reported history items were added to the SAI-J answer sheet including: sex offender status (whether the tested sex offender is required to register as a sex offender), the number of specific types of arrests (i.e. number of child molestation arrests, number of exhibitionism arrests, etc.). The SAI-J now has the following thirteen (13) scales: 1) **Test-Item Truthfulness Scale**, 2) **Sex-Item Truthfulness Scale**, 3) **Sexual Adjustment Scale**, 4) **Sexual Assault (Rape) Scale**, 5) **Exhibitionism Scale**, 6) **Child Molest (Pedophile) Scale**, 7) **Incest Classification Scale**, 8) **Alcohol Scale**, 9) **Drugs Scale**, 10) **Violence Scale**, 11) **Distress Scale**, 12) **Antisocial Scale** and 13) **Impulsiveness Scale**. Test data used in this study was gathered within the online SAI-J database from September 2009 through December 2010. The reliability, validity and accuracy analyses presented in previous studies were replicated. This study represents ongoing SAI-J database research.

#### Method and Results

Included in this study (2010) were 799 juvenile sex offenders. There were 755 males (94.5%) and 44 females (5.5%). The demographic composition of this group is as follows: Age: 12 & Under (5.4%); 13 (13.3%); 14 (15.9%); 15 (23.2%); 16 (18.5%); 17 (17.6%); 18 (6.1%). Ethnicity: Caucasian (62.3%); Black (22.9%); Hispanic (6.5%); Asian (0.5%); Native American (2.4%); Other (5.4%). Education: 6th grade or less (7.8%); 7<sup>th</sup> grade (17.0%); 8<sup>th</sup> grade (18.7%); 9<sup>th</sup> grade (23.2%); 10<sup>th</sup> grade (18.6%); 11<sup>th</sup> grade (11.7%); High School graduate (2.2%); Some College (0.8%).

#### Reliability of the SAI-J

Inter-item reliability coefficients for all SAI-J scales are presented in Table 25 on the following page. These reliability statistics show that the SAI-J is a reliable juvenile sex offender risk assessment test. These results are consistent with previously found reliability statistics reported in earlier research studies of the SAI-J. All coefficient alphas were significant at  $p < .001$ . These results support the statistical reliability of the SAI-J in this sample of juvenile sex offenders. The SAI-J is an objective and reliable juvenile sex offender

assessment test that is empirically demonstrated to be statistically reliable. All attained reliability coefficients exceed the professionally-accepted standard of .75.

**Table 25. Reliability of the SAI-J (2010, N=799)**  
**All coefficient alphas are significant at  $p < .001$ .**

<u>SAI-J Scales</u>	<u>Coefficient Alphas</u>
Test-item Truthfulness Scale	.92
Sex-item Truthfulness Scale	.90
Sex Adjustment Scale	.77
Child Molest Scale	.84
Sexual Assault (Rape) Scale	.85
Exhibitionism Scale	.85
Alcohol Scale	.91
Drugs Scale	.91
Violence Scale	.92
Antisocial Scale	.86
Distress Scale	.90
Impulsiveness Scale	.89

#### Validity of the SAI-J

Discriminant validity results are presented in Table 26. The comparisons of SAI-J scale scores between multiple offenders (2 or more arrests) and first offenders show that, as expected, multiple offenders attained significantly higher scores than first offenders on nearly all SAI-J scales. Average Sexual Adjustment, Child Molest and Exhibitionism Scale scores showed no significant differences between offender groups. Higher scores on SAI-J scales are associated with more severe problems. Multiple offenders have more pronounced substance (alcohol and drugs), violence, antisocial, distress and impulsiveness-related problems than first-time offenders. The most significant scale score difference between offender groups was found for the Impulsiveness Scale. Impulsiveness is a factor in many sex crimes. Multiple offenders scored significantly higher than first-time offenders on the Impulsiveness Scale, indicating a more pronounced tendency to act on impulse.

As shown in Table 26, the Test-item and Sex-item Truthfulness Scales show that first offenders attained significantly higher scores than multiple offenders. These results suggest that first offenders attempted to minimize their problems or fake good when tested more than multiple offenders did. Multiple offenders may be aware of the availability of their records and have largely stopped attempting to minimize their problems.

These discriminant validity results support the validity of the SAI-J. The offenders who were believed to have more severe problems (multiple offenders) scored significantly higher on these scales than offenders with one or no arrest. Distress Scale results indicate that offenders who have multiple arrests demonstrate more emotional and mental health problems than do offenders with one or no arrest. SAI-J scale scores effectively distinguish juvenile offenders known to have more severe problems (multiple offenders) from first-time offenders.

**Table 26. Comparisons of First Offenders, (no more than one arrest) and Multiple Offenders, (2 or more arrests) SAI-J Mean Scores.**

<b>SAI-J Scale</b>	<b>First Offenders' Mean Scores</b>	<b>Multiple Offenders' Mean Scores</b>	<b>T-value</b>	<b>Level of significance</b>
Test Item Truthfulness	8.23	7.72	1.049	p>.001
Sex Item Truthfulness	10.92	10.14	1.814	p>.001
Sexual Adjustment	72.80	72.04	.467	n.s.
Child Molest Scale	55.48	56.56	-.381	n.s.
Sexual Assault	52.76	59.08	-2.244	p>.001
Exhibitionism	32.69	31.82	.305	n.s.
Alcohol	65.01	79.57	-5.901	p>.001
Drugs	59.96	74.63	-5.958	p>.001
Violence	67.37	70.68	-1.290	p>.001
Antisocial	75.20	82.04	-3.352	p>.001
Distress	25.03	39.93	-4.792	p>.001
Impulsiveness	31.32	53.13	-6.638	p>.001

Correlation analyses were performed for the SAI-J Sexual Assault Scale, Child Molest Scale, Violence Risk, Distress Scale, Antisocial Scale and Impulsiveness Scale scores and five offender-reported court history items: number of sex-related arrests, number of times arrested, age at first conviction, number of violence-related arrests and number of sex-related arrests. Table 27 (below) displays the resultant correlation coefficients obtained for all offenders taking the Florida DRI or DRI Short Form in 2009 (n=52,620). Statistically significant correlations (those having substantial effect sizes) are emphasized with asterisks.

**Table 27. Correlation Coefficients**  
**Court-Related History Items and DRI and DRI Short Form Scale Items (N = 799, 2010)**

<b>SAI-J Scale</b>	<b>Sex Arrests</b>	<b>Times Arrested</b>	<b>Age @ 1<sup>st</sup> Conviction</b>	<b>Violence Arrests</b>	<b>Sex Assault Arrests</b>
Sexual Assault Scale	.167*	.000	-.150*	.015	.231*
Child Molest Scale	.166*	-.042	-.056	-.027	.147*
Violence Scale	.067	.018	-.049	.049	.010
Antisocial Scale	.030	.110*	-.175*	.112*	-.034
Distress Scale	.112*	.164*	.065	.121*	.014

\*Significant at p>.001

The number of sex-related arrests attained strong positive correlations with the Sexual Assault Scale ( $r=.167$ ), the Child Molest Scale ( $r=.166$ ) and the Distress Scale ( $r=.112$ ). Offenders with a greater number of sex-related arrests are known to have more severe sexually deviant problems, so a strong association with higher Sexual Assault and Child Molest Scale scores is not unexpected. The number of sex assault (rape) arrests is also significantly and positively correlated with the Sexual Assault Scale ( $r=.231$ ) and the Child Molest Scale ( $r=.147$ ). The strong positive correlation between a greater number of sex-related arrests and higher Distress Scale scores indicates that juveniles arrested for sex offenses may experience significant severe distress about their situation, legal problems, confinement and other penalties, etc. The total number of times arrested (for any offense) also attained a strong positive

correlation with the Distress Scale ( $r=.164$ ), as did the number of arrests for violent offenses ( $r=.121$ ). A greater number of arrests and a greater number of arrests for violent offenses are both associated with more severe distress in the tested juvenile sex offenders.

The age at first conviction attained a strong negative correlation with Antisocial Scale scores ( $r= -.175$ ). The negative correlation means that the younger a juvenile offender is at the time of their first conviction, the more likely they are to exhibit problematic antisocial tendencies. The number of arrests for violent offenses also attained a strong positive correlation with the Antisocial Scale ( $r=.112$ ), indicating that a greater number of violent offenses is associated with more severe antisocial tendencies.

As the SAI-Juvenile database expands, subsequent statistical analysis will be conducted.

#### **14. SAI-Juvenile Reliability Validity Using a Clinical Practice Sample**

This study (2013) examined the reliability, validity and accuracy of the SAI-Juvenile (SAI-J) in a sample of juvenile sex offenders. Test data used in this study were collected by a sole practitioner in private practice who uses the SAI-Juvenile to screen clients. Test administration occurred from January 1, 2010-October 31, 2013. The reliability and validity analyses were replicated from previous SAI-Juvenile studies.

##### Participants

Included in this study (2013) were 275 juvenile sex offenders. There were 245 males (89.1%) and 30 females (10.9%). Race/Ethnicity: Caucasian (62.3%); Black (22.9%); Hispanic (6.5%); Asian (0.5%); Native American (2.4%); Other (5.4%). Education: 6th grade or less (16.9%); 7<sup>th</sup> grade (19.9%); 8<sup>th</sup> grade (20.2%); 9<sup>th</sup> grade (22.1%); 10<sup>th</sup> grade (13.1%); 11<sup>th</sup> grade (6.4%); High School graduate (1.1%); Some College (<1%). There were 5 registered as sex offenders and 27 currently receiving sex offender treatment.

##### Reliability

Perfect reliability is 1.00. It is suggested that clinical instruments such as the SAI-Juvenile have reliability coefficients from .70 - .80. Reliability coefficients for all SAI-J scales are presented in Table 28.

**Table 28. Reliability of the SAI-J (2013, N=275)**

<u>Scales</u>	<u>Coefficient Alphas</u>
Sex-item Truthfulness Scale	.89
Sex Adjustment Scale	.83
Child Molest Scale	.75
Sexual Assault (Rape) Scale	.80
Exhibitionism Scale	.71
Test Item Truthfulness	.92
Alcohol Scale	.93
Drugs Scale	.92
Violence Scale	.83
Antisocial Scale	.92
Distress Scale	.90
Impulsiveness Scale	.89

These results are consistent with previously found reliability statistics reported in earlier research and demonstrate that the SAI-Juvenile is a reliable instrument. All attained reliability coefficients exceed the professionally accepted standard.

#### Validity

A comparison between the mean scores of first-time offenders and repeat offenders found higher mean scale scores for repeat offenders on the Alcohol Scale, Drugs Scale, and Antisocial Scale, Violence Scale, Distress Scale, Impulsiveness Scale, Child Molestation, Sexual Assault, Exhibitionism, and Sexual Adjustment. First-time offenders had higher mean scale scores on the Sex Item Truthfulness Scales. Higher scores for First-time offenders these scales may be related to the unique characteristics of this offender population. Moreover, first time offenders may be more likely to engage in denial and problem minimization, whereas Repeat offenders are aware that such behaviors will be detected.

**Table 29. SAI-J Validity (N = 275, 2013)**

<u>Scales</u>	<u>First-time Offender Mean Score</u>	<u>Repeat Offender Mean Score</u>
Sex Item Truthfulness	14.16	13.04
Child Molestation	9.82	9.96
Sexual Assault	10.14	11.28
Exhibitionism	5.82	6.53
Sexual Adjustment	18.47	17.02
Test Item Truthfulness	11.21	10.45
Alcohol	18.97	30.60
Drugs	11.62	18.30
Antisocial	19.01	23.70
Violence	15.57	15.38
Distress	3.61	13.02
Impulsiveness	5.52	16.74

Statistical comparisons of mean scale scores were conducted using t-test analyses. Results were statistically significant for the Alcohol Scale, Drug Scale, Distress Scale, and Impulsiveness Scale. Results for the remaining scales were not statistically significant.

As a general rule, higher SAI-Juvenile scores are obtained by repeat offenders when compared to first-time offenders. These results support the validity of the SAI-Juvenile and demonstrate that the SAI-Juvenile effectively differentiates between offenders that are known to have more severe problems (repeat offenders) than first time offenders.

### **15. Reliability Using a Small Clinical Sample of Juvenile Sexual Offenders**

This section provides an overview of the SAI test statistics using data from the **97 adult offenders'** test data and SAI-Juvenile test statistics using data from the **51 juvenile offenders**.

#### **Reliability**

Test reliability refers to the consistency of a test. Cronbach's alpha, a measure of reliability, measured the internal consistency of each SAI-Juvenile scale. Perfect reliability for a test is 1.00. The professionally accepted reliability standard for this type of test is .70-.80 (Murphy & Davidshofer, 2001).

Reliability for SAI-Juvenile scores are presented below.

**Table 30. SAI-Juvenile Reliability Analysis (N=51, 2014)**

<u>Scales</u>	<u>Alpha</u>
Sex Item Truthfulness	.89
Child Molestation	.83
Sexual Assault	.75
Exhibitionism	.80
Sexual Adjustment	.74
Test Item Truthfulness	.92
Alcohol	.93
Drugs	.92
Antisocial	.83
Violence	.92
Distress	.90
Impulsiveness	.89

All scales met or exceeded the professional thresholds and support the SAI-Juvenile scores as reliable for a sexual adjustment screening tool. Results are impressive given the relatively small sample size for this analysis.



## SUMMARY

This document "SAI: An Inventory of Scientific Findings" is not intended to be an exhaustive compilation of SAI research. Yet it does summarize many research studies supporting the reliability, validity and accuracy of the Sexual Adjustment Inventory (SAI). Moreover, ongoing SAI database research ensures an increasingly accurate picture of SAI offenders and the risk they represent. It is reasonable to conclude the SAI provides a sound empirical basis for responsible decision making.

It should be noted that studies are presented chronologically -- when the research was done. This enables the reader to see the evolution of the SAI into state-of-the-art sex offender assessment instruments. The most recent research represents the statistical properties of the SAI.

The SAI contains a proprietary built-in database for ongoing research and annual program summary. Ongoing research ensures quality control. Annual program summary provides program self-evaluation.

Areas for future SAI research are many and complex. Risk & Needs Assessment, Inc. shall continue its research and development efforts. Database research shall be emphasized. Consistent with the foregoing, Risk & Needs Assessment, Inc. encourages other scientists to participate in SAI research. Few fields of assessment represent such important opportunities for creative discovery.

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