# Self-Assessment Index
# Normative Study

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## Abstract

The validity of the Self-Assessment Index (SAI) was investigated in a sample of 745 participants. The SAI has five scales for measuring risk of substance (alcohol and drugs) abuse, work problems and stress coping abilities. Reliability analyses showed that all five SAI scales had alpha reliability coefficients of between .87 and .91. The Alcohol and Drugs scales identified (92.9% and 100%) participants who had been treated for alcohol and drug problems, respectively. Clients who admitted having work attitude problems were identified by the Work Index Scale (91.5%). SAI classification of risk was shown to be within 1.9% of predicted risk range percentile scores for all SAI scales. The SAI is a very reliable, valid and accurate assessment instrument.

## Self-Assessment Index: Normative Study

Welfare-to-work centers evaluate clients and prepare them for work and independence from welfare. Assessment tests give counselors a working framework upon which to develop intervention or treatment plans based on client self-reported problems. It may be necessary to resolve client problems before proceeding with work training and other programs to help the individual become self-sufficient. The Self-Assessment Index (SAI) is a multidimensional test that was developed to meet the needs of welfare-to-work client screening and assessment. The SAI has five scales that measure work attitudes (Work Index Scale), stress coping (Stress Coping Abilities Scale), drinking problems (Alcohol Scale) and drug abuse severity (Drugs Scale). In addition, the Truthfulness Scale measures client truthfulness, denial and problem minimization while completing the SAI. Truthfulness Scale scores are used for truth-correcting other scale scores.

This study validates the SAI in a sample of clients who were evaluated by welfare-to-work service programs. The data for this study was obtained from the agencies that used the SAI in their assessment programs. The method for validating the SAI was to examine the accuracy at which the SAI identified clients who admitted having problems (predictive validity). The following areas were studied, substance abuse and work attitude problems. For the Work Index Scale clients' self-admissions of problems were derived from participants' responses to the following test item. "Two or more of the following are true: indifferent or unmotivated, unreliable or untrustworthy, careless or unthinking, impulsive or reckless, poor work or employment history."

For the Alcohol and Drugs Scales alcohol and drug treatment information was obtained from the following answer sheet items. "Number of alcohol treatment programs attended in the last 10 years." "Number of drug treatment programs attended in the last 10 years." Undoubtedly, there are some clients who have an alcohol or drug problem but have not been in treatment. Nevertheless, clients who have been in treatment would be expected to score in the corresponding scale's problem range.

For the predictive validity analyses, participants were separated into two groups, those who had treatment and/or admitted problems and those who did not have treatment or admit problems. Then, participant scores on the relevant SAI scales were compared. It was predicted that clients with treatment histories and admissions of problems (problem group) would score in the problem risk range ($70^{th}$ percentile and above) on the relevant SAI scales. Clients who did not have treatment or admit problems (non-problem group) would score the low risk range ($39^{th}$ percentile and below). Participants who had problems and also scored in the $70^{th}$ percentile range and above was considered a correct identification of problems. High percentages of participants with problems (treatment and/or admission of problems) and elevated problem risk scores would indicate the scales were valid. The other SAI scales were not included in this analysis because of a lack of suitable criterion test items within the SAI database.

## Method

### Subjects

There were 745 participants tested with the SAI. Data for this study was provided by professional community service agencies that used the SAI. There were 51 males (6.8%) and 694 females (93.2%). The ages of the participants were as follows: 19 & Under (9.1%); 20-29 (56.2%); 30-39 (26.7%); 40-49 (5.9%); 50 & Over (2.0%). The demographic composition of the participants was as follows. Race/Ethnicity: Caucasian (23.4%); Black (72.2%), Hispanic (3.0%), Native American (0.8%) and Other (0.6%). Education: Eighth grade or less (5.0%); Some high school (37.3%); High school graduate (39.3%); Some college (15.6%) and College graduate (2.8%). Marital Status: Single (70.2%); Married (10.1%); Divorced (7.8%); Separated (10.7%) and Widowed (0.3%).

### Procedure

Participants completed the SAI as part of their evaluation for welfare-to-work referral in community service programs. The SAI contains five measures or scales. These scales are briefly described as follows. The Truthfulness Scale measures respondent's truthfulness, denial and problem minimization while taking the SAI. The Work Index Scale measures attitude and motivational factors that influence the client's work-related attitudes and behavior. The Alcohol Scale measures severity of drinking problems. The Drugs Scale measures severity of drug use or abuse. The Stress Coping Abilities Scale measures how well the client handles stress. This is a non-introversive way of screening identifiable (diagnosable) emotional and mental health problems.

## Results and Discussion

The inter-item reliability (alpha) coefficients for the five SAI scales are presented in Table 1. All scales were highly reliable. All of the alpha reliability coefficients for all SAI scales were at or above 0.87. These results demonstrate that the SAI is a reliable test for welfare-to-work recipients.

**Table 1. Reliability of the SAI**

| SAI Scale | Alpha |
|---|---|
| Truthfulness Scale | .87 |
| Alcohol Scale | .91 |
| Drugs Scale | .89 |
| Work Index Scale | .88 |
| Stress Coping Abilities | .91 |

Predictive validity results for the correct identification of problems (poor work attitudes and substance abuse) is presented in Table 2. Table 2 shows the percentage of participants who

had problems and who scored in the problem risk range on the selected SAI scales in comparison to participants who scored in the low risk range. For the Work Index Scale, problem was defined by clients' responses to the criterion test item indicating work attitude problems. For the Alcohol and Drugs Scales problem behavior meant the participant had alcohol or drug treatment.

For the Work Index Scale comparison between problem risk and low risk clients, there were 71 participants who reported having work attitude problems. Of these 71 participants, 65 individuals, or 91.5 percent, had Work Index Scale scores at or above the 70th percentile. The Work Index Scale correctly identified nearly all of the participants who had work attitude problems. This result validates the SAI Work Index Scale.

There were 28 clients who had been in an alcohol treatment program, 26 individuals or 92.9% were identified by the Alcohol Scale. The Drugs Scale identified all 32 clients who had been in treatment for drug problems. These results validate the SAI Work Index, Alcohol and Drugs Scales.

**Table 2. Predictive Validity of the SAI**

| SAI Scale | Correct Identification of Problem Behavior |
|---|---|
| Alcohol | 92.9% |
| Drugs | 100% |
| Work Index | 91.5% |

Correlation coefficients between clients' SAI Alcohol and Drugs Scales scores and alcohol and drug arrests and treatment records are presented in Table 3. Statistically significant correlation coefficients between arrest records and scale score also validates these scales.

**Table 3. Correlations between Arrest and Treatment Records and SAI Scales**

| Record | Alcohol Scale | Drugs Scale |
|---|---|---|
| Alcohol arrests | .56 | .20 |
| Alcohol treatment | .44 | .24 |
| Drug arrests | .33 | .44 |
| Drug treatment | .26 | .51 |

All correlation coefficients are significant at $p<.001$.

The Alcohol Scale was significantly correlated with alcohol arrests and alcohol treatment. Similar correlation results were found between drug arrests, drug treatment and the Drugs Scale. Although it would be expected that clients may have been unwilling to admit to having alcohol and drug problems, the correlations are nonetheless statistically significant. These results support the validity of the Alcohol and Drugs Scales.

For ease in interpreting participant risk, SAI scale scores were divided into four risk ranges: low risk (zero to 39th percentile), medium risk (40 to 69th percentile), problem risk (70 to 89th percentile), and severe problem risk (90 to 100th percentile). By definition the expected percentages of participants scoring in each risk range (for each scale) is: low risk (39%), medium risk (30%), problem risk (20%), and severe problem risk (11%). Scores at or above the 70th percentile would identify participants as having problems.

The above predictive validity results lend support for using these particular percentages. The 70th percentile cut off for problem identification correctly classified nearly 100 percent of problem participants. The low risk level of 39 percent avoids putting a large percentage of participants into a "moderate" range. Putting low risk clients into intervention programs aimed at higher risk clients would over-burden counseling programs and may be counter-productive, unnecessarily alarm clients and result in clients exhibiting more problems than they originally had. This undesirable outcome of inappropriate level of intervention selection has been found in the corrections area (Andrews, D., Bonta, J.& Hoge, R. Classification for effective rehabilitation: Rediscovering Psychology. Criminal Justice and Behavior, 1990, 17, 19-52.).

Risk range percentile scores were derived by adding points for test items and truth-correction points, if applicable. These raw scores are converted to percentile scores by using cumulative percentage distributions. These results are presented in Table 4. Risk range percentile scores represent degree of severity. Analysis of the SAI risk range percentile scores involved comparing the participant's obtained risk range percentile scores to predicted risk range percentages as defined above. These percentages are shown in parentheses in the top row of Table 4. The actual percentage of participants falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages. The differences between predicted and obtained are shown in parentheses.

As shown in Table 4, the objectively obtained percentages of participants falling in each risk range were very close to the expected percentages for each risk category. All of the obtained risk range percentages were within 1.9 percentage points of the expected percentages and many (12 of 20 possible) were within one percentage point. These results demonstrate that risk range percentile scores are accurate.

**Table 4. Accuracy of SAI Risk Range Percentile Scores**

| Scale | Low Risk (39%) | | Medium Risk (30%) | | Problem Risk (20%) | | Severe Problem (11%) | |
|---|---|---|---|---|---|---|---|---|
| Truthfulness Scale | 40.3 | (1.3) | 29.5 | (0.5) | 20.3 | (0.3) | 9.9 | (1.1) |
| Alcohol Scale | 40.1 | (1.1) | 31.1 | (1.1) | 18.1 | (1.9) | 10.7 | (0.3) |
| Drugs Scale | 38.5 | (0.5) | 30.9 | (0.9) | 19.5 | (0.5) | 11.1 | (0.1) |
| Work Index Scale | 38.4 | (0.6) | 31.5 | (1.5) | 18.4 | (1.6) | 11.7 | (0.7) |
| Stress Coping Abilities | 38.9 | (0.1) | 29.3 | (0.7) | 21.2 | (1.2) | 10.6 | (0.4) |

Obtained percentages set risk range cut-off scores. Scores associated with the 39th, 69th and 89th cumulative percentile separate clients into the four risk ranges. This method

standardizes scoring procedures in the SAI. These results show that SAI risk range percentile scores accurately classify welfare recipient risk.

## Conclusion

This study demonstrated that the SAI is a reliable and valid assessment test for adult welfare-to-work clients. Reliability results showed that all five SAI scales were highly reliable. Reliability is necessary in screening tests for accurate measurement of client risk and needs.

Predictive validity analyses demonstrated that the SAI identified participants who had work attitude, alcohol and drug problems. The Work Index Scale was accurate in identifying work attitude problems. Work attitude often is a barrier to gainful employment. The Alcohol and Drugs Scale correctly identified participants who had been in treatment for alcohol and drugs. Furthermore, obtained risk range percentages on all SAI scales very closely approximated predicted percentages. These results support the validity of the SAI.

Self-Assessment Index results provide important risk and needs assessment for this specialized client population, i.e., welfare-to-work clients. Problem-prone individuals exhibit many characteristics that are identified with the SAI. Identification of these problems and prompt intervention can aid development of self-reliance and lead to gainful employment. The SAI facilitates understanding of welfare recipients' emotional and mental health problems and provides an empirical basis for recommending appropriate intervention and treatment programs.

One of the most important decisions regarding a welfare-to-work client is what intervention program is appropriate for the client. The SAI can be used to tailor intervention (treatment) to each client, based upon his or her assessment results. Low scale scores are associated with low levels of intervention and treatment, whereas high scale scores relate to more intense intervention/treatment recommendations. Placing clients in appropriate treatment can enhance the likelihood that a client will complete treatment, benefit from program participation and change their behavior. Resolving client problems is the first step in helping clients become self-sufficient and gainfully employed with high probability of remaining off welfare.