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Title: Study of SASSI-2 Scores of DUI Offenders Undergoing Court-Ordered Evaluation

Abstract approved: Cooper B. Holmes

This study examined the Substance Abuse Subtle Screening Inventory-2 (SASSI-2; Miller, 1994) scale elevations of 100 court-ordered-for-evaluation, driving-under-the-influence (DUI) offenders. Data from this sample were compared with data for a probation sample reported in the SASSI manual. In addition, this study examined gender differences on the nine SASSI-2 scales for the entire study sample; it also examined differences on the SASSI-2 scales for men and women classified by the SASSI-2 as non-chemically dependent and men and women classified as chemically dependent. Reliability coefficients are reported for each of the SASSI-2 scales. The criterion-related validity of the SASSI-2 classifications (non-chemically dependent or chemically dependent) was examined when compared with the DSM-IV (American Psychiatric Association, 1994) diagnosis (alcohol dependent or alcohol abuse) given each participant. This analysis was also performed for each gender. Statistically significant differences were found between the SASSI-2 scale scores of the men and women. The reliability and validity rates found for this sample

were lower than those previously reported for the SASSI-2.

STUDY OF SASSI-2 SCORES OF DUI OFFENDERS UNDERGOING COURT-ORDERED EVALUATION

A Thesis

Presented to

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by

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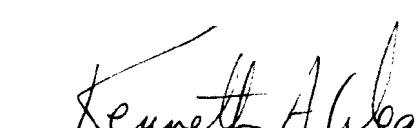

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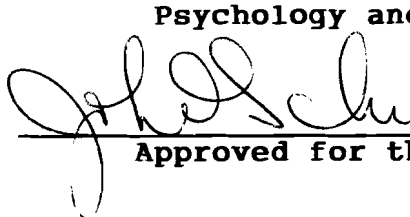

Approved for the Graduate Council

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CHAPTER 1

INTRODUCTION

The abuse of alcohol and other drugs is a widespread problem in our society today. It is estimated that 20 million individuals between the ages of 12 and 54 have a substance use disorder that could be classified as either abuse or dependence (Rouse, 1995). In 1990, the nation spent over 6 billion dollars in federal, state, and local funds treating individuals with substance use disorders. Aside from the number of tax dollars that are used to treat these individuals are the costs to society in terms of loss of life, injuries, and damage to property caused by individuals who drive under the influence of alcohol and other drugs. It was estimated that in 1994 alone, over 1.3 million individuals were arrested for driving under the influence (DUI) (U.S. Department of Justice, 1995). In 1993 over 17,000 persons were killed in alcohol related accidents (Maguire & Pastore, 1995). In addition, in 1990, over 1.9 million people were injured in alcohol related accidents, with over 4,100 individuals being permanently, totally disabled and over 43,000 receiving injuries that left them permanently, partially disabled. Damage to property included approximately 4.6 million vehicles involved in substance related accidents (Rouse, 1995).

The cost to society in terms of loss of life, disabling injuries, and property damage, caused by

individuals DUI, led to a public outcry in the late 1970s and early 1980s, demanding that legislative initiatives be put in place to decrease the incidence of this offense (Jacobs, 1989). Many legal jurisdictions now require that persons convicted of drug related crimes be evaluated for, and if necessary, receive treatment for their substance use disorders.

Properly assessing and matching court ordered individuals to appropriate treatment modalities poses many problems. Efforts to date in identifying and treating DUI offenders with substance use disorders have shown little success. A recent meta-analysis of remedial interventions used with DUI offenders revealed that the average effect of these interventions has only led to a decrease of 8 to 9% in the recidivism rate of those treated, when compared with those receiving no remediation (Wells-Parker, Bangert-Drowns, McMillen, & Williams, 1995).

One major problem when treating and assessing individuals with substance use disorders is breaking through the denial and deliberate concealment that are prominent symptoms in these disorders (Miller, 1990). Because individuals who are court ordered for evaluation are not actively seeking treatment, they tend to be less likely to have come to terms with the fact that they may have a substance use problem. Because of this denial, they tend to minimize the extent of their drug use. Another

problem facing those who assess persons court ordered for evaluation is that many of these individuals attempt to represent themselves in a favorable light so as to avoid the cost and time required of them if they are found to have a substance use disorder and treatment is deemed appropriate.

Currently, many instruments have been developed to address needs of clinicians to diagnose and recommend treatment modalities for individuals with substance problems. Among the most widely used of these instruments is the Substance Abuse Subtle Screening Inventory-2 (SASSI-2; Miller, 1994).

Review of the Literature

Most substance abuse screening instruments are constructed of items that attempt to directly identify the extent of an individual's substance use. Substance abusers who deny their substance use problem, or for any number of reasons, wish to hide their substance use, will usually attempt to present themselves in a favorable light on these instruments (Kerr, 1995). The Substance Abuse Subtle Screening Inventory (SASSI), revised as the SASSI-2, was developed by Miller (1994) to enable those assessing substance abusers to identify individuals with substance use disorders even when these individuals are unable or unwilling to acknowledge symptoms of these disorders (The SASSI Institute, 1996a). Through a series of decision

rules, this instrument classifies individuals as either chemically dependent or non-chemically dependent.

The SASSI-2 is constructed of 62, subtle, true/false items, that relate to a wide variety of behaviors including, health, social interaction, emotional states, preferences, needs, interests, and values (Kerr, 1995). To the person being administered this test, these items appear to be unrelated to substance use. Also included on this instrument are 26 items that directly address substance abuse. These face valid items reflect the client's willingness and ability to acknowledge problematic substance use (The SASSI Institute, 1996a). Unlike most other instruments that assess substance abuse, the 62 subtle items on the SASSI-2 were empirically derived from approximately 1,000 items administered to close to 300 individuals in the course of the validation studies (Kerr, 1995). The 62 subtle items are used to score the following six scales: Obvious Attributes (OAT), Subtle Attributes (SAT), Defensivness (DEF), Supplemental Addiction Measure (SAM), Family vs. Controls (FAM) and Correctional (COR). Six of the subtle items are also used as a validity scale. This scale, called the Random Answering Scale (RAP), is used to detect individuals who respond to the test items in a random fashion. The 26 face valid items, 12 relating to alcohol use and 14 relating to other drug use, are used to score the Face Valid Alcohol (FVA) and Face Valid Other

Drug (FVOD) scales.

Because the 62 items that make up the subtle scales are unrelated to substance abuse, "faking good" on this portion of the SASSI-2 is difficult (Fisher & Harrison, 1992). Unlike other substance abuse screening tests that use face valid items, these scales can provide the clinician with a subtle measure of chemical dependency (Karacostas & Fisher, 1993).

Scores on the OAT scale range from 0 to 17. Elevated scores on this scale are indicative of individuals who are capable of acknowledging that their behaviors and personality features are similar to those of other substance abusers. These individuals tend to be able to relate to and identify with other substance abusers, including those in treatment, and also tend to be open to feedback regarding their substance use (The SASSI Institute, 1996a).

Scores on the SAT scale range from 0 to 11. Because of its resistance to faking, the SAT scale is perhaps the most important scale on this instrument (Kerr, 1995). This scale measures an individual's personal predisposition to develop a dependency on alcohol or other drugs with high scores indicating that a client is similar biologically or in personal style to other chemically dependent people (Kerr, 1995).

Scores on the DEF scale range from 0 to 14. This scale

measures an individual's ability to acknowledge personal limitations or faults. High scores on this scale tend to be indicative of individuals who may focus on blaming external events for their problems and often have difficulty becoming invested in the therapy process (The SASSI Institute, 1996a). Low scores on this scale, while at times indicating low defensiveness, can also be indicative of an individual who tends to be overly self-critical.

Scores on the SAM scale range from 0 to 15. The SAM subscale, while used extensively in the decision rules when classifying test takers, is a relatively new scale, and has not yet been found to have any clinical significance outside of its role in the decision process.

Scores on the FAM scale range from 0 to 14. This scale, while not used in the decision rules, can provide clinicians with a preliminary measure of codependency. Individuals with elevated scores on this scale tend to have difficulty setting boundaries with others and tend to focus on the needs of others.

Scores on the COR scale range from 0 to 16. Like the FAM scale, this scale is not used in the decision process when classifying test takers. Elevated scores on this scale are indicative of individuals who tend to have a high risk of experiencing legal difficulties. Data suggest that individuals scoring above the cutoff of 11 are more than twice as likely to experience a broad range of legal

difficulties compared with those who score below this cutoff (The SASSI Institute, 1996a).

Scoring the SASSI-2 involves adding up the scores for each of the nine scales and placing a numerical value to each. These scores are then plotted on the SASSI-2 profile sheet for each of the subscales. Because of differences found in male and female subscale elevations during validation studies, scores for each gender are plotted on different profiles. In the validation studies, women tended to be less defensive in their responses to the items on the SASSI and therefore need higher scores on the DEF scale than men to be classified as chemically dependent. The plotted numerical values can then be examined with their corresponding standard T scores and percentiles and the decision rules can be applied to classify the individual. The standard T score values of six scales (FVA, FVOD, OAT, SAT, DEF, and SAM) are then examined, and, based on a set of decision rules, the individual is classified as either chemically dependent or non-chemically dependent. When scores on the RAP scale are two or higher, clinicians are told to interpret the profile cautiously as the possibility exists that the test taker may have responded randomly to the test items.

The validity of this instrument appears to be adequate. The author of the SASSI-2 reports that it is accurate approximately 88% of the time when identifying

individuals with substance dependence and approximately 88% accurate when identifying individuals who are not substance dependent (The SASSI Institute, 1996a). The following studies appear to support the validity levels reported by the author.

A study by DiNitto and Schwab (1993) found the SASSI to be a valuable tool in indentifying vocational rehabilitation clients with chemical abuse or dependence diagnoses. In addition to identifying 87% of those already diagnosed with a substance use disorder by the rehabilitation agency, the SASSI was also able to identify an additional 32.7% of clients who were not previously identified as having a substance use disorder. Nine of the individuals who were not previously identified were detected as a result of their responses to the face valid scales and four were identified as a result of their scores on the subtle scales. Another study by Kilkunas (1988, as cited in Creager, 1989) found the SASSI to have good predictive validity even when used without the face valid scales. This study found the SASSI to be, overall, a more valid assessment device than the Michigan Alcohol Screening Test (MAST; Selzer, 1971) and the MacAndrew Alcoholism Scale (MAC; MacAndrew, 1965), when screening individuals with substance use disorders, controls, codependents, and psychiatric outpatients. Results from this study show that the SASSI's strength lies in its ability to screen out

nonabusing individuals. The SASSI was accurate 94% of the time when assessing codependents, and 92% of the time when assessing psychiatric outpatients. While its accuracy rate when assessing alcoholics and drug addicts was found to be only 78% and 71% respectively, its overall accuracy when assessing all five of these groups was 87%, compared with 73% for the MAST and 76% for the MAC.

Svanum and McGrew (1995) assessed the ability of the SASSI and several face valid screening measures to discriminate between university students diagnosed with substance dependence and controls. While they found that the SASSI demonstrated a reliable degree of discrimination when classifying substance dependent and nondependent university students, it has less validity than a set of five face valid questions (e.g., Sometimes I cannot remember things that happen when I drink). The SASSI correctly identified only 33% of the students who were substance dependent and produced a large number of false positives. The MAST, a more direct method of screening for substance use disorders, was also found to be a more valid assessment device than the SASSI when used with this population. While the SASSI-2 contains several face valid subscales, the ability of the MAST and the set of five direct questions to outperform the SASSI raises concerns regarding its utility with this population. Overall, this and other studies (e.g., Savnum & Erhmann, 1993; Savnum,

McGrew, & Erhmann, 1994), appear to indicate that screening instruments using direct, rather than subtle measures, are best used when assessing university students.

While few studies have directly addressed the reliability of the SASSI-2, all of the studies performed thus far appear to indicate that this instrument is a reliable means of detecting individuals with substance use disorders. The test author reports that the SASSI reliably detects substance abusers independent of their age, gender, or socioeconomic status (Miller, 1985).

Because the majority of the scales are constructed of heterogeneous items, the internal consistency of most of the SASSI subscales is quite low (Kerr, 1995). A recent analysis of the internal consistency of the SASSI-2 scales was completed using a sample of 2,954 participants (66% male), 90% of whom were clients in a variety of treatment settings, the other 10% consisted of college students and individuals solicited from newspaper advertisements seeking individuals with a family history of alcohol use. The following alpha coefficients were reported: FVA, .94; FVOD, .96; OAT, .73; SAT, .48; DEF, .62; SAM, .50; FAM, .32; and COR, .72 (The SASSI Institute, 1996b).

An analysis of the reliability of the SASSI-2 over time found the following test-retest reliability coefficients with a sample of 40 participants: FVA, .99; FVOD, .99; OAT, .97; SAT, .96; DEF, .97; and SAM, .97,

indicating that this form has exceptional test-retest reliability. In addition, 91% of these participants received the same classification on both administrations of this instrument (The SASSI Institute, 1996b).

Only one independent study has examined the test-retest reliability of the SASSI. Kilkunas (as cited in Kerr, 1995) examined the reliability of this test over a 4 to 6 week interval and found the following reliability coefficients: OAT, .87; SAT, .91; DEF, .86; and FAM, .76, indicating moderate to high reliability for these scales.

The only data focusing on gender differences within a similar population is found in the SASSI manual. Mean scale elevations from a midwest probation sample are reported for both men and women. Women scored slightly higher than the men on the OAT ($\underline{M}$ = 6.0 and 5.9, respectively), SAT ($\underline{M}$ = 4.7 and 4.3, respectively), and FAM ($\underline{M}$ = 8.6 and 8.1, respectively) subscales and lower on the DEF ($\underline{M}$ = 7.6 and 7.8, respectively) scale (Miller, 1985). While the majority of the participants contained in the probation sample were DUI offenders, other types of offenders were also included. Also, the two face valid scales (FVA and FVOD) were not employed when the SASSI was administered to these individuals, thus leaving the normative profile elevations for court-ordered-for-evaluation, DUI offenders poorly defined.

Kerr (1995) noted the author of this instrument has

given little attention to studying and reporting the reliability coefficients for the SASSI, and, because of the importance of the decisions made based on its results, recommends more emphasis be given to examining the reliability of this instrument in future studies. Cooper and Robinson (1987) expressed the need for more research focusing on the extension of this instrument to other populations, including court referrals.

Overall, there is a paucity of data in the literature concerning the reliability and validity of the SASSI-2. This author knows of no studies that have focused on the use of the SASSI-2 exclusively with the court ordered evaluation of DUI offenders. Data exploring possible gender differences for this population are also unavailable.

Several widely used substance abuse screening instruments have been found to be affected by the different way men and women appear to respond to them. Blankfield and Maritz (1990) found that overall, men diagnosed with alcohol dependence tended to score higher on the Michigan Alcoholism Screening Test than did women diagnosed with alcohol dependence. Allen, Faden, Rawlings, and Miller (1991) found the MacAndrew Alcoholism Scale was less effective in identifying women with substance use disorders than it was for the men and recommended that a new cutoff be established when the instrument is used with women.

While the gender differences found in the validation

study for the SASSI-2 were adjusted in the separate profile sheets for each gender, there have been no studies that have attempted to clearly define the scale elevations of DUI offenders or the possible gender differences that may exist for this group. Since proper assessment is the first step in providing individuals with the correct modality of treatment, being able to properly utilize assessment devices is essential. While the SASSI-2 is an extensively used assessment instrument, it has not been widely reported on in the literature. Because the decisions made based on its use can greatly impact the lives of those who are assessed with it, it is in clinicians' best interest and the best interest of clients to be aware of the different scale configurations special populations may exhibit. By doing so, mental health providers are providing clients with the most appropriate interventions.

This study reports the SASSI-2 scale elevations of DUI offenders and examines them alongside the normative data available for this instrument. In addition, it studied gender differences for this sample and reported the inter-item reliability and criterion-related validity of the SASSI-2 with this sample.

Hypotheses

Hypothesis 1. This hypothesis proposes that no significant differences will exist between the nine SASSI-2 mean scale scores of the men and women in this sample.

Hypothesis 2. This hypothesis proposes that no significant differences will exist between the nine SASSI-2 scale scores of the men and women classified by this instrument as non-chemically dependent.

Hypothesis 3. This hypothesis proposes that no significant differences will exist between the mean scale scores of the men and women classified as chemically dependent.

Hypothesis 4. This hypothesis proposes that no significant differences will exist between the SASSI-2 classification and the clinical diagnosis of all participants.

Hypothesis 5. This hypothesis proposes that no significant differences will exist between the SASSI-2 classification and clinical diagnosis of male participants.

Hypothesis 6. This hypothesis proposes that no significant differences will exist between the SASSI-2 classification and the clinical diagnosis of the female participants.

CHAPTER 2

METHOD

Participants

The participants in this study consisted of 100 driving under the influence (DUI) offenders who were court ordered for evaluation at a mental health center located in the midwest. Of these 100 participants, 47 were women (*M* age = 28.14, range = 18 to 46) and 53 were men (*M* age = 30.50, range = 18 to 54). The female sample consisted of all of the women who were referred to this agency during the previous 18 month period. Because time constraints made collecting and analyzing the data from the 200 plus men who were referred during this time span impractical, 53 men were randomly selected from this population to meet this study's goal of obtaining data from 100 participants. Random selection was accomplished by assigning a number to each of the male offenders referred during this time period. These numbers were then written on separate sheets of paper and placed into a box. Numbers were randomly drawn until the 53 participants needed for this study were identified.

Instrumentation

The Substance Abuse Subtle Screening Inventory-2 (SASSI-2; Miller, 1994), an 88-item alcohol and drug screening inventory, was administered to all participants following their arrest for DUI and their subsequently being

ordered by the courts to receive an alcohol and drug assessment. This instrument was developed to enable those assessing substance abusers to identify individuals with substance use disorders regardless of their ability to acknowledge symptoms of these disorders (The SASSI Institute, 1996). The SASSI-2 classifies individuals as either chemically dependent or non-chemically dependent.

Procedure

A research proposal was submitted for approval to the mental health center research committee. Upon being granted approval to conduct this study, the name and chart number of every individual who was a court referred DUI offender during the past 18 months was obtained through agency records. All individuals referred to this agency are required to participate in a group testing session during which the SASSI-2 and other tests are administered. Female participants included all of the women referred during the 18 month period. Male participants were randomly selected from over 200 individuals who were court referred during this time span. Data collected included the SASSI-2 scale scores and overall classification of either non-chemically dependent or chemically dependent, each participant's response to each of the 88 SASSI-2 items, gender, the DSM-IV substance use diagnosis that was given each participant, and the name of the therapist who conducted each assessment. All information was recorded on data sheets

utilizing only identification numbers so that the confidentiality of the participants was assured. The only criteria used to disqualify participants from this study was having either a score of two or more on the RAP scale or having an incomplete SASSI-2 testing sheet. None of the participants in this study met either of the exclusion criteria.

CHAPTER 3

RESULTS

The mean SASSI-2 scale elevations for the entire driving under the influence (DUI) offender sample are reported in Table 1. These data represent to this author's knowledge the first time mean scale elevations have been reported for this population.

The mean SASSI-2 scale elevations for the DUI offender sample are further broken down for men and women in Table 2 and are reported alongside the SASSI scales of men and women from a probation sample reported in the SASSI manual. Because the FVA and FVOD scales were not administered to the probation sample and several of the other SASSI scales are not comparable to the SASSI-2 scales, only four scales are reported for the SASSI probation sample. Because standard deviations were not reported for the probation sample in the SASSI manual, nor were they available from the SASSI Institute, no statistical analysis can be performed on these data.

Results of an analysis utilizing multivariate *t*-tests for the effects of gender on the nine SASSI-2 scales are reported in Table 3 for the entire DUI offender sample. Significant differences were found to exist on the RAP, OAT, DEF, FAM, and COR scales. Because the means of this sample are known (see Table 2), these results indicate that the women in this sample scored significantly higher than

Table 1

SASSI-2 Mean Scale Scores and Standard Deviations for the Entire DUI Offender Sample

Scale	n	M	SD
RAP	100	.13	.37
FVA	100	5.32	5.06
FVOD	100	1.43	4.06
OAT	100	5.67	3.36
SAT	100	3.86	1.37
DEF	100	7.88	2.04
SAM	100	6.89	2.28
FAM	100	9.02	1.60
COR	100	4.85	2.73

Note. RAP = Random Answering Scale; FVA = Face Valid Alcohol Scale; FVOD = Face Valid Other Drug Scale; OAT = Obvious Attributes Scale; SAT = Subtle Attributes Scales; DEF = Defensiveness Scale; SAM = Supplemental Addiction Measure; FAM = Family versus Controls Scale; COR = Correctional Scale.

Table 2

SASSI-2 Mean Scale Scores and Standard Deviations for Male and Female DUI Offenders and Mean Scale Scores for Men and Women From a Probation Sample Reported in the SASSI Manual

Sample	Scale	n	M	SD
Male DUI Offenders				
	RAP	53	.06	.23
	FVA	53	6.15	5.16
	FVOD	53	1.75	4.76
	OAT	53	6.30	2.88
	SAT	53	4.00	1.53
	DEF	53	7.51	2.04
	SAM	53	7.28	2.26
	FAM	53	8.68	1.76
	COR	53	5.43	2.72
Male Probation Sample*				
	OAT	403	5.9	***
	SAT	403	4.3	***
	DEN**	403	7.8	***
	FAM	403	8.1	***

Table 2 (continued)

Sample	Scale	n	M	SD
Female DUI Offenders				
	RAP	47	.21	.46
	FVA	47	4.40	4.88
	FVOD	47	1.06	3.15
	OAT	47	4.96	3.31
	SAT	47	3.77	1.18
	DEF	47	8.30	2.01
	SAM	47	6.44	2.28
	FAM	47	9.38	1.34
	COR	47	4.17	2.71
Female Probation Sample*				
	OAT	70	6.0	***
	SAT	70	4.7	***
	DEN**	70	7.8	***
	FAM	70	8.6	***

* Only four SASSI-2 scales were reported for this sample.

** Former name of the Defensiveness (DEF) Scale.

*** No standard deviations are available for this sample.

Table 3

Multivariate Analysis of the Effects of Gender on the SASSI-2 Scales for the Entire DUI Offender Sample

Scale	df	SS	MS	F
RAP	1	.61	.61	4.69*
FVA	1	75.99	75.99	3.00
FVOD	1	11.89	11.89	.71
OAT	1	45.03	45.03	4.71*
SAT	1	1.36	1.36	.72
DEF	1	15.48	15.48	3.78*
SAM	1	17.42	17.42	3.38
FAM	1	12.33	12.33	4.94*
COR	1	9.78	39.78	5.40*

* $p \leq .05$

the men on the RAP, DEF, and FAM scales and significantly lower than the men on the OAT and COR scales. Because there are different profiles for each of the genders, these differences must be examined with regard to the standard T score that each of these mean scale scores represents, except for the RAP score, which is not plotted with a corresponding standard T score.

Results of an analysis utilizing multivariate t-tests for the effects of gender on the nine SASSI-2 scales, for all participants classified by the SASSI-2 as non-chemically dependent (n = 80, 40 men), are reported in Table 4. Significant differences were found to exist on the FVA, OAT, SAM, FAM, and COR scales.

To better define the effects of gender on the nine SASSI-2 scales, a post-hoc analysis utilizing t-tests for independent samples of gender was performed on the five scales where significant effects for gender were found. Results of this analysis are reported in Table 5. These results indicate the men in this sample scored higher than the women on the FVA, OAT, SAM, and COR scales and lower on the FAM scale.

Results of an analysis utilizing multivariate t-tests for the effects of gender on the nine SASSI-2 scales, for all participants classified as chemically dependent, are reported in Table 6 (n = 20, 7 women and 13 men). No significant differences were found to exist between the men

Table 4

Multivariate Analysis of the Effects of Gender on the SASSI-2 Scales for all Participants Classified by the SASSI-2 as Non-chemically Dependent

Scales	df	SS	MS	F
RAP	1	.20	.20	1.82
FVA	1	49.61	49.61	6.50**
FVOD	1	3.61	3.61	1.02
OAT	1	40.61	40.61	6.02*
SAT	1	.01	.01	.01
DEF	1	12.80	12.80	3.71
SAM	1	14.45	14.45	4.46*
FAM	1	10.51	10.51	5.29*
COR	1	23.11	23.11	5.09*

* $p < .05$

** $p < .01$

Table 5

Post-hoc Analysis of SASSI-2 Scales of all DUI Offenders Classified as Non-chemically Dependent Utilizing t-tests for Independent Samples of Gender

Scale	M	SD	t-values
FVA			
Men	4.63	3.26	2.55**
Women	3.05	2.15	
OAT			
Men	5.65	2.46	2.45*
Women	4.23	2.73	
SAM			
Men	6.68	1.80	2.11*
Women	5.83	1.80	
FAM			
Men	8.85	1.64	-2.30*
Women	9.58	1.13	
COR			
Men	4.55	2.22	2.26*
Women	3.48	2.04	

* $p < .05$

** $p = .01$

Table 6

Multivariate Analysis of the Effects of Gender on the SASSI-2 Scales of all DUI Offenders Classified as Chemically Dependent

Scale	df	SS	MS	F*
RAP	1	.84	.84	4.05
FVA	1	7.65	7.65	.14
FVOD	1	.04	.04	.00
OAT	1	3.17	3.17	.29
SAT	1	.43	.43	.14
DEF	1	.56	.56	.08
SAM	1	3.26	3.26	.67
FAM	1	.08	.08	.02
COR	1	.00	.00	.00

* None were statistically significant.

and women in this sample. Because of this, the null hypothesis is accepted for Hypothesis 3.

While no significant differences existed between the men and women who were classified as chemically dependent, the mean scale scores of this group differed greatly from those of the individuals classified as non-chemically dependent. The mean scale scores and standard deviation for men and women by their SASSI-2 classification are reported in Table 7. While no statistical analysis was performed on this data, the differences that exist, both within and between the genders, show there are different profile configurations for each gender by their respective classification.

To determine the inter-item reliability of the SASSI-2 scales with this sample, alpha coefficients were calculated for the eight clinical scales and compared to the alpha coefficients reported by the SASSI Institute (1996b). No alpha coefficient was reported by the SASSI Institute for the RAP scale, therefore one was not calculated for this study. The following alpha coefficients were found for the entire DUI offender sample (n = 100): FVA = .89; FVOD = .95; OAT = .06; DEF = .21; SAM = .34; FAM = .13; and COR = .28, indictaing high to low inter-item reliability for these scales.

In order to determine the criterion-related validity of the SASSI-2 classifications, three 2 X 2 chi squares

Table 7

SASSI-2 Mean Scale Scores and Standard Deviations of Men and Women by SASSI-2 Classification

	Chemically Dependent		Non-chemically Dependent	
Scale	M	SD	M	SD
RAP				
Men	.00	.00	.08	.27
Women	.43	.79	.18	.39
FVA				
Men	10.85	7.02	4.63	3.26
Women	12.14	8.40	3.05	2.15
FVOD				
Men	4.23	8.50	.95	2.30
Women	4.14	7.18	.53	1.34
OAT				
Men	8.31	3.25	5.65	2.46
Women	9.14	3.39	4.23	2.73
SAT				
Men	5.31	1.65	3.58	1.24
Women	5.00	2.00	3.55	.85
DEF				
Men	7.08	2.36	7.65	1.93
Women	7.43	3.05	8.45	1.78

Table 7 (continued)

	Chemically Dependent		Non-chemically Dependent	
Scale	M	SD	M	SD
SAM				
Men	9.15	2.54	6.68	1.80
Women	10.00	1.29	5.83	1.80
FAM				
Men	8.15	2.08	8.85	1.64
Women	8.29	1.98	9.58	1.13
COR				
Men	8.15	2.34	4.55	2.22
Women	8.14	2.73	3.48	2.04

were calculated comparing the SASSI-2 classification with the clinical diagnosis given each participant. One chi square was calculated for the entire DUI offender sample, one for all the men in the sample, and one for all women in the sample.

The results of the chi square analysis for the 78 participants (33 women, 45 men) specified for this study sample are reported in Table 8. These results indicate that significant differences existed between the SASSI-2 classification and the corresponding clinical diagnoses given each of the participants ($p < .01$). Because two of the expected frequencies in the contingency table were less than 10, a post-hoc analysis utilizing Yates correction for continuity was calculated. The results of this analysis also found significance at $p < .01$. In addition, the SASSI-2 classifications were found to have an agreement rate of 67% with the clinical diagnosis given each participant (52/78). Of the 33% of participants who had a SASSI-2 classification that did not agree with their clinical diagnosis, 29% (23/78) were classified as non-chemically dependent but were given a clinical diagnosis of alcohol dependence (false rejections), and 4% (3/78) were classified as chemically dependent while given a clinical diagnosis of alcohol abuse (false positives).

The results of chi square analysis for the men (n = 45) are reported in Table 9. The results of this analysis

Table 8

Chi Square Analysis of SASSI-2 Classification and Clinical Diagnosis for the Entire DUI Offender Sample

	Clinical Diagnosis	
	Alcohol Abuse	Alcohol Dependence
SASSI-2 Classification		
Non-chemically Dependent	37	23
Chemically Dependent	3	15

Chi Square Value = 11.22 df = 1 $p < .01$

Yates Correction = 10.13 df = 1 $p < .01$

Table 9

Chi Square Analysis of SASSI-2 Classification and Clinical Diagnosis for Male DUI Offenders

	Clinical Diagnosis	
	Alcohol Abuse	Alcohol Dependence
SASSI-2 Classification		
Non-chemically Dependent	16	17
Chemically Dependent	1	11

Chi Square Value = 6.02 df = 1 $p < .05$

Yates Correction = 4.45 df = 1 $p < .05$

indicate that significant differences exist between the SASSI-2 classification given each of the male particpants and their corresponding clinical diagnoses ($p < .05$). Because all four of the expected frequencies in the contingency table were less than 10, a post-hoc analysis utilizing Yates correction for continuity was calculated. The results of this analysis also found significant differences at $p < .05$. The SASSI-2 classification of the men were found to have an agreement rate of only 60% with the clinical diagnosis that each of them received (27/45). Of the 40% of male participants who had a SASSI-2 classification that did not agree with their clinical diagnosis, 38% (17/45) were classified as non-chemically dependent but were given a clinical diagnosis of alcohol dependence (false rejections) and 2% (1/45) were classified as chemically dependent while being given a clinical diagnosis of alcohol abuse (false positive).

Results of the chi square analysis of the women are reported in Table 10. These results indicate significant differences exist between the SASSI-2 classification given each of these female participants and their clinical diagnosis ($p < .05$). Because all four of the expected frequencies in the contingency table were less than 10, a post-hoc analysis was performed using Yates correction for continuity. The results of this analysis indicate that the differences between the SASSI-2 classification of the women

Table 10

Chi Square Analysis of SASSI-2 Classification and Clinical Diagnosis for Female DUI Offenders

	Clinical Diagnosis	
	Alcohol Abuse	Alcohol Dependence
SASSI-2 Classification		
Non-chemically Dependent	21	6
Chemically Dependent	2	4

Chi Square Value = 4.60 df = 1 $p < .05$

Yates Correction = 3.25 df = 1 $p > .05$

participants and the clinical diagnosis that they received, were not significant at an alpha level of .05. Therefore, the null hypothesis proposed in Hypothesis 6 is rejected and the alternative hypotheses must be accepted. SASSI-2 classifications given the women in this sample were found to have an agreement rate of 76% (25/33) with the clinical diagnosis that they received. Of the 24% of women participants who had a SASSI-2 classification that did not agree with their clinical diagnosis, 18% (6/33) were classified as non-chemically dependent but were given a clinical diagnosis of alcohol dependence (false rejection) and 6% (2/33) were given a classification of chemically dependent while being given a clinical diagnosis of alcohol abuse (false positive). The above data indicates that the SASSI-2 classifications had higher criterion-related validity for the women (76%) in this sample than the men (60%), when compared with the clinical diagnosis each received from an experienced alcohol and drug counselor.

CHAPTER 4

DISCUSSION

The present study sought to determine the Substance Abuse Subtle Screening Inventory-2 (SASSI-2) scale elevations of court ordered for evaluation driving under the influence (DUI) offenders and examine them alongside the mean scale elevations reported for a probation sample in the SASSI manual. In addition, it examined gender differences within the DUI offender sample and reported the inter-item reliability and criterion-related validity of the SASSI-2 with this DUI offender population.

The results of this study found statistically significant differences between the SASSI-2 mean scale scores of the men and women. Previous studies have also found that men and women respond differently to other substance abuse screening tests (Allen, Faden, Rawlings, & Miller, 1991; Blankfield & Maritz, 1991). Both of these studies found that men tended to score higher than women on the substance abuse screening test each examined. Because the men in this study scored higher on some of the SASSI-2 subscales and the women scored higher on others, it is impossible to make comparisons with these studies. Only slight differences were found between the mean scale scores of this sample and those reported for a probation sample in the SASSI manual. The inter-item reliability of several of the SASSI-2 scales was also found to be well below the

rates reported by the SASSI Institute (1996a). In addition, the validity of this instrument was found to be well below the rates claimed by the producers of this test.

The data in Table 1 represent, to this author's knowledge, the first time that mean scale elevations have been reported for a court ordered DUI offender sample. It is hoped that by reporting the mean scale elevations of the men and women in this sample that these data will enable clinicians to better use this instrument as a diagnostic tool.

The significant differences found between the mean scale scores of all men and women in this sample, when viewed at their respective standard T scores, indicate that the men in this sample were more likely than the women to acknowledge their substance abusing behaviors and may be more at risk of experiencing legal difficulties. The women in this sample were more likely to respond to the items on this test in a random manner, as is indicated by their higher scores on the Random Answering (RAP) scale. Overall, the men appeared to respond to the items on this test in a more open and forthright manner, as is indicated by their lower scores on the RAP and Defensiveness (DEF) scales.

The significant differences found between the men and women classified as non-chemically dependent indicate that

the men in this sample were more willing to acknowledge substance abusing behaviors. Whether this is because they engaged in more of the substance abusing behaviors measured by these scales or were more willing to acknowledge that they engaged in these behaviors is impossible to tell from the data collected for this study.

While no significant differences were found between the mean scale scores of the men and women classified as chemically dependent, when these mean scale scores are compared with those of the non-chemically dependent men and women, a new pattern of differences between the genders emerged. The scores of the chemically dependent men and women were found to be higher than those of the non-chemically dependent men and women on all scales but the DEF and Family versus Controls (FAM) scales.

Of particular interest are the chemically dependent women's higher scores on the Face Valid Alcohol (FVA) and Obvious Attributes (OAT) scales. The scores of the non-chemically dependent men on these face valid scales were higher than those of the women. This indicates that the chemically dependent women are more susceptible to these scales either because they are more likely to acknowledge their substance abusing behaviors or because they engaged in more substance abusing behaviors than the chemically dependent men. The chemically dependent women were also just as likely as the men to acknowledge that they used

drugs other than alcohol, as is indicated by their score on the Face Valid Other Drugs (FVOD) scale. The chemically dependent women also scored as high as the men on the COR scale and higher than the men on the Supplemental Addiction Measure (SAM) scale, indicating they may have the same risk of experiencing legal difficulties. The women in this sample may also be more susceptible to the items on this supplemental scale than the men. The chemically dependent men and women's lower scores on the FAM scale indicate that these individuals may have less of a problem setting boundaries with others than do the non-chemically dependent participants. The lower scores on the DEF scale indicate that the chemically dependent participants approached the items on this test in a less defensive manner than did the non-chemically dependent participants.

One area of particular concern was the reliability and validity levels found for this sample. While many of the SASSI-2 scales are low in inter-item reliability because they were empirically derived, the alpha coefficients found for the OAT, DEF, FAM, and COR are well below the reliability levels reported by the SASSI Institute (1996a). This indicates that for this sample the items on these scales may not be as reliable at measuring the individual constructs that each of these scales represent as they were for the sample used by the SASSI Institute.

Also of concern was the criterion-related validity found for this sample. The agreement rate of only 67% found between participant's SASSI-2 classification and their clinical diagnosis is well below the rates of 88% claimed by the SASSI Institute (1996a) and 78% reported in an independent study (Kilkunas, 1988, as cited in Creager, 1989). The results found here indicate that the discrepancies between the SASSI-2 classification and clinical diagnosis each participant received were due in large part to the large number of false rejections that the SASSI-2 generated. This is unlike the results found for a university sample by Savnum and McGrew (1995), where the SASSI-2 generated a large number of false positives. Together, these data indicate the validity rate of the SASSI-2 fluctuates widely between different samples and confirms the need for further study of the validity of the instrument, especially with special populations (Cooper & Robinson, 1987; Kerr, 1995). On a positive note, the SASSI-2's strength, as also noted by Kilkunas (as cited in Creager, 1989), lies in its ability to screen out nonabusing individuals. Overall, the SASSI-2 incorrectly diagnosed only 3 of 78 participants as chemically dependent who received a clinical diagnosis of alcohol abuse, generating a false positive rate of only 4%.

Of great concern was the agreement rate of only 60% found between the classification and diagnosis of the male

participants. This rate of agreement raises serious questions regarding the validity of this instrument with the men in this sample. The discrepancies found between the SASSI-2 classification and the clinical diagnosis of the men were also found to be caused by the large numbers of false rejections that this instrument generated. It must be noted that no inter-rater reliability was established for this study.

No significant differences were found between the SASSI-2 classification each female participant received and their clinical diagnosis. While the agreement rates found for the female participants in this study were higher than those found for the men (76%), they are still below the rates previously reported for this instrument. The validity of the SASSI-2, while not as low as that found for the men, is also to be questioned when used with the women in this population due to the large number of false rejections that it produced.

Overall, this study found statistically significant differences in the way men and women approach the items on the SASSI-2. While several of the differences found between the mean scale elevations of the men and women in this sample were controlled for in their separate profiles, many were not. Lower rates of inter-item reliability and criterion-related validity were found for this sample than had previously been reported. Because of this, clinicians

are cautioned to be aware of the scale elevations that individuals in this population exhibit and to take care to support their diagnoses and treatment recommendations with information from other sources.

While the data from the present study represent a good preliminary investigation of the SASSI-2 mean scale elevations of court-ordered-for-evaluation, DUI offenders, future studies in this area should examine these scores using a larger sample. Of particular concern to this study was the small number of chemically dependent participants available for study. Also, because of the questionable validity found for this population, future studies should examine the criterion-related validity of the SASSI-2 with that of other tests, such as the Michigan Alcohol Screening Test and the MacAndrew Alcoholism Scale, that might be more valid when assessing this population. Because proper assessment is the first step in providing clients with the proper modality of treatment, using the most effective assessment devices is critical to providing clients with the proper level of treatment.

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Study of SASSI-2 Scores of DUI Offenders Undergoing Court Ordered Evaluation

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