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SEXUAL ADJUSTMENT INVENTORY

SAI: An Inventory of Scientific Findings

(Sexual Adjustment Inventory (SAI) and the SAI-Juvenile)

Professional Online Testing Solutions, Inc.
P.O. Box 32974
Phoenix, Arizona 85064-2974
E-mail: info@online-testing.com

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Research studies are presented chronologically from 1985 to the present. Recent studies are most representative of the SAI and the SAI-Juvenile. No attempt has been made to incorporate all SAI research. However, the research studies reported in this document are representative of SAI and SAI-Juvenile research

INTRODUCTION

SEXUAL ADJUSTMENT INVENTORY

Increased public awareness of 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 (SAI) was developed to help meet the needs of judicial court screening and assessment. The SAI is designed for sex offender assessment. It is available in English and Spanish. The SAI helps to identify sexually deviate and paraphiliac behavior in people 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 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 nearly 20 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 profile.

Sexual Adjustment Inventory
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 is a brief, easily administered and interpreted sex offender screening or assessment instrument. It is particularly useful in judicial, correctional, probation and parole systems. The SAI represents the latest developments in psychometric techniques and computerized technology. The SAI can be administered on a computer (IBM-PC compatibles) screen or by using paper-pencil test booklets.

Regardless of how the SAI is administered, all tests are scored and interpreted with a computer which generates SAI reports.

The SAI requires approximately 45 minutes for completion and is appropriate for juveniles through adulthood. The SAI 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 is to be used in conjunction with a review of available records, a focused interview and experienced court staff judgment.

The SAI 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 further the understanding of the sex offender. In addition, they provide important information on the clients 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 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 person is while completing the SAI.** 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 scale is scored independently of the other scales. SAI scale scoring equations combine client pattern of responding to scale items, Truthfulness Scale and prior history that is contained on the SAI 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 report.

SAI 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 report numerically (percentile), by attained risk category (narrative) and graphically (SAI profile).

SAI Database: Every time an SAI is scored the test data is automatically stored on the diskette for inclusion in the SAI database. This applies to SAI diskettes used anywhere in the United States and Canada. When the preset number of tests are administered (or used up) on a SAI 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 database for later analysis. This database is statistically analyzed annually, at which time future SAI 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 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 was then administered to convicted sex offenders. **Final item selection was based upon each item's statistical properties.** In brief, SAI scales were developed by statistically relating scale items to the sex offender population. The SAI was then standardized on the sex offender population. Thus, the SAI has been researched and standardized on the sex offender population itself. It is important that users of the SAI familiarize themselves with the definition of each scale. For that purpose a description of each SAI scale follows.

Test Item Truthfulness: This Scale measures how truthful the client was while completing the SAI. 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 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 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. 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 scales that do not have an obvious sexual content, e.g., alcohol, drugs, distress, comprehension, 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 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 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 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 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 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-depreciating 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 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.

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

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

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 is an important psychometric scale as these scores establish how truthful the respondent was while completing the SAI. Test Item Truthfulness Scale scores

determine whether or not SAI profiles are accurate and are integral to the calculation of Truth-Corrected SAI 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 to determine if these Truthfulness Scale items could differentiate between respondents who were honest from those trying to fake good. It was hypothesized that the group trying to fake good would score higher on the Truthfulness Scale than the group instructed to be honest.

Method

Seventy-eight Arizona State University college students (1985) enrolled in an introductory psychology class were randomly assigned to one of two groups. Group 1 comprised the “Honest” group and Group 2 comprised the “Fakers” group. Group 1 was instructed to be honest and truthful while completing the test. Group 2 was instructed to "fake good" while completing the test, but to respond "in such a manner that their faking good would not be detected." The test, which included the SAI 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.

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.

SAI SCALES	Coefficient Alpha
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. Reliability of the SAI in Two Samples of Convicted Sex Offenders

The reliability of the SAI was investigated in two samples of convicted sex offenders. This study (1992) used earlier reliability research to revise the SAI. Instructions were simplified and eleven test items were modified to improve readability and comprehension for the sex offender population. The purpose of this study was to test the reliability of the SAI in samples of convicted sex offenders.

Method

The revised SAI was administered to two groups of convicted sex offenders. **Group 1 consisted of 165 convicted sex offenders** participating in outpatient counseling. **Group 2 consisted of 325 convicted sex offenders** of which 320 were males (98.5%) and 5 were females (1.5%). The demographic composition of this group is as follows: Age: 16 to 25 years (12.6%), 26 to 35 years (27.1%), 36 to 45 years (31.1%), 46 to 55 years (16.3%) and over 55 (12.9%). Ethnicity: Caucasian (87.7%), Black (8.0%), Hispanic (2.5%), Asian (0.3%), American Indian (0.3%), and Other (1.2%). Marital Status: Single (38.8%), Married (41.5%), Divorced (11.4%), Separated (7.7%), and Widowed (0.6%). Education: 8th grade or less (4.9%), Some High School (12.0%), GED (5.5%), High School graduate (28.0%), Some College (11.7%), Technical/Business School (6.5%), College graduate (24.0%), and Graduate/Professional school (7.4%). Additional information on Group 2 obtained from client self-report is as follows: one or more misdemeanor (57%); two or more misdemeanors (28%); one or more felony convictions (23%); two or more felony convictions (11%); on probation one or more times (42%); five or more arrests (26%); incarcerated one or more years (14%); one or more alcohol-related convictions (37%); one or more drug-related convictions (14%).

The reliability coefficient alpha results for each SAI scale are reported in Table 2.

Table 2. Reliability coefficient alphas. Convicted sex offenders (Total N=490, 1992)
All coefficient alphas are significant at p<.001.

SAI SCALES	1 Sex Offenders N = 165	2 Sex Offenders N = 325
Test Item Truthfulness Scale	.86	.85
Sex Item Truthfulness Scale	.89	.86
Sex Adjustment Scale	.86	.84
Child Molest Scale	.89	.87
Sexual Assault (Rape) Scale	.85	.85
Incest Scale	.90	.91
Exhibitionism Scale	.86	.84
Alcohol Scale	.91	.90
Drug Scale	.86	.86
Distress Scale	.88	.85
Judgment Scale	.82	.85

These results support the reliability of the SAI. The coefficient alphas were very similar across these two sex offender samples. The very highly significant coefficient alphas for these different sex offender groups strongly supports the reliability of the SAI.

Coefficient alphas for scales were significant at $p<.001$. SAI scales were demonstrated to be significantly independent of other SAI scales. This mutual exclusivity ($p< .001$) is demonstrated by a within-subjects between scales ANOVA performed on each SAI scale. All scales showed high inter-item congruence, which is demonstrated by the standardized coefficient alpha. In summary, each SAI scale measures one factor, and the factor being measured differs from scale to scale. The SAI is a reliable instrument with demonstrated internal consistency.

4. Validation of the SAI Test Item and Sex Item Truthfulness Scales

This study (1992) was conducted to validate the SAI Test Item Truthfulness Scale and Sex Item Truthfulness Scale with truthfulness scales on the Minnesota Multiphasic Personality Inventory (MMPI) as criterion measures. The SAI 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.

5. 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 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 3.

Table 3. Sexual Adjustment Scale, Normals vs. Offenders
Total N = 227, 1992

Group	N	Mean	S. D.	Minimum	Maximum
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.

6. 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.

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 4. Agreement coefficients (correlations) between staff ratings and SAI scale scores are presented in Table 5.

Table 4. Reliability coefficient alphas. Convicted sex offenders (N=136, 1993)
All coefficient alphas are significant at p<.001.

SAI Scales	Coefficient Alpha
Test Item Truthfulness Scale	.87
Sex Item Truthfulness Scale	.88
Sexual Adjustment Scale	.84
Child Molest Scale	.90
Sexual Assault (Rape) Scale	.88
Exhibitionism Scale	.87
Incest Scale	.90
Alcohol Scale	.92
Drug Scale	.88
Distress Scale	.85
Judgment Scale	.88

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

Table 5. Agreement coefficients. Staff ratings and SAI scale scores
N = 136, 1993

SAI Scales	Agreement Coefficients	Significance Level
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.

7. 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 investigate the reliability of the SAI and in particular the Antisocial and Violence Scales in a sample of 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%).

Table 6. Reliability coefficient alphas. Convicted sex offenders (N=520, 1994)

SAI Scales	Coefficient Alpha
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

All coefficient alphas are significant at p<.001.

Reliability coefficient alphas are presented in Table 6. 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.

8. 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 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 (sales) 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 7. 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 7. Reliability coefficient alphas. Total N=534 (1995-1996)
All coefficient alphas are significant at p<.001.

SAI Scales	1 Sex Offenders N = 258	2 Sex Offenders N = 276
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.

9. Validity, Reliability and Accuracy of the SAI

This study (1997) was conducted to test the validity, reliability and accuracy of the SAI. 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 Sexual Adjustment Inventory (SAI) by using contingency tables defined by scale scores and either treatment or arrests.

Risk range percentile scores are calculated for each SAI 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 risk range percentile scores involves comparing the risk range percentile scores obtained from client SAI 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.

Method

There were two sex offender samples used in the study. The total number of participants was 1,177. **Group 1 consisted of 718 adjudicated sex offenders.** There were 687 males (95.7%) and 29 females (4.0%). The demographic composition of this group is as follows: Age: Under 18 (8.2%); 18 through 29 years (27.4%); 30 through 39 (35.8%); 40 through 49 (15.3%); 50 through 59 (7.9%); 60 and older (4.7%). Ethnicity: Caucasian (79.2%); Black (15.5%); Hispanic (2.2%); Asian (0.1%); Native American (0.8%); Other (0.4%). Education: 8th grade or less (8.9%); Some High School (30.9%); GED (10.3%); High School Graduate (32.6%); Some College (12.7%); Technical/Business School (0.1%); College Graduate (2.2%); Professional/Graduate Degree (0.3%). Marital Status: Single (41.5%); Married (30.6%); Divorced (18.0%); Separated (7.0%); Widowed (1.0%). Employment Status: Employed (54.5%); Unemployed (44.0%).

Group 2 consisted of 459 convicted sex offenders. There were 446 males (97.2%) and 13 females (2.8%). The demographic composition of this group is as follows: Age: 19 and under (7.8%); 20 through 29 years (29.2%); 30 through 39 (32.9%); 40 through 49 (17.6%); 50 through 59 (9.6%); 60 and older (2.8%). Ethnicity: Caucasian (79.3%); Black (14.6%); Hispanic (5.2%); Asian (0.2%); Native American (0.2%); Other (0.4%). Education: 8th grade or less (7.7%); Some High School (30.3%); GED (9.0%); High School Graduate (33.0%); Some College (14.5%); Technical/Business School (0.7%); College Graduate (3.7%); Professional/Graduate Degree (1.1%). Marital Status: Single (40.9%); Married (30.9%); Divorced (18.4%); Separated (9.4%); Widowed (0.4%). Employment Status: Employed (65.5%); Unemployed (34.5%).

Reliability coefficient alphas are presented in Table 8. The total number of sex offenders included in this study was 1,177.

Table 8. Coefficient alphas. Sex Offenders (1997, Total N=1,177)
All coefficient alphas are significant at p<.001.

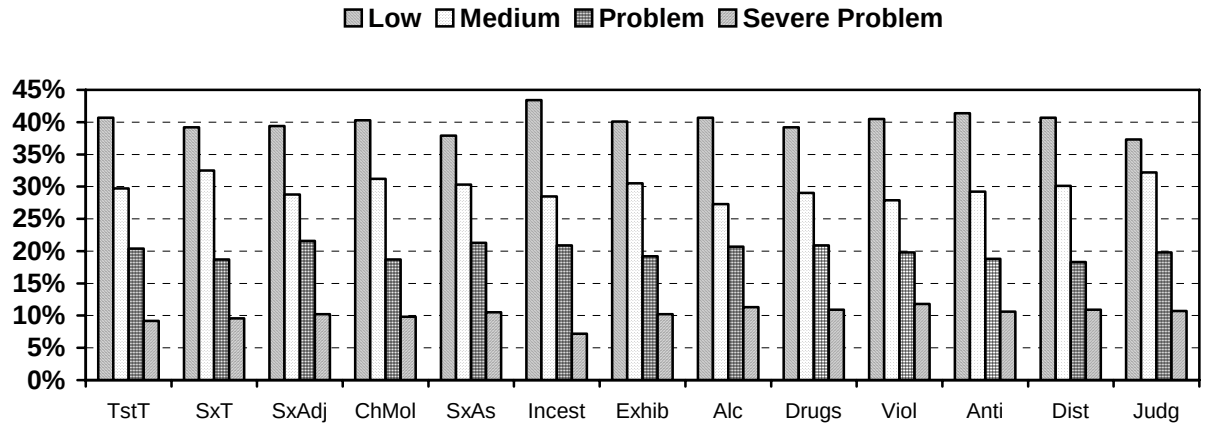
SAI Scales	1 Sex Offenders (N=718)	2 Sex Offenders (N=459)
Test Item Truthfulness Scale	.88	.88
Sex Item Truthfulness Scale	.86	.84
Sexual Adjustment Scale	.88	.87
Child Molest Scale	.86	.86
Sexual Assault (Rape) Scale	.85	.80
Incest Scale	.85	.80
Exhibitionism Scale	.84	.80
Violence Scale	.85	.82
Antisocial Scale	.84	.80
Alcohol Scale	.93	.93
Drug Scale	.92	.92
Distress Scale	.86	.87
Judgment Scale	.84	.80

These results support the internal consistency (reliability) of the SAI. All coefficient alphas were significant at p<.001. All coefficient alphas for SAI scales are very highly significant. The SAI is an objective and reliable sex offender assessment instrument.

The risk range percentile scores for Group 2 are presented in Table 9.

The analysis of sex offender risk assessment is based upon scores attained by the 459 offenders in Group 1. The percentage of individuals falling into each risk range for each SAI scale is presented in the figure below and the actual percentages are shown in the data table that follows.

Table 9. Risk Range Percentile Scores for Group 2, N = 549 sex offenders, 1997.



Risk Range	Test-Item Truth. %	Sex-Item Truth. %	Sexual Adjustm't %	Child Molest %	Sexual Assault %	Incest %	Exhibi-tionism %	Alcohol %	Drugs %	Violence %	Anti-social %	Distress %	Judgm't %
Low	40.7	39.2	39.4	40.3	37.9	43.4	40.1	40.7	39.2	40.5	41.4	40.7	37.3
Medium	29.7	32.5	28.8	31.2	30.3	28.5	30.5	27.3	29.0	27.9	29.2	30.1	32.2
Problem	20.4	18.7	21.6	18.7	21.3	20.9	19.2	20.7	20.9	19.8	18.8	18.3	19.8
Severe Problem	9.2	9.6	10.2	9.8	10.5	7.2	10.2	11.3	10.9	11.8	10.6	10.9	10.7

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores as presented above for each of the 13 SAI scales. **These results indicate that the SAI is a very accurate sexual offender risk assessment instrument.**

The results of the comparison between obtained risk percentages and predicted percentages for shows that all obtained scale risk range percentile scores were within 4.4 percent of predicted on all 13 SAI scales. The largest difference between obtained and predicted risk range percentages occurred on the Incest Scale. For the Problem and Severe Problem risk ranges, all of the obtained percentages were within 1.8 percentage points of predicted. Of the 52 possibilities (13 scales x 4 risk ranges), there were only seven instances where the obtained risk range deviated from the predicted by more than two percentage points. There were 25 instances where the differences between obtained and predicted percentages was less than one percentage point. **This is very accurate sex offender risk assessment.**

The t-test comparisons between first offenders and multiple offenders for each scale is presented in Tables 10 through 13. There were 459 sex offenders used in this analysis.

Table 10. T-test comparisons between first offenders and multiple offenders.
Offender status defined by total number of arrests. (N = 459, 1997)

SAI Scale	First Offenders Mean (N=191)	Multiple Offenders Mean (N=268)	T-value	Level of significance
Test Item Truthfulness	8.47	7.52	t = 1.79	n.s.
Violence Scale	5.43	6.53	t = 2.14	p=.033

Table 11. T-test comparison of Alcohol Scale between first offenders and multiple offenders.
Offender status defined by number of alcohol arrests.

SAI Scale	First Offenders Mean (N=401)	Multiple Offenders Mean (N=58)	T-value	Level of significance
Alcohol Scale	6.68	20.22	t = 7.61	p<.001

Table 12. T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug arrests.

SAI Scale	First Offenders Mean (N=442)	Multiple Offenders Mean (N=17)	T-value	Level of significance
Drug Scale	4.95	18.41	t = 6.53	p<.001

Table 13. T-test comparison between first offenders and multiple offenders.
Offender status defined by number of sex-related arrests.

SAI Scale	First Offenders Mean (N=405)	Multiple Offenders Mean (N=54)	T-value	Level of significance
Sex Item Truthfulness	8.27	7.83	t = .66	n.s.
Sexual Adjustment	20.37	25.13	t = 3.00	p=.003

These t-test results support the discriminant validity of the SAI. All t-test comparisons between first offenders and multiple offenders were significant on the Alcohol, Drug, Sex Adjustment and Violence scales. Both Truthfulness Scales showed that first offenders scored significantly higher than multiple offenders.

T-test results of the Sexual Adjustment Scale indicated that multiple offenders scored much higher than first offenders. The very large significant difference between first and multiple offenders strongly support the discriminant validity of the Sexual Adjustment Scale. T-test results of the Alcohol Scale and Drug Scale, where offender status was defined by alcohol arrests and drug arrests, respectively, also showed very large significant differences between first and multiple offenders. These results strongly support the discriminant validity of the Alcohol Scale, Drug Scale, Sexual Adjustment Scale and Violence Scale.

The test of predictive validity for the Alcohol Scale is presented in Table 14. Offenders who scored between the 40th and 69th percentile are not included in the table because the table distinguishes between problem and no problem behavior. No problem is defined as an Alcohol Scale score at or below the 39th percentile, whereas alcohol-related problematic behavior is defined as an Alcohol Scale score in the 70th or above percentile range. Alcohol treatment information was obtained from offenders answers to SAI test items concerning having had alcohol treatment.

Table 14. Predictive validity for the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No Treatment	One or More Treatment Programs	Number in each category
Low Risk (zero to 39th percentile)	180 (.75)	7 (.07)	187
Problem or Severe Problem Risk (70 to 100th percentile)	61 (.25)	86 (.93)	147
	241	93	334

These results show that for the 93 offenders who reported having had alcohol treatment, 86 offenders, or 93 percent, had Alcohol Scale scores at or above the 70th percentile. Similarly, of the 241 offenders who reported no alcohol treatment, 180 offenders or 75 percent had Alcohol Scale scores in the Low Risk or no problem range. This percentage is reasonable because defendants could have a drinking problem without having been in treatment. Combining these results gives an overall accuracy of the Alcohol Scale of 80 percent. This is very accurate considering that a highly accepted diagnostic procedure, the mammogram, is about 70 percent accurate. These results show there is a very strong positive correlation between Alcohol Scale scores and alcohol treatment.

The predictive validity test of the Drug Scale was done in the same way using drug treatment as the criterion. Of the 52 offenders who had drug treatment 52 or 100 percent had Drug Scale scores in the 70th percentile or higher (Problem Risk and above). Of the 274 offenders who did not have treatment 180 (66%) had Drug Scale scores in the Low Risk (no problem) range. The overall accuracy of the Drug Scale in predicting drug treatment was 71 percent. These results show there is a very strong positive correlation between the Drug Scale and drug treatment.

For the Sexual Adjustment Scale, 71 percent of the offenders who had sex treatment or counseling, had Sexual Adjustment Scale scores at or above the 70th percentile and the overall accuracy was 80 percent. This means that there is a very strong positive correlation between Sexual Adjustment Scale scores and sexual treatment or sexual counseling.

Taken together these results strongly support the reliability, validity and accuracy of the SAI. Reliability coefficient alphas were significant at $p<.001$ for all SAI scales. T-test comparisons between first offenders and multiple offenders support discriminant validity of the Alcohol Scale, Drug Scale, Sexual Adjustment Scale and Violence Scale because multiple offenders scored significantly higher on the different scales than first offenders. Predictive validity of the Alcohol Scale, Drug Scale and Sexual Adjustment Scale was shown by the accuracy with which the scales identified problem risk behavior (having had or desired treatment). The Alcohol Scale had an accuracy of 80 percent, the Drug Scale had an accuracy of 71 percent and the Sexual Adjustment Scale had an accuracy of 80 percent. These results support the reliability, validity and accuracy of the SAI.

10. A Replication Study of Reliability, Validity and Accuracy of the SAI

This study (1998) continued research of the SAI to evaluate the reliability, validity and accuracy of the SAI. Two samples of sex offenders were included in this study from different testing settings. Interest in sex offender assessment has increased in recent years and it is important to continue to research the SAI in widely varied assessment milieu. Probation and corrections settings have utilized the SAI to test their sex offender clients and the SAI continues to be used in community corrections and counseling settings.

Methods and Results

Two samples of sex offenders participated in this study (1998). There were a total of 1,393 participants. Group 1 consisted of 787 sex offenders from community corrections and counseling centers. There were 764 males (97.1%) and 23 females (2.9%). The demographic composition of this group is as follows: Age: Under 19 (2.4%); 19 through 20 years (8.9%); 21 through 30 (31.2%); 31 through 40 (29.8%); 41 through 50 (15.8%); 51 through 60 (6.4%); 61 and older (5.5%). Ethnicity: Caucasian (80.3%); Black (11.4%); Hispanic (5.6%); Asian (0.5%); Native American (1.7%); Other (0.5%). Education: 8th grade or less (6.3%); Some High School (29.9%); GED (6.1%); High School Graduate (30.8%); Some College (17.9%); Technical/Business School (2.0%); College Graduate (6.3%); Professional/Graduate Degree (0.8%). Marital Status: Single (43.1%); Married (29.9%); Divorced (19.7%); Separated (6.5%); Widowed (0.9%). Employment Status: Employed (57.1%); Unemployed (42.9%).

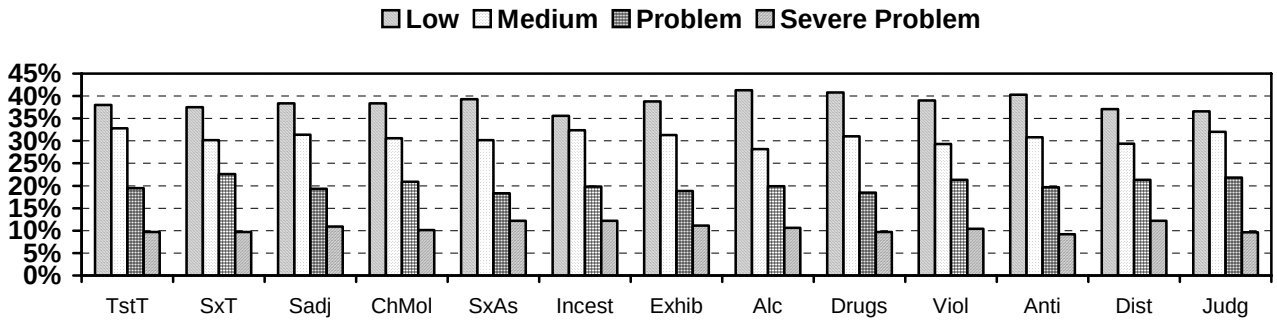
Group 2 consisted of 606 probation department sex offenders. There were 597 males (98.5%) and 9 females (1.5%). The demographic composition of this group is as follows: Age: Under 21 (14.6%); 21

through 30 (35.8%); 31 through 40 (25.4%); 41 through 50 (14.6%); 51 through 60 (3.4%); 61 and older (5.2%). Ethnicity: Caucasian (76.9%); Black (7.5%); Hispanic (12.3%); Asian (0.7%); Native American (1.5%); Other (1.1%). Education: 8th grade or less (4.9%); Some High School (25%); GED (9.3%); High School Graduate (38.1%); Some College (13.8%); Technical/Business School (1.1%); College Graduate (6%); Professional/Graduate Degree (1.1%). Marital Status: Single (45.5%); Married (27.2%); Divorced (16.8%); Separated (9.3%); Widowed (0%). Employment Status: Employed (60.4%); Unemployed (39.6%).

Accuracy

Client scale scores are classified according to the risk (degree of severity) they represent. Four categories of risk are assigned: Low risk (zero to 39th percentile), Medium risk (40 to 69th percentile), Problem risk (70 to 89th percentile), and Severe Problem (90 to 100th percentile). By definition the expected percentage of clients assigned to each risk category is, 39% in Low risk, 30% in Medium risk, 20% in Problem risk and 11% in Severe Problem. The actual percentages of clients placed in the four risk categories based their scale scores are compared to these expected percentages. Table 15 presents these comparisons using Group 2 results. The differences between obtained and expected are shown in parentheses.

Table 15. SAI Scales Risk Ranges (1998, N = 1,393)

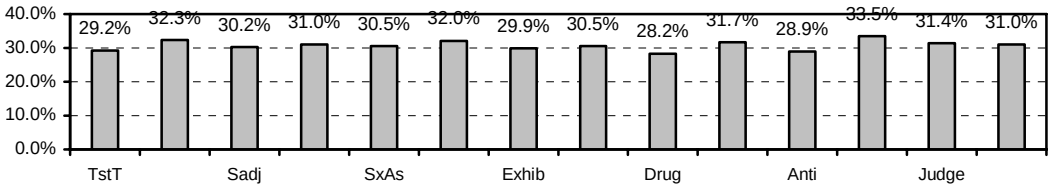


Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Test Item Truthfulness	38.0	(1.0)	32.8	(2.8)	19.5	(0.5)	9.7	(1.3)
Sex Item Truthfulness	37.5	(1.5)	30.2	(0.2)	22.6	(2.6)	9.7	(1.3)
Sexual Adjustment	38.4	(0.6)	31.4	(1.4)	19.3	(0.7)	10.9	(0.1)
Child Molest	38.4	(0.6)	30.6	(0.6)	20.9	(0.9)	10.1	(0.9)
Sexual (Rape) Assault	39.3	(0.3)	30.2	(0.2)	18.3	(1.7)	12.2	(1.2)
Incest	35.6	(3.4)	32.4	(3.4)	19.8	(0.2)	12.2	(1.2)
Exhibitionism	38.8	(0.2)	31.3	(1.3)	18.8	(1.2)	11.1	(0.1)
Alcohol	41.3	(2.3)	28.2	(1.8)	19.9	(0.1)	10.6	(0.4)
Drugs	40.8	(1.8)	31.0	(1.0)	18.5	(1.5)	9.7	(1.3)
Violence	39.0	(0)	29.3	(0.7)	21.3	(1.3)	10.4	(0.6)
Antisocial	40.3	(1.3)	30.8	(0.8)	19.7	(0.3)	9.2	(1.8)
Distress	37.1	(1.9)	29.4	(0.6)	21.3	(1.3)	12.2	(1.2)
Judgment	36.6	(2.4)	32.0	(2.0)	21.8	(1.8)	9.6	(1.4)

As shown in the graph and table above, the SAI scale scores are very accurate. The objectively obtained percentages of clients falling into each risk range are very close to the expected percentages for each risk category. All of the obtained risk range percentages were within 3.4 percentage points of the expected percentages and most (39 of 52 possible) were within 1.5 percentage points. Only six obtained percentages were more than 2% from the expected percentage.

For those clients 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 scale scores accurately identify client risk.

Problematic Risk Profile (70-100 Percentile)



Discriminant validity

The SAI 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 is shown by significant differences between first and multiple offenders. In the following analyses "Number of sex-related arrests," "Number of times arrested," "Number of alcohol arrests" and "Number of drug arrests" were used to define first offenders and multiple offenders. There are 606 sex offenders (Group 2) included in these analyses.

Table 16. Offender status defined by number of sex-related arrests (1998, N = 1,393).

SAI Scale	First Offenders Mean (N=533)	Multiple Offenders Mean (N=73)	T-value	Level of significance
Sex Item Truthfulness	0.10	0.16	t = 1.47	n.s.
Sexual Adjustment	12.27	22.12	t = 5.09	p<.001
Child Molest Scale	8.05	10.97	t = 2.63	p=.010
Sexual Assault	6.85	7.64	t = 1.40	n.s.
Incest Scale	2.31	2.53	t = 0.67	n.s.
Exhibitionism	3.09	4.71	t = 2.79	p=.007

Offender status defined by number of times arrested.

SAI Scale	First Offenders Mean (N=259)	Multiple Offenders Mean (N=347)	T-value	Level of significance
Test Item Truthfulness	7.34	6.61	t = 1.77	n.s.
Violence Scale	8.34	19.33	t = 16.81	p<.001
Antisocial Scale	3.38	3.62	t = 1.07	n.s.
Distress Scale	7.70	9.21	t = 2.72	p=.007
Judgment Scale	10.34	9.92	t = 0.93	n.s.

Offender status defined by number of alcohol arrests.

SAI Scale	First Offenders Mean (N=516)	Multiple Offenders Mean (N=90)	T-value	Level of significance
Alcohol Scale	5.66	21.56	t = 10.57	p<.001

Offender status defined by number of drug arrests.

SAI Scale	First Offenders Mean (N=583)	Multiple Offenders Mean (N=23)	T-value	Level of significance
Drug Scale	4.61	13.26	t = 4.42	p<.001

These t-test results show significant differences between first and multiple offenders on the Sexual Adjustment, Child Molest, Exhibitionism, Violence, Distress, Alcohol and Drug scale scores. 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, Exhibitionism, Violence, Distress, Alcohol and Drug Scales.**

The Test-Item Truthfulness Scale shows that first offenders score higher than multiple offenders do. There appears to be a trend in sex offender assessment where first time offenders try to fake good more often than multiple offenders. This finding has been found in the other tests as well. Sex Item Truthfulness, Sexual Assault, Incest, Antisocial and Judgment scales shows that first and multiple offenders do not score statistically significantly different.

Predictive validity

Offenders who have been in treatment (sex, alcohol or drug) would identify them as having sexual, alcohol or drug problems. It would be predicted that these offenders would score in the Problem risk or higher risk range (70^{th} percentile and above). The following **predictive validity** analyses show that the Sexual Adjustment Scale, Alcohol Scale and Drugs Scale accurately identify offenders who have sex, alcohol and drugs problems. Sex treatment information is obtained from SAI test items (#203, #208, #212, #213 & #214). Alcohol treatment information is obtained from offenders' answers to SAI test items (#82 & #160) concerning alcohol treatment. Drug treatment information is from SAI test items #129, #174.

There were the 154 offenders who reported having been in sex treatment, of these, 150 offenders, or 97 percent, had Sexual Adjustment Scale scores at or above the 70th percentile. Nearly 100 percent of the clients who had sex treatment 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 with known sex problems.

There were the 122 offenders who reported having been in alcohol treatment and 117 offenders, or 96 percent, had Alcohol Scale scores at or above the 70th percentile. Again, nearly 100 percent of the clients who had alcohol treatment scored in the Problem or Severe Problem risk range on the Alcohol Scale. The Drug Scale accurately identified offenders who have drug problems, 55 of the 55 offenders (100%) who reported having been in drug treatment had Drug Scale scores in the Problem Risk range and above. The SAI Alcohol and Drug Scales were extremely accurate in identifying clients with known alcohol and drug problems. These results strongly support the validity of the SAI.

Predicting Recidivism

Predictions of "Total number of times arrested" and "Number of sex-related arrests" show that the SAI accurately predicts recidivism. The prediction of re-arrests was very accurate, $F=119.70$, $p<.001$, Multiple $R=.772$. The SAI accurately predicts re-arrest. The prediction of Total number of times arrested contains the following predictor variables: 1. Number of misdemeanor convictions, 2. Number of times sentenced to prison and 3. SAI Violence Scale

The prediction of future sex-related arrests was also highly accurate, $F=37.85$, $p<.001$, Multiple $R=.662$. This result shows that the SAI accurately predicts re-offense for sex arrests. The prediction of sex-related arrests contains the following predictor variables: 1. Number of sex-related convictions, 2. Number of times sentenced to prison. 3. SAI Violence Scale, 4. SAI Violence Scale and 5. SAI Sexual Assault (Rape) Scale. These results show that the Sexual Adjustment Inventory accurately predicts recidivism.

Reliability

Reliability coefficient alphas are presented in Table 17.

Table 17. Coefficient alphas. Sex Offenders (1998, Total N=1,393)
All coefficient alphas are significant at p<.001.

SAI Scales	1 Sex Offenders (N=787)	2 Sex Offenders (N=606)
Test Item Truthfulness Scale	.87	.86
Sex Item Truthfulness Scale	.85	.86
Sexual Adjustment Scale	.89	.91
Child Molest Scale	.87	.83
Sexual Assault (Rape) Scale	.80	.85
Incest Scale	.82	.80
Exhibitionism Scale	.83	.81
Violence Scale	.84	.84
Antisocial Scale	.81	.83
Alcohol Scale	.94	.94
Drug Scale	.93	.92
Distress Scale	.87	.87
Judgment Scale	.80	.81

These results are consistent with reliability statistics reported in earlier research studies of the SAI. All coefficient alphas were significant at $p<.001$. These results support the statistical reliability of the SAI. The SAI is an objective and reliable sex offender assessment instrument.

As in previously reported SAI research, these results show that the SAI is highly reliable, valid and accurate sex offender risk assessment instrument. Statistical reliability for most of the 13 SAI scales are well above the generally accepted level of 0.80. Validity is shown in several statistical procedures, which include discriminant validity, predictive validity and predicting recidivism. The SAI is shown to be very accurate regardless of the testing milieu in which the SAI is used.

This research has shown that the majority of the sex offenders included in these studies are male, about half are in the age group 21 to 35 years of age, about half are single and about half have completed high school. The majority of the clients reported one or more arrests and about half reported having been on probation one or more times. Nearly half of the clients have been sentenced to jail one or more times. The majority of these sex offenders (over three-fourths) reported one or more sex-related arrests and about 10 percent reported two or more arrests.

11. A Study of the SAI in a Sample of Probation Department Offenders

This study (1999) included sex offenders being tested in a statewide probation department offender assessment program. Statistical reliability, validity and accuracy of the SAI were studied. There were 229 offenders included in this study. All offenders completed the SAI as part of normal departmental procedures for assessment of sex offenders.

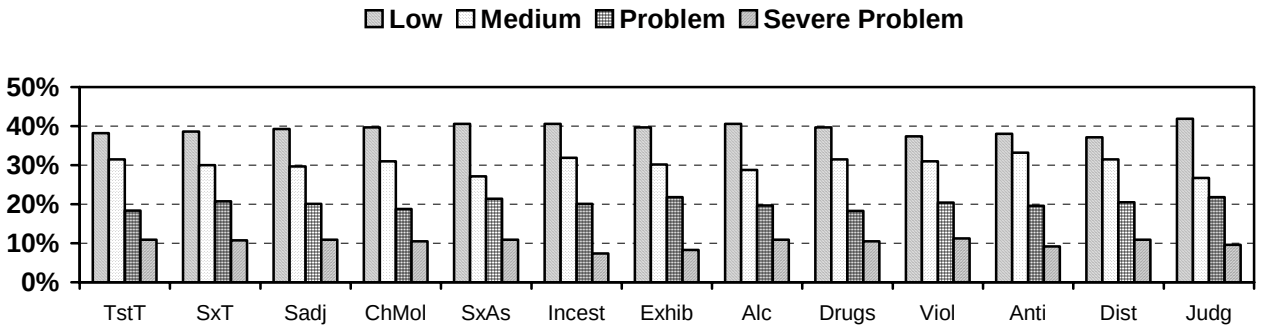
Method and Results

Included in this study (1999) were 229 sex offenders. There were 225 males (98.3%) and 4 females (1.7%). The demographic composition of this group is as follows: Age: Under 20 (10.5%); 20 through 29 (39.7%); 30 through 39 (25.8%); 40 through 49 (14.4%); 50 through 59 (6.6%); 60 and older (3.1%). Ethnicity: Caucasian (73.2%); Black (12.7%); Hispanic (9.2%); Asian (1.8%); Native American (1.8%); Other (1.3%). Education: 8th grade or less (7.2%); Some High School (32.3%); GED (4.9%); High School Graduate (36.8%); Some College (13.9%); Technical/Business School (0.9%); College Graduate (3.1%); Professional/Graduate Degree (0.9%). Marital Status: Single (47.1%); Married (30.5%); Divorced (12.1%); Separated (9.4%); Widowed (0.9%). Employment Status: Employed (63.1%); Unemployed (36.9%).

SAI Accuracy

SAI scale risk range percentages are presented in Table 18. 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 229 offenders tested with the SAI.

Table 18. SAI Risk Range Percentages (1999, N = 229)



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Test-Item Truthfulness	38.2	**(0.8)**	31.5	**(1.5)**	18.4	**(1.6)**	10.9	**(0.1)**
Sex-Item Truthfulness	38.6	**(0.4)**	30.0	**(0.0)**	20.7	**(0.7)**	10.7	**(0.3)**
Sex Adjustment Scale	39.3	**(0.3)**	29.7	**(0.3)**	20.1	**(0.1)**	10.9	**(0.1)**
Child Molest Scale	39.7	**(0.7)**	31.0	**(1.0)**	18.8	**(1.2)**	10.5	**(0.5)**
Sexual Assault Scale	40.6	**(1.6)**	27.1	**(2.9)**	21.4	**(1.4)**	10.9	**(0.1)**
Incest Scale	40.6	**(1.6)**	31.9	**(1.9)**	20.1	**(0.1)**	7.4	**(3.6)**
Exhibitionism Scale	39.7	**(0.3)**	30.2	**(0.2)**	21.8	**(1.8)**	8.3	**(2.7)**
Alcohol Scale	40.6	**(1.6)**	28.8	**(1.2)**	19.7	**(0.3)**	10.9	**(0.1)**
Drug Scale	39.7	**(0.7)**	31.5	**(1.5)**	18.3	**(1.7)**	10.5	**(0.5)**
Violence Scale	37.4	**(1.6)**	31.0	**(1.0)**	20.4	**(0.4)**	11.2	**(0.2)**
Antisocial Scale	38.0	**(1.0)**	33.2	**(3.2)**	19.6	**(0.4)**	9.2	**(1.8)**
Distress Scale	37.1	**(1.9)**	31.5	**(1.5)**	20.5	**(0.5)**	10.9	**(0.1)**
Judgment Scale	41.9	**(2.9)**	26.7	**(3.3)**	21.8	**(1.8)**	9.6	**(1.4)**

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 3.6 percentage points of the predicted and only six of the obtained risk ranges were more than 2 percentage points from predicted. Of the 52 possible (13 scales x 4 risk ranges) comparisons, 28 obtained risk range percentages were within one percentage point of the predicted. This is very accurate assessment.

Reliability of the SAI

Inter-item reliability coefficients for all SAI scales are presented in Table 19. These reliability statistics show that the SAI is a reliable sex offender risk assessment test. These results are consistent with previously found reliability statistics reported in earlier research studies of the SAI. All coefficient alphas were significant at $p<.001$. These results support the statistical reliability of the SAI in this sample of sex offenders. The SAI is an objective and reliable sex offender assessment test and is shown to be reliable for probation department clients.

Table 19. Reliability of the SAI (1999, N = 229)
All coefficient alphas are significant at p<.001.

SAI SCALES	Coefficient Alphas
Test-item Truthfulness Scale	.88
Sex-item Truthfulness Scale	.85
Sex Adjustment Scale	.91
Child Molest Scale	.81
Sexual Assault (Rape) Scale	.84
Incest Scale	.87
Exhibitionism Scale	.80
Alcohol Scale	.95
Drug Scale	.92
Violence Scale	.83
Antisocial Scale	.80
Distress Scale	.88
Judgment Scale	.80

Validity of the SAI

In Table 20 SAI scale scores of multiple offenders (2 or more arrests) are compared with first offenders. Comparisons between offenders were based on sex-related arrests, alcohol arrests, drug arrests and total number of arrests. Multiple offenders are expected to score higher on SAI scales than first offenders because a history of arrests would indicate problems. In these discriminant validity analyses there were 31 multiple sex offenders (sex-related arrests), 45 multiple alcohol offenders, 12 multiple drug offenders and 150 general multiple offenders (total number of arrests). There are 229 sex offenders included in these analyses.

In the following comparisons multiple offenders scored significantly higher than first offenders on the Sex Adjustment, Sexual Assault, Incest, Alcohol, Drug and Violence Scales. These results support the discriminant validity of the Sex Adjustment, Sexual Assault, Incest, Alcohol, Drug and Violence Scales.

Table 20. T-test comparisons between first offenders and multiple offenders. (1999, N = 229)

SAI Scale	First Offenders Mean Score	Multiple Offenders Mean Score	T-value	Level of significance
Test-item Truthfulness	8.11	5.66	t = 2.66	p=.011
Sex-item Truthfulness	0.10	0.16	t = 1.00	n.s.
Sex Adjustment Scale	10.93	18.68	t = 3.76	p<.001
Child Molest Scale	7.83	8.48	t = 0.48	n.s.
Sexual Assault Scale	6.48	7.97	t = 1.68	p=.094
Incest Scale	2.47	1.71	t = 1.91	p=.058
Exhibitionism Scale	1.94	2.71	t = 0.89	n.s.
Alcohol Scale *	7.69	20.20	t = 5.30	p<.001
Drug Scale *	5.78	15.50	t = 3.11	p<.001
Antisocial Scale *	3.57	3.41	t = 0.46	n.s.
Violence Scale *	8.88	19.29	t = 9.18	p<.001
Distress Scale *	8.96	8.63	t = 0.34	n.s.
Judgment Scale *	4.52	4.54	t = 0.05	n.s.

* Offender status defined by alcohol arrests, drug arrests and total number of arrests.

The Test-Item Truthfulness Scale shows that first offenders scored significantly higher than multiple offenders. The Sex-Item Truthfulness Scale shows that first and multiple offenders' scores were not statistically different. Also first offenders and multiple offenders did not score significantly different on the Child Molest, Exhibitionism, Antisocial, Distress and Judgment Scales.

The predictive validity analysis shows that the Sex Adjustment Scale accurately identified offenders who have sex problems. Those offenders who have been in sex treatment are defined as having a sex problem. Sex treatment information is obtained from offenders' answers to SAI test items (#203, #208, #212, #213 & #214) concerning sex treatment (or registered offender). Offenders who scored in the problem risk ranges (70^{th} percentile & above) were compared to low risk offenders (39^{th} percentile & below).

Of the 55 offenders who reported having been in sex treatment 53 or 96.4 percent had Sex Adjustment Scale scores at or above the 70th percentile. Nearly all (96%) of the offenders who had sex treatment scored in the Problem or Severe Problem risk range on the Sex Adjustment Scale. The results validate the SAI Sex Adjustment Scale.

The Alcohol and Drug Scales accurately identify problem drinkers and drug abusers. Alcohol treatment (SAI test items #82 & #160) and drug treatment (SAI test items #129 & #174) defined alcohol and drug problems. Comparisons between treatment and SAI Alcohol Scale scores show that of the 44 offenders who had alcohol treatment 42 individuals or 95.5 percent had Alcohol Scale scores in the 70th percentile or higher (Problem Risk and above). The Drug Scale results show that of the 16 offenders who reported having been in drug treatment 16 individuals or 100 percent had Drug Scale scores in the 70th percentile or higher (Problem Risk and above). The results validate the SAI Alcohol and Drug Scales.

Taken together these results demonstrate that the Sexual Adjustment Inventory is an accurate, reliable and valid sex offender test.

12. SAI Reliability, Validity and Accuracy

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.

Table 21. SAI Risk Range Accuracy (2000, N = 805)

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.

Table 22. Reliability of the SAI (2000, N = 805)

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. Replication Study of SAI Reliability, Validity and Accuracy

This study (2001) examined the reliability, validity and accuracy of the SAI. Data for this study was obtained in the year 2001 from agencies that tested sex offenders with the SAI. The statistical analyses presented in the previous study were replicated. This study represents ongoing database research of the SAI.

Method and Results

The participants in this study (2001) were 537 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 accuracy is presented in Table 24. Accuracy is determined by the differences between the percentages of offenders that are classified in each of the four risk ranges (low, medium, problem and severe problem) and the predicted percentages. These differences are shown in parentheses within the table and the predicted percentages are shown in the top row of the table. Small differences between obtained and predicted risk range percentages indicate that the scales are accurate.

Table 24. SAI Risk Range Accuracy (2001, N = 537)

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Test-Item Truthfulness	37.4	**(1.6)**	31.8	**(1.8)**	19.8	**(0.2)**	11.0	**(0.0)**
Sex-Item Truthfulness	38.0	**(1.0)**	31.6	**(1.6)**	19.8	**(0.2)**	10.6	**(0.4)**
Sex Adjustment Scale	39.5	**(0.5)**	30.5	**(0.5)**	19.0	**(1.0)**	11.0	**(1.0)**
Child Molest Scale	38.3	**(0.7)**	31.2	**(1.2)**	19.9	**(0.1)**	10.6	**(0.4)**
Sexual Assault Scale	38.7	**(0.3)**	30.3	**(0.3)**	20.5	**(0.5)**	10.5	**(0.5)**
Incest Scale	39.1	**(0.1)**	30.4	**(0.4)**	20.2	**(0.2)**	10.3	**(0.7)**
Exhibitionism Scale	38.4	**(0.6)**	29.6	**(0.4)**	21.2	**(1.2)**	10.8	**(0.2)**
Alcohol Scale	38.2	**(0.8)**	31.1	**(1.1)**	19.7	**(0.3)**	11.0	**(0.0)**
Drugs Scale	39.4	**(0.4)**	31.4	**(1.4)**	18.8	**(1.2)**	10.4	**(0.6)**
Violence Scale	39.4	**(0.4)**	31.5	**(1.5)**	18.6	**(1.4)**	10.5	**(0.5)**
Antisocial Scale	40.2	**(1.2)**	28.5	**(1.5)**	21.0	**(1.0)**	10.3	**(0.7)**
Distress Scale	37.2	**(1.8)**	31.0	**(1.0)**	21.0	**(1.0)**	10.8	**(0.2)**
Judgment Scale	39.3	**(0.3)**	31.5	**(1.5)**	19.2	**(0.8)**	10.0	**(1.0)**

Offender-obtained risk range percentages were very close to predicted percentages and attest to the accuracy of the SAI. Differences between obtained and predicted risk range percentages, shown in parentheses, were 1.8 percent or less. SAI scales are 98 percent accurate. These results are in agreement with the previous study and demonstrate empirically that the SAI is an accurate sex offender test.

Reliability of the SAI

Inter-item reliability coefficients for all SAI scales are presented in Table 25. These results are similar to previous studies of the SAI and demonstrate that the SAI is statistically reliable.

Table 25. Reliability of the SAI (2001, N = 537)

SAI SCALES	Coefficient Alphas	Significance Level
Test-item Truthfulness Scale	.88	p<.001
Sex-item Truthfulness Scale	.86	p<.001
Sex Adjustment Scale	.90	p<.001
Child Molest Scale	.87	p<.001
Sexual Assault (Rape) Scale	.80	p<.001
Incest Scale	.83	p<.001
Exhibitionism Scale	.83	p<.001
Alcohol Scale	.92	p<.001
Drug Scale	.91	p<.001
Violence Scale	.84	p<.001
Antisocial Scale	.88	p<.001
Distress Scale	.87	p<.001
Judgment Scale	.80	p<.001

Validity of the SAI

Table 26 presents comparisons between offenders who had been in sex treatment (responses to SAI item #203) are compared to offenders who never had sex treatment. Offenders who have been in sex treatment are expected to score higher on SAI scales than offenders who have not been in treatment. There were 130 (24.2%) offenders who had been in sex treatment.

Table 26. T-test comparisons between offenders with no treatment and treatment. (2001, N = 537)

SAI Scale	No Treatment Mean Score	Treatment Mean Score	T-value	Level of significance
Test-item Truthfulness	8.48	6.72	t = 3.32	p<.001
Sex-item Truthfulness	9.10	7.02	t = 4.50	p<.001
Sex Adjustment Scale	9.68	22.58	t = 13.48	p<.001
Child Molest Scale	6.68	11.26	t = 5.47	p<.001
Sexual Assault Scale	4.07	6.44	t = 3.92	p<.001
Incest Scale	0.65	0.98	t = 1.99	p<.05
Exhibitionism Scale	1.48	2.65	t = 3.42	p<.001
Alcohol Scale	4.95	5.63	t = 0.79	n.s.*
Drugs Scale	3.13	3.81	t = 1.06	n.s.*
Antisocial Scale	1.56	2.10	t = 1.99	p<.05
Violence Scale	3.24	4.57	t = 2.53	p<.01
Distress Scale	5.65	7.17	t = 2.00	p<.05
Judgment Scale	3.18	3.06	t = 0.40	n.s.*

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

With the exception of the two truthfulness scales the treatment group scored significantly higher than the no treatment on the sex-related scales. Offenders who have sex-related problems (been in sex treatment) demonstrate significantly more problems (higher scale scores) than non-problem offenders on sex-related SAI scales. The treatment group scored significantly higher than the no treatment group on the Antisocial, Violence and Distress Scales. Sex-offenders have, violence, antisocial and distress problems along with their sex problems. These results demonstrate that sex offenders have problems other than just sex-related problems. There were no significant differences between offenders on the Alcohol, Drugs and Judgment Scales. The Test-Item Truthfulness and Sex-Item Truthfulness Scales show that offenders who have not been in treatment scored significantly higher than offenders who did have treatment. Offenders who had treatment were more open and honest while completing the SAI than offenders who did not have treatment.

Predictive validity analysis involves comparisons between high risk and low risk offenders. The percentages of offenders who had or admitted to having problems are determined for offenders who scored in the problem risk range on SAI scales in comparison to offenders who scored in the low risk range. Scale accuracy means that a high percentage (over 90%) of offenders is expected to score in the problem risk range. For the Alcohol and Drugs Scales problem behavior means the offender had alcohol or drug treatment.

The results of these predictive validity analyses 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 100 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.

For the non-sex related scales the results of the predictive validity analyses 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.

These results replicated the previous study and demonstrated that the SAI is accurate, reliable and valid. SAI accuracy is two fold. The SAI incorporates scales that are relevant to the offenders being tested. And, offender risk range accuracy enables making accurate referrals for intervention and treatment.

14. SAI Test Statistics

This study (2002) examined the test statistics of the SAI. Data for this study was returned from SAI users in the year 2002. The statistical analyses presented in the previous two studies were replicated. This study represents ongoing database research of the SAI.

Method and Results

The participants in this study (2002) were 202 sex offenders. There were 189 males (93.6%) and 13 females (6.4%). The demographic composition of this group is as follows: Age: Under 20 (7.1%); 20 through 29 (28.9%); 30 through 39 (34.0%); 40 through 49 (19.8%); 50 through 59 (5.1%); 60 and older (5.1%). Ethnicity: Caucasian (78.2%); Black (8.1%); Hispanic (9.1%); Asian (0.5%); Native American (3.6%); Other (0.5%). Education: 8th grade or less (21.5%); Some High School (33.1%); GED (7.0%); High School Graduate (20.9%); Some College (10.5%); Technical/Business School (0.0%); College Graduate (5.8%); Professional/Graduate Degree (1.2%). Marital Status: Single (38.5%); Married (34.9%); Divorced (19.0%); Separated (5.6%); Widowed (2.1%). Employment Status: Employed (55.4%); Unemployed (44.6%).

SAI Accuracy

SAI scale risk range accuracy is presented in Table 27. Risk range percentages are gotten from the cumulative distributions for each scale. Four cut-off points define the four risk range categories. The four categories are 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). Accuracy is determined by the differences between the percentages of offenders that are classified in each of the four risk ranges and the predicted percentages. These differences are shown in parentheses within the table and the predicted percentages are shown in the top row of the table. Small differences between obtained and predicted risk range percentages indicate that the scales are accurate.

Table 27. SAI Risk Range Accuracy (2002, N = 202)								
Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Test-Item Truthfulness	38.8	**(0.2)**	31.0	**(1.0)**	18.8	**(1.2)**	11.4	**(0.4)**
Sex-Item Truthfulness	39.1	**(0.1)**	31.7	**(1.7)**	19.3	**(0.7)**	9.9	**(1.1)**
Sex Adjustment Scale	38.8	**(0.2)**	30.5	**(0.5)**	19.3	**(0.7)**	11.4	**(0.4)**
Child Molest Scale	38.8	**(0.2)**	30.0	**(0.0)**	20.3	**(0.3)**	10.9	**(0.1)**
Sexual Assault Scale	37.8	**(1.2)**	30.7	**(0.7)**	20.6	**(0.6)**	10.9	**(0.1)**
Incest Scale	38.8	**(0.2)**	29.0	**(1.0)**	21.3	**(1.3)**	10.9	**(0.1)**
Exhibitionism Scale	37.8	**(1.2)**	31.4	**(1.4)**	20.6	**(0.6)**	10.2	**(0.8)**
Alcohol Scale	39.6	**(0.6)**	28.7	**(1.3)**	20.8	**(0.8)**	10.9	**(0.1)**
Drugs Scale	39.8	**(0.8)**	28.5	**(1.5)**	20.8	**(0.8)**	10.9	**(0.1)**
Violence Scale	38.3	**(0.7)**	30.5	**(0.5)**	20.3	**(0.3)**	10.9	**(0.1)**
Antisocial Scale	39.1	**(0.1)**	31.4	**(1.4)**	17.6	**(2.4)**	11.9	**(0.9)**
Distress Scale	39.8	**(0.8)**	29.7	**(0.3)**	19.6	**(0.4)**	10.9	**(0.1)**
Judgment Scale	39.9	**(0.9)**	29.5	**(0.5)**	19.7	**(0.3)**	10.9	**(0.1)**

All offender-obtained risk range percentages were within 2.4 percent of the predicted percentages and are 98 percent accurate. The small differences between obtained and predicted risk range percentages attests to the accuracy of the SAI.

Reliability of the SAI

Inter-item reliability coefficients for all SAI scales are presented in Table 28. These results are similar to previous studies of the SAI and demonstrate that the SAI is statistically reliable.

Table 28. Reliability of the SAI (2002, N = 202)		
SAI SCALES	**Coefficient Alphas**	**Significance Level**
Test-item Truthfulness Scale	.90	p<.001
Sex-item Truthfulness Scale	.88	p<.001
Sex Adjustment Scale	.90	p<.001
Child Molest Scale	.84	p<.001
Sexual Assault (Rape) Scale	.80	p<.001
Incest Scale	.84	p<.001
Exhibitionism Scale	.83	p<.001
Alcohol Scale	.92	p<.001
Drug Scale	.91	p<.001
Violence Scale	.83	p<.001
Antisocial Scale	.89	p<.001
Distress Scale	.87	p<.001
Judgment Scale	.85	p<.001

Validity of the SAI

Comparisons between offenders who had been in sex treatment (responses to SAI item #203) are compared to offenders who never had sex treatment. Offenders who have been in sex treatment are expected to score higher on SAI scales than offenders who have not been in treatment. There were 130 (24.2%) offenders who had been in sex treatment.

Table 29. T-test comparisons between offenders with no treatment and treatment. (2002, N = 202)				
SAI Scale	**No Treatment Mean Score**	**Treatment Mean Score**	**T-value**	**Level of significance**
Test-item Truthfulness	8.33	6.40	t = 2.15	p<.05
Sex-item Truthfulness	9.59	6.27	t = 4.17	p<.001
Sex Adjustment Scale	8.50	22.26	t = 9.85	p<.001
Child Molest Scale	5.39	8.58	t = 2.58	p<.01
Sexual Assault Scale	3.95	5.31	t = 1.96	p=.052
Incest Scale	0.65	1.33	t = 2.01	p<.05
Exhibitionism Scale	1.07	1.76	t = 1.42	n.s*.
Alcohol Scale	6.90	6.29	t = 0.40	n.s.*
Drugs Scale	3.69	5.73	t = 1.58	n.s.*
Antisocial Scale	1.78	2.82	t = 2.26	p<.05
Violence Scale	2.88	4.49	t = 2.10	p<.05
Distress Scale	6.71	8.45	t = 1.47	n.s.*
Judgment Scale	3.52	4.11	t = 1.05	n.s.*

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

Offenders who did not have sex treatment scored significantly higher than offenders who did have treatment on the Test-Item Truthfulness and Sex-Item Truthfulness Scales. Offenders who had treatment were less likely to minimize or deny their problems, or attempt to fake good. The treatment group scored significantly higher than the no treatment group on SAI sex-related scales except the Exhibitionist Scale, and they scored higher on the Antisocial and Violence Scales. Offenders who have sex-related problems (been in sex treatment) demonstrate significantly more problems (higher scale scores) than non-problem offenders on sex-related SAI scales and exhibit higher risk for antisocial and violence problems. These results demonstrate that sex offenders need more than sex counseling or treatment, they also need 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 100 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.

15. SAI Test Statistics: Annual Database Research

This study (2003) further examined the test statistics of the SAI. Data for this study was returned from SAI users in the year 2003. The reliability, validity and accuracy analyses presented in previous studies were replicated. The sample of the participants used in this study was similar to those reported in the previous studies. This study represents ongoing SAI database research.

Method and Results

The participants in this study (2003) were 319 sex offenders. There were 296 males (92.8%) and 23 females (7.2%). The demographic composition of this group is as follows: Age: Under 20 (7.1%); 20 through 29 (29.0%); 30 through 39 (30.6%); 40 through 49 (21.9%); 50 through 59 (6.5%); 60 and older (4.8%). Ethnicity: Caucasian (83.4%); Black (7.0%); Hispanic (6.1%); Asian (0.6%); Native American (2.2%); Other (0.6%). Education: 8th grade or less (20.2%); Some High School (30.9%); GED (7.1%); High School Graduate (22.7%); Some College (11.3%); Technical/Business School (0.7%); College Graduate (6.0%); Professional/Graduate Degree (1.1%). Marital Status: Single (37.0%); Married (36.0%); Divorced (17.9%); Separated (7.1%); Widowed (1.9%). Employment Status: Employed (58.7%); Unemployed (41.3%).

SAI Accuracy

SAI scale risk range accuracy is presented in Table 30. Risk range percentages are gotten from the cumulative distributions for each scale. Four cut-off points define the four risk range categories. The four categories are 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). Accuracy is determined by the differences between the percentages of offenders that are classified in each of the four risk ranges and the predicted percentages. These differences are shown in parentheses within the table and the predicted percentages are shown in the top row of the table. Small differences between obtained and predicted risk range percentages indicate that the scales are accurate.

Table 30. SAI Risk Range Accuracy (2003, N = 319)								
Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Test-Item Truthfulness	40.4	**(1.4)**	30.1	**(0.1)**	18.5	**(1.5)**	11.0	**(0.0)**
Sex-Item Truthfulness	38.5	**(0.5)**	30.7	**(0.7)**	20.2	**(0.2)**	10.6	**(0.4)**
Sex Adjustment Scale	39.9	**(0.9)**	29.4	**(0.6)**	19.9	**(0.1)**	10.8	**(0.2)**
Child Molest Scale	38.3	**(0.7)**	30.7	**(0.7)**	19.7	**(0.3)**	11.3	**(0.3)**
Sexual Assault Scale	39.3	**(0.3)**	30.1	**(0.1)**	19.6	**(0.4)**	11.0	**(0.0)**
Incest Scale	39.8	**(0.8)**	28.8	**(1.2)**	20.1	**(0.1)**	11.3	**(0.3)**
Exhibitionism Scale	38.2	**(0.8)**	32.6	**(2.6)**	18.2	**(1.8)**	11.0	**(0.0)**
Alcohol Scale	39.3	**(0.3)**	31.2	**(1.2)**	18.5	**(1.5)**	11.0	**(0.0)**
Drugs Scale	38.2	**(0.8)**	31.0	**(1.0)**	19.8	**(0.2)**	11.0	**(0.0)**
Violence Scale	38.7	**(0.3)**	30.0	**(0.0)**	20.6	**(0.6)**	10.7	**(0.3)**
Antisocial Scale	39.2	**(0.2)**	30.8	**(0.8)**	19.8	**(0.2)**	10.2	**(0.8)**
Distress Scale	38.1	**(0.9)**	30.6	**(0.6)**	20.8	**(0.8)**	10.5	**(0.5)**
Judgment Scale	40.9	**(1.9)**	29.0	**(1.0)**	19.6	**(0.4)**	10.5	**(0.5)**

All but one of the offender-obtained risk range percentages were within 1.9 percent of the predicted percentages. SAI scales are 98 percent accurate. Accuracy of the SAI is demonstrated by the small differences between obtained and predicted risk range percentages. This is accurate assessment.

Reliability of the SAI

Inter-item reliability coefficients for all SAI scales are presented in Table 31. All SAI have demonstrated statistical reliability.

Table 31. Reliability of the SAI (2003, N = 319)		
SAI SCALES	**Coefficient Alphas**	**Significance Level**
Test-item Truthfulness Scale	.90	p<.001
Sex-item Truthfulness Scale	.87	p<.001
Sex Adjustment Scale	.90	p<.001
Child Molest Scale	.84	p<.001
Sexual Assault (Rape) Scale	.80	p<.001
Incest Scale	.90	p<.001
Exhibitionism Scale	.88	p<.001
Alcohol Scale	.93	p<.001
Drug Scale	.92	p<.001
Violence Scale	.81	p<.001
Antisocial Scale	.87	p<.001
Distress Scale	.87	p<.001
Judgment Scale	.85	p<.001

Validity of the SAI

Comparisons between offenders who had been in sex treatment (responses to SAI item #203) are compared to offenders who never had sex treatment. Offenders who have been in sex treatment are expected to score higher on SAI scales than offenders who have not been in treatment. There were 130 (24.2%) offenders who had been in sex treatment.

Table 32. T-test comparisons between offenders with no treatment and treatment. (2003, N = 319)				
SAI Scale	**No Treatment Mean Score**	**Treatment Mean Score**	**T-value**	**Level of significance**
Test-item Truthfulness	8.18	6.41	t = 2.45	p<.05
Sex-item Truthfulness	9.22	6.65	t = 4.12	p<.001
Sex Adjustment Scale	8.16	21.63	t = 11.20	p<.001
Child Molest Scale	5.05	7.46	t = 2.54	p<.01
Sexual Assault Scale	3.63	4.95	t = 2.17	p<.05
Incest Scale	0.68	1.24	t = 2.14	p<.05
Exhibitionism Scale	1.02	1.84	t = 2.44	p<.05
Alcohol Scale	6.43	6.67	t = 0.18	n.s.*
Drugs Scale	4.07	4.96	t = 0.87	n.s.*
Antisocial Scale	1.67	2.37	t = 1.95	p<.05
Violence Scale	2.93	3.90	t = 1.45	n.s.*
Distress Scale	6.68	7.87	t = 1.16	n.s.*
Judgment Scale	3.23	3.62	t = 0.86	n.s.*

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

These results replicate the previous study. Offenders who did not have sex treatment scored significantly higher than offenders who did have treatment on the Test-Item Truthfulness and Sex-Item Truthfulness Scales. Offenders who had treatment minimized their problems or attempted to fake good less than offenders who did not have treatment. The treatment group scored significantly higher than the no treatment group on SAI sex-related scales, and they scored higher on the Antisocial Scale. Offenders who have sex-related problems (been in sex treatment) demonstrate significantly more problems (higher scale scores) than non-problem offenders on sex-related SAI scales. Problem offenders exhibited higher risk for antisocial problems than no treatment offenders. These results empirically demonstrate that SAI sex-related scales are valid. They measure sex offender risk for 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. Predictive validity of SAI scales is demonstrated by the correct identification of offenders with problems (sex-related and non-sex related problems). That is, a high percentage (over 90%) of offenders who have problems score in the problem risk range. For the Alcohol and Drugs Scales problem behavior means the offender had alcohol or drug treatment. For all other scales direct admission of problems served as criteria.

These predictive validity results demonstrated that all SAI sex-related scales correctly identified 100 percent of the offenders who admitted having sex-related problems. Furthermore, all SAI non-sex related scales correctly identified (100%) of the offenders who were in treatment or admitted having problems. These results support for the validity of the SAI.

The SAI is an accurate, reliable and valid screening test for sex offenders. SAI scales are appropriate for assessing sex-related as well as non sex-related problems.

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.

In summary, this document is a cumulative record of the evolution of the Sexual Adjustment Inventory (SAI). Studies are presented chronologically -- in the same sequence they were completed. Current studies are most representative of the Sexual Adjustment Inventory. Risk & Needs Assessment, Inc. is committed to ongoing research. Interested parties should contact Risk & Needs Assessment, Inc., P.O. Box 44828, Phoenix, Arizona 85064-4828.

Donald D. Davignon, Ph.D.
Senior Research Analyst

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