Substance Abuse Questionnaire (SAQ)

Maricopa County
Adult Probation Department

Four-Month Pilot Program

This report summarizes SAQ test data for **100** low-risk probationers that was gathered for a four-month pilot program from June 2, 2008 to September 29, 2008. The SAQ is described on the Risk & Needs Assessment, Inc. website at www.riskandneeds.com. This report is provided by Risk & Needs Assessment, Inc., P.O. Box 44828, Phoenix, AZ 85064-4828.
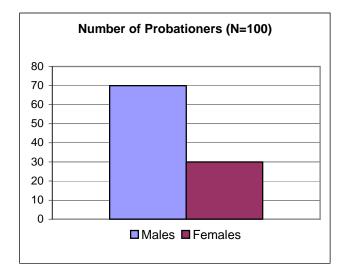
Introduction_____

This report summarizes Substance Abuse Questionnaire (SAQ) test data for 100 low-risk probationers. These probationers were tested by the Maricopa County Adult Probation Department between June 2, 2008 and September 29, 2008. Offender demographics and information regarding the accuracy, reliability, and validity of the SAQ are presented in the pages that follow.

Demographic Information _____

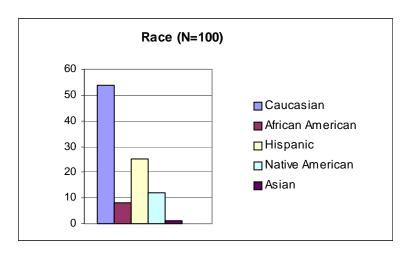The following data represents probationers' self-report answers.

Number of Probationers Tested _____

Number of Probationers (N=100)

The following information was collected as part of a four-month pilot program.

- **100 probationers** were tested

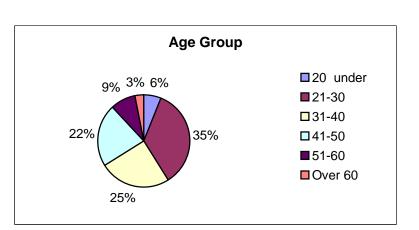- 70 (70%) probationers were male

- 30 (30%) probationers were female

Race/Ethnicity_____

Race (N=100)

The racial compostion of this sample was as follows:

- 54% Caucasian

- 8% African American

- 12% Native American

- 25% Hispanic

- 1% Asian

Age

Age Group

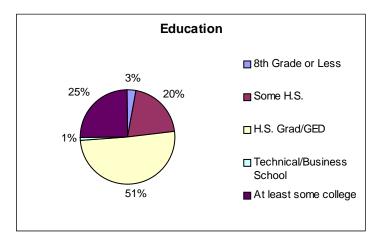|	
■	20 under
■	21-30
□	31-40
□	41-50
■	51-60
■	Over 60

3% 6%
9%
35%
22%
25%

This section summarizes the age composition of probationers:

- Average age was 35.0 years.

- Probationers' ages ranged from 18 to 63.

- There were no significant differences in age by gender or ethnicity.

Education

Education

■	8th Grade or Less
■	Some H.S.
□	H.S. Grad/GED
□	Technical/Business School
■	At least some college

3%
25%
20%
1%
51%

This group's (N=100) education is summarized as follows:

- 36.0% were High School graduates

- 14% had obtained their GEDs

- 20% had completed some High School

- 25% had completed at least some college.

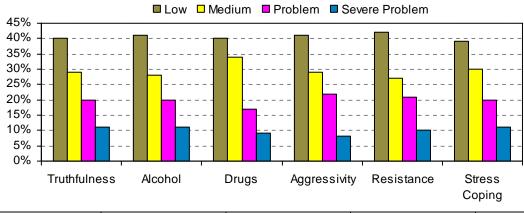There were no significant differences in educational attainment in terms of gender or race.

Substance Abuse Questionnaire (SAQ)

The following section reports data from the present Substance Abuse Questionnaire (SAQ) analysis (N=100, 2008).

SAQ Accuracy

Test accuracy is demonstrated by how close attained scale scores are to predicted scores. Four categories of risk are assigned: Low Risk (zero to 39th percentile), Medium Risk (40 to 69th percentile), Problem Risk (70 to 89th percentile), and Severe Problem Risk (90 to 100th percentile). The top row of Table 1 shows the percentages of probationers that were predicted to score within each risk range. (These predicted percentages for each SAQ scale risk category were obtained from SAQ standardization data.) The body of Table 1 presents actual attained risk category percentages. Differences between attained and predicted percentages are shown in bold in parentheses. For example, in terms of the Low Risk range

for the Truthfulness Scale: 39% of offenders were predicted to score within this range; the attained percentage of offenders who scored in this range was 40%, which is a difference of one percentage point from what was predicted.

Figure/Table 1. SAQ Accuracy (153 Items, N=100)

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	40.0	**(1.0)**	29.0	**(1.0)**	20.0	**(0.0)**	11.0	**(0.0)**
Alcohol	41.0	**(2.0)**	28.0	**(2.0)**	20.0	**(0.0)**	11.0	**(0.0)**
Drugs	40.0	**(1.0)**	34.0	**(4.0)**	17.0	**(3.0)**	9.0	**(2.0)**
Aggressivity	41.0	**(2.0)**	29.0	**(1.0)**	22.0	**(2.0)**	8.0	**(3.0)**
Resistance	42.0	**(3.0)**	27.0	**(3.0)**	21.0	**(1.0)**	10.0	**(1.0)**
Stress Coping Abilities	39.0	**(0.0)**	30.0	**(0.0)**	20.0	**(0.0)**	11.0	**(0.0)**

Twenty-four out of 25 attained risk range percentiles were within **3.0** points of the predicted percentages**.** (The one exception, the Drugs Scale- Medium Risk percentile, was within just 4.0 points of the predicted percentage.) The average difference between attained percentages and predicted percentages was only **1.3** points. These results strongly support the accuracy of the SAQ as a probationer-assessment instrument.

Reliability_____

Test reliability refers to a scale's consistency of measurement. A scale is reliable if a person gets the same score when re-tested as he/she did when originally tested. Table 2 shows the reliability scores for each SAQ scale. Perfect reliability is 1.00.

Table 2. SAQ Relability (N=100, 2008)

<u>Scale</u>	<u>Alpha</u>
Truthfulness Scale	**.88**
Alcohol Scale	**.94**
Drugs Scale	**.93**
Aggressivity Scale	**.89**
Resistance Scale	**.92**
Stress Coping Abilities Scale	**.96**

As Table 2 illustrates, all SAQ scales have a reliability of .88 or higher. The professionally accepted reliability standard is .75. All SAQ scales exceed this standard and demonstrate very impressive reliability.

Validity

Validity refers to a test's ability to measure what it is purported to measure. The quality of a test is largely determined by its validity. Concurrent validity correlates the independent scales of the test being validated with corresponding measures from another established test. Previous SAQ research has demonstrated concurrent validity with numerous other tests (e.g. the Driver Risk Inventory (DRI), the Minnesota Multiphasic Personality Inventory (MMPI), etc.) and with polygraph examinations. Much of the SAQ research is presented in the document titled "SAQ: An Inventory of Scientific Findings," which can be accessed on our website www.bdsltd.com.

Predictive validity refers to a test's ability to predict observable "criterion" behaviors. In this analysis, our prediction criterion was whether or not probationers had been treated for alcohol and/or drug problems. It was expected that "treated" probationers would be identified by higher (70th percentile and above) scores on the Alcohol and/or Drugs scales. This analysis involved comparing scale scores of the treatment group with scale scores of the non-treatment group for each scale. It was predicted that the treatment group's scores would be significantly higher than the non-treatment group's scores. For the Alcohol Scale, scores for probationers that had been treated for alcohol problems were compared with scores for probationers who had not been treated for alcohol problems (average scores: 94.5 and 63.5, respectively). T-test results indicated that the difference in scores was statistically significant ($t(98) = 8.13$, p<.001, $d = 1.24$). For the Drugs Scale, a second analysis compared scores of probationers who had been treated for drug problems with probationers who had not been treated for dug problems (average scores: 66.3 and 45.1, respectively). Again, a t-test detected a statistically significant difference in scores ($t(98) = 4.23$, p = .004, $d = 0.87$) between the "treatment" and "non-treatment" group.

The highly significant scale score differences indicate that Alcohol and Drugs Scale scores differentiate between probationers that have been treated for alcohol and/or drugs problems and probationers that have not been treated. Scale scores effectively predict the criterion behavior "treatment". A reasonable inference is that the SAQ Alcohol and Drugs Scales accurately differentiate between probationers with substance abuse problems and those without substance abuse problems. These results support the predictive validity of the SAQ.

Another analysis was performed for the Aggressivity Scale. Two comparative groups- "aggressive" and "non-aggressive"- were established using "direct admissions". The aggressive group made the self-admission that "they were very aggressive", whereas the non-aggressive group did not. It was predicted that aggressive probationers would be identified by their notably high scores on the Aggressivity Scale. Scale scores for the aggressive and non-aggressive groups were compared (average scores: 94.8 and 74.2, respectively). T-test results revealed that score differences were statistically significant ($t(98) = 6.36$, p<.001, $d = 1.03$).

These results indicate that Agressivity Scale scores differentiate between probationers that admit to aggressiveness and those that do not. Scale scores effectively predict "aggressiveness". This finding provides further support for the validity of the SAQ.

Summary _____

This report summarizes information for low-risk probationers at the Maricopa County Adult Probation Department. A four-month pilot program was conducted from June 2, 2008 through September 29, 2008. The Substance Abuse Questionnaire (SAQ) was administered to **100 low-risk probationers**. There were 70 males (70.0%) and 30 females (30.0%). The probationer population is broadly defined as either Caucasian (54.0%) or Hispanic (25.0%) and 21 through 50 years of age (82.0%). The average age of probationers was 35 years; ages ranged from 18 to 63 years. Most probationers had completed some High School (20.0%), earned their High School diplomas (36.0%) or GEDs (14.0%), or completed some college (19.0%).

The relatively small sample (N=100) of probationers should give even more support to the Substance Abuse Questionnaire (SAQ) findings. Even more impressive statistics are to be expected with a larger sample of probationers.

SAQ Accuracy, Reliability and Validity

- 24 out of 25 attained risk range percentiles were within **3.0** points of the predicted percentages**.** This finding strongly supports the accuracy of the SAQ.

- **All SAQ scale reliability coefficients were .88 or higher.** The professionally accepted reliability standard is .75 or better. All SAQ scales exceed this standard and are reliable.

- The SAQ distinguished between treatment and non-treatment groups in terms of significant differences in their Alcohol and Drugs scale scores. These results support the validity of the SAQ

- The SAQ also distinguished between aggressive and non-aggressive probationers in terms of significant differences in Aggressivity Scale scores.

This study supports the reliability, validity, and accuracy of the Substance Abuse Questionnaire (SAQ). Empirically-based scales are both objective and accurate. The SAQ provides a sound empirical foundation for responsible decision-making.

At one sitting of approximately 30 minutes duration, staff acquires a vast amount of helpful probationer information. SAQ scales identify the **severity** of identified problems, which is a necessary prerequisite for matching problem **severity** with treatment **intensity**. Such matching (problem severity and treatment intensity) facilitates more effective treatment outcomes.

Early problem identification and accurate measurement of problem severity are necessary prerequisites for treatment effectiveness.

Appendix _____

Demographic data contained on 100 SAQ diskettes returned to Behavior Data Systems are summarized.

Probationer Demographic Information

Population				
Males		Females		Total
N	%	N	%	N
70	70.0	30	30.0	100

Age Group				
Age	Males	Females	Total	
	N	N	N	%
20 & under	5	1	6	6.0
21-30	22	13	35	35.0
31-40	18	7	25	25.0
41-50	16	6	22	22.0
51-60	8	1	9	9.0
Over 60	1	2	3	3.0

Race/Ethnicity				
Race	Males	Females	Total	
	N	N	N	%
Caucasian	36	18	54	54.0
African American	8	0	8	8.0
Hispanic	19	6	25	25.0
Native American	7	5	12	12.0
Asian	0	1	1	1.0
Other	0	0	0	0.0

Education				
	Males	Females	Total	
Grade	N	N	N	%
8th Grade or less	2	1	3	3.0
Some High School	14	6	20	20.0
GED	11	3	14	14.0
High School Graduate	27	9	36	36.0
Some College	11	8	19	19.0
Technical/Business School	0	1	1	1.0
College Graduate	4	1	5	5.0
Professional/Graduate School	0	1	1	1.0

Note: 1 case had missing education information.