

USE OF THE SUBSTANCE ABUSE SUBTLE SCREENING INVENTORY  
TO IDENTIFY ADDICTION IN COLLEGE STUDENTS

Submitted to  
UNIVERSITY OF DAYTON

In partial fulfillment of the Requirements for  
The Degree  
Master of Arts in Psychology

by  
Kathleen M. Gierhart

UNIVERSITY OF DAYTON

Dayton, Ohio

April 1994

UNIVERSITY OF DAYTON ROESCH LIBRARY

APPROVED BY:

---

Charles E. Kimble, Ph.D.  
Co-Chairperson, Thesis Committee

---

Joseph L. Szoke, M.A.  
Co-Chairperson, Thesis Committee

---

Mary K. Roberson, Ph.D.  
Thesis Committee Member

CONCURRENCE:

---

F. Thomas Eggemeier, Ph.D.  
Chairperson, Department of Psychology

## ACKNOWLEDGEMENTS

First and foremost, I'd like to express my appreciation to my co-chairs. Joseph L. Szoke, M.A., Executive Director of the Alcohol and Drug Addiction and Mental Health Services Board in Montgomery County, Ohio and adjunct professor, provided a wealth of information about substance abuse. He served to guide and inspire me as I struggled with balancing the demands of the thesis with other demands in my life. He was a wonderful, personal cheerleader. Charles Kimble, Ph.D., Director of Social Sciences Research and Professor at the University of Dayton, provided the professional guidance needed in designing the study to provide both a substantial learning process for me and to contribute to the field of substance abuse among college students. He was especially helpful in the translation of the Substance Abuse Subtle Screening Inventory decision rules into computer language.

Further support was derived through the contributions of Mary Roberson, Ph.D., Assistant Professor at the University of Dayton along with her thesis support group members. Dr. Roberson not only served as a reader on my committee, but offered guidance on content and structure of the study through thought provoking questions. What was especially beneficial though, was the constant checking in, sharing, and support derived from the support group run by Dr. Roberson.

Others that offered direct support on the thesis who deserve expressed appreciation include Lynn Laubach, M.A.,

CCDC-III, LSW, the counselors and staff of the University Counseling Center, and Roy Craig, M.A., Evaluation Coordinator for the Alcohol and Drug Addiction Services. Ms. Laubach invited me to sit in on a series of the Substance Education Program to gain first hand knowledge. She was very cooperative in the collection of data and agreed to participate as a blind member of the study in terms of not having been privy to the results of the SASSI. She also offered emotional support throughout the process of the study. The members of the Counseling Center learned to administer and give feedback on the SASSI quickly in order to begin my study in a timely fashion. They gathered data while I worked on pulling together the proposal. Roy Craig provided extra guidance in the use of SPSS-PC+. A special thanks to all of these people.

In terms of emotional support throughout the study, I would like to thank my husband, my children, and my dear friend Cathy Bush. I thank my husband for his endurance and computer guidance. I thank my children for their patience, support, and encouragement. I especially offer appreciation to Cathy, who was caring and always offered a listening ear for the venting of both my frustration and my exhilaration throughout this process.

## TABLE OF CONTENTS

List of Tables . . . . .	vii
ABSTRACT. . . . .	viii
Literature Review . . . . .	1
Statistics . . . . .	2
National Statistics . . . . .	2
College Statistics . . . . .	2
Substance Abuse on Campuses . . . . .	4
Motivation to Use . . . . .	4
Onset of Substance Abuse . . . . .	5
Identifying At-Risk Students . . . . .	6
Dangers Common to Women Who Abuse Substances . . . . .	8
Negative Consequences . . . . .	10
Universities' Responsibility . . . . .	12
Combatting Substance Abuse . . . . .	14
McPhail Study . . . . .	16
CORE Study . . . . .	19
Substance Education Program (SEP) . . . . .	21
Determination of Dependency . . . . .	26
Dependency . . . . .	26
Denial . . . . .	28
Previously Used Measures . . . . .	29
Purpose of the Study . . . . .	30
Hypotheses . . . . .	31

Method. . . . .	33
Subjects . . . . .	33
Instrument: Substance Abuse Subtle Screening	
Inventory . . . . .	33
Individual Subscales . . . . .	37
Obvious Attributes . . . . .	37
Subtle Attributes . . . . .	38
Defensive . . . . .	40
Defensive Abusers vs. Nonabusers . . . . .	41
Alcohol or Drugs . . . . .	42
Family . . . . .	42
Risk Prediction Scales . . . . .	43
Risk Prediction Scale-Form A . . . . .	44
Risk Prediction Scale-Form D . . . . .	44
Procedure . . . . .	45
Referral into SEP . . . . .	45
Substance Education Program . . . . .	45
Test Administration . . . . .	46
The Certified Chemical Dependency Counselor's	
Criteria . . . . .	48
Statistics . . . . .	49
RESULTS . . . . .	51
Subjects . . . . .	51
Goodness of Fit . . . . .	51
DISCUSSION . . . . .	57
REFERENCES . . . . .	62

LIST OF TABLES

1 Chi Square Analysis of SASSI's Agreement with the  
CCDC's Determination of Dependency . . . . . 50

2 Means, Medians, Modes, Ranges, and Skews of the  
Variables . . . . . 51

3 Chi-Square Analysis of the CCDC's Determination by  
SASSI's Determination . . . . . 52

4 T-Tests of the Differences Between Means of Not  
Dependents and Dependents . . . . . 54

5 T-Tests of Differences Between the Means of Not  
Dependents and Dependents . . . . . 54

6 Multiple Regression Analysis on CCDC and SASSI as  
Dependent Variables . . . . . 56

## ABSTRACT

### USE OF THE SUBSTANCE ABUSE SUBTLE SCREENING INVENTORY TO IDENTIFY ADDICTION IN COLLEGE STUDENTS

Kathleen M. Gierhart, M.A.  
University of Dayton, 1994.

Major Professor: Charles E. Kimble, Ph.D.

Considering the severity of the substance abuse problems on college campuses today, there exists a need for an empirical measure designed to identify substance addiction in college students which will allow universities to provide appropriate intervention and treatment programming. The Substance Abuse Subtle Screening Inventory (SASSI) was designed to identify addiction in the general public with the special ability to break through the denial and defensiveness typically associated with substance abuse. The SASSI was administered to students participating in a substance education program at a private, midsized university in the Midwest. A chi-square analysis, adjusted by the Fisher Exact test, provided limited support,  $p < .0569$ , for the goodness of fit between the determinations of dependency or not as designated by SASSI and the expert clinician. Multiple regression analysis suggests that the clinician is more influenced by the obvious attributes of substance addiction whereas SASSI was sensitive to the more subtle attributes of addiction. Most of the addicted students tended to be identified on the more face valid subscales of the SASSI



suggesting that college students tend to be more admitted about their experience with licit and illicit substances and the associated consequences. Future studies should include a larger N as well as look for agreement between SASSI and one or more expert clinicians.

## LITERATURE REVIEW

"College presidents classified alcohol abuse as the campus life issue of their greatest concern" according to a Carnegie Foundation survey as cited by the U.S. Department of Health and Human Services (Eigen, 1991, p.1). Presley, Meilman, and Lyerla (1993) report that college students drink on the average 5.0 drinks per week with men consuming an average of 7.5 drinks per week and women consuming an average of 3.2 drinks per week. University administrations are attempting to combat the substance abuse problems on campuses through identification of at-risk students, through substance education, through intervention and treatment programming, and with a more strict adherence to the public laws regarding consumption of these mind-altering substances. Glenn A. Miller (1985) has contributed to the effort by designing the Substance Abuse Subtle Screening Inventory (SASSI) to aid in the identification of chemical dependency. The SASSI is designed to identify persons who are dependent on alcohol or other illicit substances in spite of the denial and defensiveness commonly associated with chemical dependency. This study attempts to validate the SASSI with college students at a private, midsized university in the midwest.

## Statistics

### National Statistics

The U.S. Department of Health and Human Services presents the statistics on substance use in The National Household Survey on Drug Abuse: Main Findings 1990. Of the individuals in the U.S. household population, aged 12 and older, 13.3% report having used any illicit drug and 66% report having abused alcohol in the past year. Use of illicit drugs and alcohol in the past month by this same population is reported at 6.4% and 51.2% respectively. Within the population aged 18-25, 28.7% report having used illicit drugs and 80.2% report having used alcohol over the past year. Still within this age group, 14.9% report having abused illicit drugs and 63.3% abused alcohol during the past month. However, although the National Household Survey does discuss incidence and prevalence in the general population, it does not address the substance abuse problems for the campus population.

### College Statistics

College campuses have been seen as a microcosm of the population at large, thus suggesting similar substance abuse patterns. The use of illicit drugs does appear to be less than or equivalent to that of the same age population not attending college. According to Johnston, O'Malley, and Bachman (1988) in a survey done on high school students, college students and their noncollege cohorts, 40% of college

students report the use of illicit drugs in the past year which is similar to the 41% percent use reported by their noncollege cohorts. Twenty-two percent of full-time college students report using illicit drugs during the previous thirty days while 24% of their noncollege cohorts do. Marijuana use by college students (2.3%) is reported to be about half of reported marijuana use by their noncollege cohorts (4.6%). The comparable percentages do not suggest that the illicit drug use is of low enough levels not to be of concern.

Johnston, et al. (1988) further states that alcohol abuse in particular is more prevalent among college students than amongst their noncollege cohorts. Heavy alcohol use (5 or more drinks in a row at least once in a two week period) is reported by 43% of college students while only reported at 36% by the noncollege cohorts. Daily drinking on the other hand is reported by 6% of college students and at 6.6% by noncollege cohorts. This suggests that college students do more weekend binging (p. 11). This heavy binge drinking can lead to dangerous consequences.

In the same survey adjusted to include statistics in 1990, Johnston, O'Malley, and Bachman (1991) state that 74.5% of a typical student body drink alcohol during a month's time, whereas 66% of their non-college cohorts do. "This difference may not appear to be much", as noted by Joseph Szoke, Executive Director of the Alcohol, Drug Addiction and Mental Health Services Board for Montgomery County (personal

communication, November, 1993) "however this usage is occurring during a time of intense training and development for the college student. The resultant altered state of consciousness can be detrimental during this time when the students need to absorb and synthesize large quantities of information in preparation for future careers." Since alcohol abuse appears to be more prevalent on college campuses than illicit drug abuse, much of the research cited in this paper tends to relate more to alcohol abuse than to illicit drug abuse. This is not intended to devalue the implications of illicit drug abuse. The author believes negative consequences overlap and can be addressed together.

### Substance Abuse on Campuses

#### Motivation to Use

Drinking and using illicit substances appear to be prevalent on college campus due to the ethos associated with campus life. Many colleges are known for their "party atmosphere." Through unspoken peer pressure, incoming students are expected to uphold the reputation. It appears to be almost a "rite of passage" for these young people to not only partake in the festivities and substance abuse, but to make their own mark by taking new and additional risks in behavior.

The use of mind altering substances appears to be part of this risk-taking behavior common amongst the typically

"omnipotent" college student. Add the new found independence, responsibilities, and stressors of campus life and the students are left with few limits and guidelines concerning how to take care of themselves in this untamed atmosphere.

Researchers have explored other factors which may influence students in terms of drinking behavior. Sherry and Stolberg (1987) found peer pressure, responsible attitudes toward drinking, knowledge of alcohol, family history of alcohol abuse, and positive expectations to be related to drinking. Peer pressure was found to be "the most consistent and potent predictor of the frequency and consumption of alcohol..." (p. 353). Klein (1989) also found "a strong association between students' beliefs about drinking and their own alcohol use patterns and problems" (p. 49). He found an inverse relationship between alcohol consumption and the endorsement of "responsible drinking" items. Research by Claydon (1987) supports the theory that students who are considered Adult Children of Alcoholics (ACOAs) are considered high risk for abusing substances including alcohol, drugs, and food.

#### Onset of Substance Abuse

Onset of use is an important component in identifying the severity of a substance abuse problem. Johnston, et al. (1988) found that while many students begin drinking while in high school, more begin in their college years. In 1987, 38% and 66% of high school seniors report heavy drinking (5 or

more drinks in a row) and use in the past 30 days, respectively. The latter figure reflects the 69% of high school seniors not planning to attend college. Of high school seniors planning to attend college, 66% used alcohol in the previous 30 days. Forty-three percent of college students report heavy drinking and 78% report drinking during the previous 30 days. These data suggests that although fewer college bound seniors drink in high school, many of the high school abstainers do begin drinking once on the college campus.

Illicit drug abuse shows less of a dramatic increase from high school to college. College drug use during the previous 30 days (22%) appears to be slightly less than use amongst high school students (25%) and noncollege cohorts (24%). But again, statistics suggest that college bound high school seniors tend to use illicit drugs less than high school seniors with no college plans and that some of the non-using college bound seniors do begin using when they reach college.

#### Identifying At-Risk Students

The aforementioned campus ethos regarding alcohol consumption is exemplified by the preponderance of drinking by resident students over commuters (Santana Cooney & Nonnamaker, 1992). In an attempt to locate the most at-risk students, O'Hare (1989) found that students living on campus were

"most likely to be heavy-moderate (range from three drinks once per week to 16 or more drinks twice per

month) and heavy drinkers (range from five drinks once per week to 16 or more drinks more than seven times per week); commuters living at home are most likely to be abstainers and least likely to be heavy drinkers; commuters living independently are more likely to be light drinkers (range from having one drink less than once per month to two drinks twice per month) than those living on campus. They are however the least likely to abstain" (p. 538).

Support for these findings are found in the unpublished Minnesota based CORE survey results from the private, mid-sized university in this study (1992).

In the CORE study, a significant difference was found between on- and off-campus students for alcohol use "during the past 30 days" and for binge drinking. Eighty-six percent of students on campus report using alcohol in the past 30 days as opposed to 67% of the students living in off-campus housing. Sixty-one percent of on-campus students and 47% of off-campus students report binge drinking (5 or more drinks at a sitting in past two weeks). Therefore, prevention and treatment programming needs to be heavily focused on campus students but not to the exclusion of the commuters.

More specifically, research has shown that "men, fraternity, and sorority members, and students living in fraternity houses were much more likely than their peers to endorse less-than-responsible ideals about the use of



alcoholic beverages" (Klein, 1992, p. 35) which was also correlated with higher consumption of alcohol. Students considering joining a sorority or fraternity tend to drink more than those not planning to join (Canterbury et al., 1992). Berkowitz and Perkins (1987) note that "men drink more often and in greater quantities with more negative consequences, and are more likely to drink to get drunk" (p. 123) than women. Research (Berkowitz & Perkins, 1987; Engs & Hanson, 1985; Presley, Meilman & Lyerla, 1993) suggests that men drink more than women. Therefore, men specifically, and men and women associated with or intending to join fraternities or sororities should be targeted specifically by the substance awareness, intervention, and treatment programming.

#### Dangers Common to Women Who Abuse Substances

Although men tend to drink more than women, there are various reasons to be especially concerned about women and substance abuse. There has been debatable evidence in research suggesting a possible convergence of the drinking habits of males and females (Berkowitz & Perkins, 1987). Convergence could be evidence of women working toward more equality between the sexes through an attempt to "hold their liquor like a man." This could have serious repercussions for women. O'Hare (1989) suggests that "women's alcohol 'problem threshold' may be activated at lower consumption levels" (p. 540). This concept has been substantiated through further

research on the physiological differences found between the genders in terms of metabolism of alcohol.

The bioavailability of ethanol in women is much greater than in men even when having consumed equal quantities of alcohol for various reasons. Most obvious are the gross anatomical differences including the typically smaller body size (Doweiko, 1993), the higher fat content (Jung, 1994), and the lower quantities of water (Lex, 1991) in women which all contribute to the higher percentage of ethanol retained by the female body. Even considering these physiological features and adjusting the quantity of alcohol consumed by women to compensate for some of these differences, women still tend to show higher levels of intoxication than men.

Further research by Frezza et al. (1990) has demonstrated differences in the quantities of an enzyme, dehydrogenase, between males and females. The authors describe dehydrogenase as being produced in the stomach with the function of "first-pass" metabolism as the alcohol passes through the stomach following oral consumption. They suggest that lower quantities of the enzyme in women limits the breakdown of alcohol leaving higher levels of the ethanol in the women's systems. Further complications were found for male and female alcoholics. Frezza et al. (1990) found that alcohol irritates the stomach lining restricting the production of dehydrogenase. As a result of the reduction of the enzyme, they found that "...the first-pass metabolism was virtually

nonexistent in the alcoholic women" resulting in increased risk of developing further physiological complications for women such as liver disease (p. 97).

### Negative Consequences

Gliksman (1988) found that "students in their first year of university generally show an increase in problems associated with alcohol use over the number of problems they had had prior to their arrival on the university campus" (p. 1292). O'Hare (1989) found that for college students "alcohol-related difficulties clearly increase with the amount of alcohol consumption" (p. 539).

Negative consequences of substance abuse include, but are not limited to, academic, health, legal, personal, social, sexual problems, and death. With this particular population, effects on academic achievement is of special concern. Students tend to show an inverse relationship between grades and amount and quantity of alcohol consumed (Engs & Hanson, 1985; Klein, 1992; Presley, Meilman, & Lyerla, 1993). They report missing class (Engs & Hanson, 1985; Gliksman, 1988; Presley et al., 1993; Werch, Gorman, & Marty, 1987) and low grades (Engs & Hanson, 1985; Gliksman, 1988; Klein, 1992; Presley et al., 1993; Werch, Gorman, & Marty, 1987) due to alcohol consumption. Health problems associated with substance abuse as reported by students include hangovers (Engs & Hanson, 1985; Gliksman, 1988; O'Hare, 1989; Presley et al., 1993; Werch, et al., 1987), nausea or vomiting (Engs &

Hanson, 1985; Gliksman, 1988; O'Hare, 1989, Presley et al., 1993), increased illnesses (Werch, et al., 1987), and getting injured (O'Hare, 1989). Legal ramifications (Gliksman, 1988; O'Hare, 1989; Werch, et al., 1987) reported include vandalism (O'Hare, 1989, Presley et al., 1993), and driving under the influence (Canterbury, et al., 1992; Engs & Hanson, 1985; Presley et al., 1993; Werch, et al., 1987). Memory loss (Gliksman, 1988; O'Hare, 1989; Presley et al., 1993), depression and suicidal ideation (O'Hare, 1989, Presley et al., 1993) are identified by students as related to substance abuse. Social consequences of substance abuse include problems in relationships with family or friends (Engs & Hanson, 1985; Gliksman, 1988; O'Hare, 1989; Werch, et al., 1987), fighting (Engs & Hanson, 1985; O'Hare, 1989; Presley et al., 1993; Werch et al.), and loss of a job (Engs & Hanson, 1985; Gliksman, 1988). While intoxicated, individuals also tend to put themselves at risk for becoming a perpetrator or victim of sexual offenses (Abbey, 1991; Flemming, Barry, & MacDonald, 1991; Presley et al., 1993), adding the additional risks of pregnancy and venereal diseases including the lethal diseases, AIDS and hepatitis (Doweiko, 1993, 393-410). Alcohol related deaths of college students involve automobile accidents, acute alcohol intoxication, suicide, fatal falls, hazing, and physical ailments such as liver disease (Eigen, 1991). More specifically, at the university where Eigen's study took place, the Dean of Students reports that 90% of all

disciplinary problems involve the use of alcohol (personal communication, July, 1993).

Eigen (1991) notes that students spend more money on alcohol than they spend on text books or more than is needed to operate the school library. He further notes that "the total annual cost of the scholarships and fellowships that all the colleges and universities of America provide to students is but a fraction of the \$5.5 billion out-of-pocket money our college students spend yearly on alcohol" (p. 9). This large expenditure on substances ultimately puts more burden on parents who are subsidizing students college funds. Society at large also assumes part of this burden considering that approximately 56.4% (National Center for Education Statistics, 1993) of students are receiving government subsidies and approximately 75% of students are drinking excessively. There must be some overlap in these students. "Therefore parents and the government are financially enabling these students to abuse substances" (Joseph Szoke, Executive Director for the Alcohol, Drug Addiction and Mental Health Services Board for Montgomery County, Ohio, personal communication, December, 1994).

#### Universities' Responsibility

To some extent, universities' responsibility to students is defined by the federal government and the American College Health Association (ACHA, 1987). Public Law 101-226, the Drug Free Schools and Communities Act Amendments of 1989 amends the

Drug Free Schools and Communities Act of 1986 and the Higher Education Act of 1965. Public Law 101-226 requires that Institutions of higher education, receiving funds or other forms of financial assistance under federal programs adopt and implement a drug prevention program. The ACHA (1987) made recommendations that universities address the issue of substance abuse by conducting: 1) a needs assessment on campus, 2) an effective primary (preventive) and secondary (for those who show evidence of problems related to substance abuse) treatment programs, 3) an assessment of the impact of the campus environment on substance abuse, and 4) an evaluation of the effectiveness of primary and secondary prevention efforts and changes in the environment.

The Vice President and Dean of Students (personal communication, July, 1993) of the University in this study addressed the moral responsibility of the University to educate and provide a safe atmosphere for the students. He addressed the health risks, behavior problems, and problems with academic achievement associated with irresponsible use of licit and illicit substances. He urged the building of a sense of community based on something "more substantive...than the availability of alcohol." He suggested setting parameters and safety guidelines for the students. After all, as with Maslow's Hierarchy of Needs (Maslow, 1943; as cited in Feshbach & Weiner, 1986, p. 162-164) would imply, if the students' lower level needs of health and safety are not met,

the students will not be able to focus on meeting higher level needs such as seeking an education.

During the time when these laws and ACHA recommendations were being designed and implemented, Michael Clay Smith (1989) addressed the issue from another perspective. He suggested that in recognizing the potential legal ramifications of substance abuse problems on their campuses, the university administrators need to be aware of the impact of the strong campus ethos regarding the consumption of alcoholic beverages. Smith suggests that taking a strong stance against alcohol use could potentially alienate students and staff as well as hinder the recruitment of students, staff, and otherwise financially supportive alumni and members of the general public. This could lead administrators to temporarily sidetrack the issue but sooner or later, he suggested the universities need to confront substance abuse head on if not for any other reason but the issue of liability. Smith compiled a summary of the many lawsuits brought against students, student organizations, and university administrations with regards to liability for intoxicated students' accidents and deaths. He suggested that in order to avoid lawsuits, universities should provide educational programming, intervention treatment, non-alcoholic activities, rules and regulations about alcohol use that reflect the state and local laws, and alcohol served on campus should be done in full compliance of the law.

## Combatting Substance Abuse

At the college where this study takes place, efforts were strengthened to identify and deal with substance abuse problems head on. Policies were revised, committees formed, events planned, educational programs implemented, connections with community intervention programs were sought out for referrals, and studies done to assess the situation.

In April of 1988, at the request of the Vice President of Students, a Committee was formed and charged with the duty to revise the Policy on Alcohol as stated in the Student Handbook. The committee recommended that an educational program be offered as an alternative for the student in violation of the substance abuse policy. The Substance Education Program (SEP), (explained further below) was designed and implemented in cooperation with a community substance abuse agency. The committee made further recommendations including the importance of consistency in implementing the policy as designed. The committee's revisions were included in the 1989 Student Handbook and are presented in appendix A from the 1992-93 Student Handbook.

In addition to the implementation of the Substance Education Program and revision of the Student Handbook, this University confronted the substance abuse problem from various angles. An Alcohol Awareness Committee was formed, comprised of administration, staff, and students to attack this issue on campus. This committee oversees the recognition and



celebration of Alcohol Awareness Week and Drug Awareness Week each year as well as substance awareness programming for the First-year Student Orientation. These celebrations and programs have included posters, flyers, table tents, buttons, keychains, and planned social events promoting responsible drinking or abstinence. Students have written and performed skits promoting Alcohol and Drug awareness. Entertainers, including comedians and singers, have been brought to the University for promotion of awareness and responsible Use. These programs usually include free, non-alcoholic refreshments. Advertisement for these events are placed in the campus publications along with articles promoting abstinence or responsible drinking throughout the year. One year, seventy-two crosses were placed in the ground to form a campus graveyard signifying the seventy-two people who die each day due to D.U.I. accidents. A Bacchus (Boost Alcohol Consciousness Concerning the Health of University Students Program) Chapter was started on campus with the support of campus administration. This chapter continues provisionally under the administration of interested students.

### McPhail Study

In addition, this university has done two studies to assess the severity of the substance abuse problem on campus. Clark McPhail, Ph.D., a sociologist at the University of Illinois at Urbana, evaluated the situation in the neighborhood around the University, typically referred to as

the Ghetto. Of particular concern was the traditional St. Patrick's Day celebrations by the students.

The neighborhood includes approximately 500 University houses and approximately 125 privately owned houses which accommodate around 2000 juniors and seniors (McPhail, 1992). The neighborhood has had a reputation and expectation for the party atmosphere and excessive drinking for decades as recognized by students, staff, and alumni. St. Patrick's Day celebration attracted locals and students from other universities causing the population involved to swell. The media coverage each year added to the hype. The severity of the St. Patrick's Day celebration included fights, bonfires fueled by furniture and doors from the houses, vandalism including the overturning of cars, injuries, and even one death in 1992.

McPhail spent a weekend on the campus interviewing students, personnel, administrators, faculty, and staff members. He also spent an evening with students in the neighborhood observing the typical weekend keg parties. McPhail wrote a paper about the conditions in the neighborhood, substantiating the concerns of the administration. He made recommendations to the administration on methods that may help to control the situation in the neighborhood for St. Patrick's Day as well as on weekends in general.

McPhail's recommendations included tightening of keg policies and substance abuse policies in general. He suggested that the students, together with faculty, staff, and administration review the current policies and the manner in which they are carried out. He further recommended that policies should reflect the state laws. The rules should be tightened, fines should be increased, and the policy should be enforced in a more consistent fashion. The efforts of the Alcohol Awareness Committee could be increased to include a more pervasive influence over the campus throughout the academic year rather than focusing primarily during the two National Substance Abuse recognition weeks. He also recommended more contact and referrals with the community treatment programs. Overall, consistency and follow-through of the policy appear to be key foci behind McPhail's recommendations.

Consequently, spring break has been set up to coincide with St. Patrick's Day. Many students are expected to go home for Spring Break leaving the campus with less students to celebrate. For the final year of St. Patrick's Day celebration, a full force of security was sent out to police the area. The 1993 celebration was very low key with no obvious damage.

As if to make up for the potential loss, some students celebrated Halloween of 1993 with the riotous behaviors and bonfires typical of the St. Patrick's Day celebration. Rocks

and glass were thrown at police and firefighters as they attempted to disperse the crowd and douse the bonfire fueled by couches and other furniture. Some students were arrested by local police and brought up on a variety of charges including inciting a riot, disorderly conduct, vandalism, and resisting arrest (Reed, 1993). Campus consequences included a combination of probation, community service, fines, and/or suspension (Assistant Dean of Students: Discipline and Judiciaries, personal communication, January 5, 1994). The events of that evening demonstrated that much of the control of students' behavior regarding consumption of mind-altering substances actually lies within the students themselves and appears to be a difficult one to change.

#### CORE Study

In addition to the McPhail study, the University participated in the CORE Drug and Alcohol Survey conducted by the University of Minnesota in 1992 (CORE Drug and Alcohol Survey). Some of the main results suggest that 80% of students at this university drink alcohol including 78% of the underage students. Eighteen percent of the university students currently use marijuana although very few use other kinds of drugs. The results show that 57% of the students binge with alcohol and 32% drink alcohol three times a week or more. With regards to problems associated with alcohol and drug use: 62% of students report public misconduct associated with alcohol and drug use, 45% report serious personal

problems, 29% of the women and 13% of the men report having been taken advantage of sexually, and 14% of men and 6% of women report having taken advantage of another person. An inverse relationship between grades and frequency and amount of use is evident. Men are shown to drink (10.6 drinks per week) more than women (7.2 drinks per week). Men also use marijuana, tobacco, sedatives, inhalants, and hallucinogens more than women according to the CORE Survey. Women tend to use amphetamines more than men. This university appears to have a more severe alcohol consumption problem than other universities which have participated in this survey although the use of illicit substances appears to be less than at other universities.

In response to these studies, the University Administration has tightened discipline regarding situations involving substance abuse. The Vice President and Dean of Students (personal communication, July, 1993) recognized that the research substantiated what "those of us who work with young people have intuitively known" in terms of the substance abuse problem on the campus. He identified actions taken in response to the McPhail study and the CORE Survey. He said that the University has "done away with kegs in University facilities,...greatly stiffened our disciplinary actions...and been less tolerant in the illegal distribution of alcohol." He further commented that the idea is to "hold students accountable to what the law is...and make it clear and

consistent that we are not going to tolerate violations." The Dean also made an interesting speculation about the students. He suggested,

they're not prepared to accept all the choices and the freedom that we have foisted on them in the past two decades. I think that there are a lot of young people who feel very comfortable with somebody demonstrating that there's right and there's wrong and we're not going to tolerate people just ignoring the parameters and standards that we set.

#### Substance Education Program (SEP)

In 1989, the Director of Special Programs organized and began the implementation of the Substance Education Program (SEP) as an educational alternative for students in violation of the Policy on Alcohol or for students voluntarily seeking out substance abuse information.

The heart of SEP, sessions two through six, is described as "a series of four 1 1/2 hour sessions designed to educate individuals on the personal and health risks involved with alcohol and other substance use/abuse. It is not a treatment program..." (Departmental Communication, Director of Special Programs). The director of the University Counseling Center (personal communication, June 2, 1993), notes that "the Substance Education Program (SEP) was designed as an alternative to punitive consequences with the purpose of educating students about substance use and its ramifications."

The program actually consists of six sessions utilizing both didactic and therapeutic modalities. The student meets

with a licensed counselor from the University Counseling Center for the first and last sessions. These individual counseling sessions introduce the student to both SEP and the counseling scenario and allow them the opportunity to continue with individual counseling if desired. The four middle sessions are held in a classroom setting conducted by an expert clinician who is a Certified Chemical Dependency Counselor, Class III (CCDC). The clinician also has a Master's degree in Applied Behavioral Science and a Social Work License. Didactic presentation and class discussion allows each student the opportunity to explore his/her own substance use, including frequency, quantity, motivation to use, and the consequences.

The first session is an intake session with a counselor from the University Counseling Center. The counselor does an intake, orients the student to the program, and assesses the need for counseling in addition to the SEP program. The intake process includes, although not exclusively, gathering information about the incidence which prompted referral into the program, the student's reported patterns and history of substance use/abuse, family history, and how dysfunctional the individual's use appears to be at the time. The counselor informs the student about the nature, goals, and requirements of the program. Information forms, confidentiality statements, and any appropriate release of information forms are presented and signed. A special consent form is presented

to the students for inclusion in this study with rights not to participate without negative consequences (see appendix B). For any student who is interested in further counseling, treatment plans are devised between the counselor and student to supplement the program. The Substance Abuse Subtle Screening Inventory (Miller, 1985, SASSI) is then administered to the student by the counselor or a Test Administrator who have been trained in the administration of this measure. The administrator of the measure informs the client that the results will be given during the final SEP session by the counselor in the counseling center.

The second session focuses on the Jellinek's disease model of chemical dependency (1960; as reported in Doweiko, 1990) and the difference between normal use and abuse. The class begins with the students sharing information about their own situation which prompted referral into the program. They also share information about the onset, increased tolerance, and present patterns of their use of substances. The ambiguity of "normal use" is discussed as each student defines the term as learned through personal experiences. Normal use is contrasted with problematic use. Handouts and information are given about the stages of substance abuse, i.e., experimentation, abuse, and dependency. Contributing factors are discussed such as the possibility of a biological predisposition to dependency, peer pressure, and social situations. The symptoms of increasing severity are talked



about, including increased tolerance, blackouts, and loss of control. The students are then challenged to consider what their present level of use is. They are also directed to write down what their own "rules for use" are and to consider how well they follow these rules.

The third session focuses on reasons for use, how functional or dysfunctional the use is, and about defenses that are used to cover up substance abuse. Defenses are discussed first, predominantly in reference to others that these students know who abuse substances. The focus is then brought back to the students as they consider the reasons they use substances. These reasons are listed under headings of "good" or "bad." The students usually note that the reasons may start out as innocent, for example: "to relax," "to break down defenses," "to have fun" (personal communication, students in the program, February, 1993); however, as use becomes abuse, these reasons turn into defensive rationalizations. Another major focus is the decline of the euphoric, high feeling associated with early stages of use, contrasted with the increasing levels of discomfort or pain experienced with later stages of dependency as tolerance builds. Tolerance involves the need for increasing quantities of the substance by the body to reach at least a normal level without being able to attain the euphoric stages anymore.

The fourth session focuses on how one's substance abuse affects significant others. Codependency and enabling are

defined. Students are asked to identify ways the enabler is affected by the chemically dependent person. Discussing family members and others who abuse or enable leads into identifying one's own tendency to enable or to be enabled. The effects on the enabler and other family members are discussed. Finally, small groups of students plan and act out short skits on co-dependent scenarios.

During the fifth session, a person from Alcoholics Anonymous and/or Narcotics Anonymous who identifies himself or herself as a recovering addict presents a "lead" or personal life story in terms of the addiction. These leads generally include information about the presenter's own use, from the beginning of use, through the complications of abuse, and about the process of becoming clean. The speaker tells how life is now as a recovering addict. The presentation ends with a question and answer session. Before leaving, questionnaires (Appendix C) are filled out by the students about their use and reminders are given about the need to schedule the final session with their counselors from the counseling center.

During the final session, the counselor from the Counseling Center inquires about the student's perception of the program. Then the counselor gives feedback and recommendations to the student based on the SASSI results, the therapist's own perceptions, and the written recommendation from the clinician. Referrals can be made to more intensive

evaluation and treatment programs in the community when the recommendations and SASSI results suggest possible addiction. Confirmation that the student has heard the recommendations is established by having the student sign the recommendation form filled out by the clinician. A final form is signed by both the Counseling Center Counselor and the student which is then sent to the program administrator for proof of completion of the program.

#### Determination of Dependency

SASSI's ability to identify college students' level of addiction could facilitate expeditious referral of students into the most appropriate treatment program. Students' level of dependency is not typically as severe and easily identifiable as with older adults who are in further stages of chemical dependency and experiencing more pronounced negative consequences (Smith, Collins, Kreisberg, Volpicelli, & Alterman, 1987). Therefore, identification is generally more subtle and exacting. Denial needs to be recognized and confronted.

#### Dependency.

Dependency had been viewed as a symptom of other psychological disorders. But now dependency is more readily recognized as a disorder in and of itself (Miller, 1985). The Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R, American Psychiatric Association,

1987) defines psychoactive substance abuse as a maladaptive pattern of substance use despite problems caused by or exacerbated by the substance, or in spite of dangerous situations, with symptoms of disturbance lasting at least one month or occurring repeatedly over a longer period. The diagnosis is based on meeting three of nine criteria two or more times in the past year. The nine criteria focus on compulsive and obsessive use of the substance, increased tolerance, withdrawal symptoms, inability to quit, and the inability to fulfill obligations and participate in normal activities. Doweiko (1990) differentiates dependency based on withdrawal symptoms and "the loss of control over one's drinking...the drug is now necessary to carry out normal biological activity" (p. 11).

Theorists suggest that the severity of dependency can be gauged on a continuum ranging from "total abstinence," through "rare social use...heavy social use/early problem drug use...Heavy problem use/early addiction," to "clear-cut addiction to drugs" (Doweiko, 1993, pp. 12 and 13). The later stages of dependency are more readily identifiable due to the associated pervasive complications which are less likely to be concealed by tactics of denial. The earlier stages of drug use involve complications as previously defined, in terms of academics, health, legal, personal, social, sexual, and death. However, denial is still powerful enough to allow the person to put responsibility of such complications onto other,

seemingly plausible sources. This tendency toward early addiction may be more prevalent on college campuses than is clearly identifiable. Most importantly, it is at this early stage, "while the person still has full cognitive and social skills, and intact family and occupational support networks" (Miller, 1985) that success in treatment is more promising. SASSI is designed to identify dependency in spite of the rationalization and denial which can otherwise camouflage the impending danger.

### Denial

The denial and defensiveness typically associated with chemical dependency add to the difficulty of identification of the student's level of need. Yet appropriate diagnosis is imperative so that the student can be referred into programming designed to meet his or her specific needs. The determination of abusive behaviors versus addictive behaviors by SASSI, facilitates the placement of students into appropriate programming varying from didactic and short term counseling to long term out- or in-patient treatment. Being placed in appropriate treatment ensures higher success rates for chemical dependency clients (Dowieko, 1993). SASSI can also give information about the level of denial the student is experiencing. Without admission of having a problem with substance abuse, a student in denial has little chance of changing behavior (Phillips & Heesacker, 1992). An

educational program may or may not be sufficient to break through denial.

Alcoholics see alcohol as power and control, the solution to life's problems which are typically blamed on external sources such as a spouse or job loss. They tend to avoid reality and internal distress through primitive defense mechanisms. Selective perception, projection, rationalization and minimization are used to avoid confrontation of their own addiction.

#### Previously Used Measures

The Michigan Alcoholism Screening Test (MAST) (Selzer, 1971) and CAGE (Mayfield, McLeod, & Hall, 1974) are instruments designed to identify substance abusers. Being face valid instruments, they are susceptible to the denial, distortion, and misrepresentation often displayed by clients who abuse chemicals. Smith, et al. (1987) recommend that the CAGE and MAST not be used as screening instruments due to questioning the cut-off scores in attempt to balance the specificity with the sensitivity of the measures.

Another subtle measure widely used to identify alcohol dependency is the MAC (MacAndrew, 1965). The MAC is a subscale derived from the Minnesota Multiphasic Personality Inventory. The MAC appears to identify admitted abusers but is confounded by traits often associated with anti-social personality (Wolf, Schubert, Patterson, Grande, & Pendleton, 1990). Such traits include extroversion (Moore, 1984), risk

taking, exhibitionism, moral indignation, high energy and impulsivity (Schwartz & Graham, 1979). MacAndrew (1979) suggests that since the MAC was not designed for early identification of alcohol abusers, that a new instrument be designed for that purpose. Clinicians are encouraged to use the MAC cautiously, if at all, for diagnostic purposes (Colligan & Offord, 1990; Gottesman & Prescott, 1989; Wasyliw, Haywood, Grossman, & Cavanaugh, 1993).

With the adventation of the MMPI-2, the MAC was also revised into the MAC-R. Graham (1993) notes that "the MAC-R scale is essentially the same as the original scale...interpretation of the scale can be similar to the interpretation of the original MAC scale." He addresses the problem of false negatives and false positives with a cut-off of 24-27. He goes on to recommend that other information about substance abuse should be used to substantiate, or not, the findings from an individual's MAC-R. This is as with all assessment tools. In conclusion, although all of these measures, the MAST, the CAGE, the MAC, and the MAC-R, have some ability to identify possible chemical abuse, there still remains a need for an instrument sensitive enough to break through the denial and to pick up on early signs of chemical dependency. SASSI was designed to do just that.

#### Purpose of the Study

This study was designed to validate the use of SASSI with the college population. Agreement is sought between SASSI's

determination of "dependent" or "not dependent" and the expert clinician's judgement of dependency or not.

Considering the superiority of actuarial prediction over clinical judgement (Holt, 1986; Meehl, 1986; Sarbin, 1986), use of a measure designed to identify levels of addiction could be beneficial to the student and the university. The measure could be used in conjunction with the determination of the clinician and the Counseling Center Counselor or it can be used in the first session to determine appropriateness of the program for each particular student. While the judgement of the clinician is subjective, it is considered professional judgement. The clinician's judgement is based on required participatory attendance in each of four 1-1/2 hour sessions including the sharing of information by each student about his or her own substance abuse. This allows the clinician to make an informed decision as to the dependency of each individual participant at least well enough to recommend further evaluation for the purpose of designing appropriate treatment programming at a level to match the student's particular dependency needs. This is consistent with Holt's (1986) and Sarbin's (1986) recommendation that expert clinical judgement be used to validate new measures when no other actuarial data exists.



### Hypotheses

1. Through chi-square analysis, the SASSI's determinations of dependency will show substantial agreement with the determinations of dependency made by the expert clinician.
2. Similar correlations will be found among the subscales as is purported by the SASSI manual. This will include high correlations for the RPS scales with OAT, lower with SAT, and negative correlations with DEF.
3. The means of the subscale scores will be significantly different for students identified as dependent in comparison to students identified as not dependent on RPS scales, OAT, SAT, and DEF.
4. Considering the omnipotent attitudes of college students, denial, and typical rebelliousness, the defensive scales will be most likely to identify alcoholics.

## METHOD

### Subjects

At a private, medium-sized university in the Midwest, 75 students were referred into the Substance Education Program (SEP) between December of 1992 and March of 1994. These students were invited to participate in this study. Thirteen students were not included due to procedural errors beyond the control of the researcher. Ten students opted not to participate in the study leaving a sample size of 52, including forty-nine disciplinary referrals following violations of the Student Handbook Alcohol Policy and three volunteers.

### Instrument

#### Substance Abuse Subtle Screening Inventory

The Substance Abuse Subtle Screening Inventory (SASSI) is a 52-item, true/false measure designed by Glenn A. Miller (1985) which has become a required part of Substance Education Program. Students take the SASSI on their first visit with the Counseling Center Counselor. SASSI is printed on one side of the test form with the Risk Prediction Scales (RPSA and RPSD, Indiana Division of Addiction Services, 1978) on the reverse side. The two measures are typically combined to supplement each other for more accurate results. Miller

designed the SASSI specifically so that it:

- a) would not require a professional's time to administer,
- b) would be brief, c) could be objectively scored, d) would lead to classification of individuals by the clear explicit 'cookbook' decision rules, and e) would be composed primarily of subtle items, i.e. items which appear to be unrelated to chemical abuse and which consequently, would not mobilize resistance in the test taker (Miller, 1985, p. 33).

The test was designed to be independent of the effects of age, education, and socioeconomic level.

On the SASSI, the subject is asked to respond "T" to each item that is "true or mostly true" and "F" to each item that is "false or mostly false." Each item contributes to scores on each of six subscales. Decision rules (Miller, 1985) have been devised to determine whether or not the subject is classified as a chemical abuser based on use of the SASSI alone or in conjunction with the RPS.

Reliability and validity were built into the SASSI through the use of theoretical, internal consistency, and empirical keying methods of test construction. In order to break through defensiveness and denial, the items were designed not to demonstrate face validity. Instructions to "fake good" were given in some administrations of the test to determine the test's ability to identify defensive abusers.

The provisional form of SASSI achieved an accuracy rate of 90% in "classifying male and female control subjects and also male and female illicit drug abusers and male alcoholics in residential treatment" (Miller, p. 4.3). Accuracy dropped when the test was administered to subjects who were defensive and in earlier stages of chemical abuse. Decision rules were altered and at this point, two rational measures, the Risk Prediction Scales for Alcoholism and Drugs and the PAL-5 (Ellsworth, 1978, cited in Miller, 1985) were administered along with SASSI. The PAL-5 is a subscale of the Profile of Adaption to Life-Holistic Form (PAL-H).

The three measures, SASSI, RPS, and PAL-5, were administered to groups of individuals for validation purposes. Some groups were admitted abusers from detoxification programs (Detox) and the identified patients in a family oriented Intensive Outpatient Program (IOP primary abusers). More defensive abusers were some of the family members from the IOP (IOP family member abusers) who were identified by counselors as addicted and a group of individuals on probation (Prob) after being arrested for driving under the influence (DUI). Non-abusing family members (IOP non-abusers) made up the control groups.

Studies showed that SASSI correctly classified 88% of detox subjects, 68% of primary and family member abusers and 92% of family nonabusers. The RPS scales correctly identified 94% of detox subjects, 66% of primary and family member

abusers, and 96% of family nonabusers. The combination of the SASSI, RPS, and PAL-5 resulted in correct classification of 98% of detox subjects, 87% of IOP abusers, and 90% of IOP nonabusers.

Cross validation analysis was performed on samples previously eliminated. These were different in that the subjects had left one or two items unmarked or had marked both responses to one or two items. These "omitted" items were scored in the direction more similar to controls, or subjects who are not addicted to chemicals. The combination of the three measures correctly identified 81% of IOP abusers who omitted one item, and 69% of those who omitted two items. 95% of the Detox subjects who omitted one or two items were accurately identified by the three measures combined. All of the IOP nonabusers were accurately identified. These results suggest the importance of having subjects respond once to each of the items on the measures used.

The results of these studies suggest that these tests are sensitive to the population being assessed. The RPS scales were found to identify admitted abusers most accurately of the two rational measures. Although SASSI was comparable with the RPS in identifying admitted abusers, SASSI was found to be more accurate at identifying more defensive, early stage abusers (Miller, 1985). Since the combination of the SASSI and the RPS scales "results in less than half the errors of missing abusers than either does alone" (Miller, 1985, p. 4-

11), the two measures were combined on the SASSI form with permission from the Indiana Division of Addiction Services.

#### Individual Subscales of the SASSI

The subscales, Obvious Attributes (OAT), Subtle Attributes (SAT), and Defensive (DEF), and Defensive 2 (DEF2) were designed to correlate less than .14 with variables of sex, age (18-70), education, and income, suggesting that only 2% variability can be attributed to these variables. However, the manual notes that the revised measures have not been tested on these variables except for sex, so "actual correlations are unknown but are expected to be minimal" (Miller, 1985, p. 4-13).

Obvious Attributes Subscale (OAT). The OAT subscale consists of 17 items, 11 keyed true and 6 false with a high score suggesting a willingness to admit to substance abuse. A score of 12 or above identified 49% of the Detox clients and 42% of the IOP primary abusers and 2% of the nonabusers as abusers (Miller, 1985). Sample items include, "I often feel that strangers look at me with disapproval" (keyed true) and "I have used alcohol or 'pot' too much or too often" (keyed true).

According to Miller (1985) individuals who score high on OAT are usually in the later stages of abuse and are experiencing distress, remorse, low self-esteem, and self-blame. These people are usually seeking change and are willing participants in treatment programs. Conversely, Paddy

O'Connor (1993) notes that individuals who are addicted yet score low on the OAT subscale, may be demonstrating a desire to be different than the typical addict, a desire to escape the shame of having grown in an addictive family. Such an individual would not feel comfortable initially at A.A. or N.A. meetings. O'Connor further suggests that high OAT scores should "drop down to about halfway between his initial score and 50 on the Standard T Score scale within 30 days" of treatment (p. 2).

Considering that OAT tends to identify the admitted abusers who are not strongly defended, it makes sense that OAT correlates negatively and substantially with the defensiveness subscale (DEF),  $-.65$  with the Detox sample,  $-.72$  with the IOP sample,  $-.66$  with the Prob. samples (Miller, 1985). Defensive abusers are able to lower their scores on the OAT subscale.

Using SPSS Reliability procedure, inter-item correlation for the OAT subscale is reported at  $.13$  for the total IOP sample,  $.18$  for the Detox sample, and  $.13$  for the Probation sample. The correlation of each item with the total OAT score (minus that item) ranged from  $.06$  to  $.53$  for the total IOP sample. Reliability is reported with the coefficient alpha at  $.73$  for IOP,  $.61$  for Detox, and  $.71$  for Probation groups.

Subtle ATtributes Subscale (SAT). The Subtle Attributes Subscale (SAT) consists of 11 items, 8 keyed true and 3 keyed false. This scale was designed to identify addiction in spite of a person's attempts to conceal addiction problems. Sample

items include, "I know who is to blame for most of my troubles" (keyed true) and "At times I have been so full of pep that I felt I didn't need sleep for days at a time" (keyed true).

Miller (1985) says that SAT appears to identify subjects demonstrating more subtle, pervasive personality characteristics which are typical for abusers or Adult Children of Alcoholics as defined by Claudia Black (1981). It may be identifying a predisposition to become addicted to alcohol or drugs. Miller further suggests that change in such deeply imbedded characteristics may come slowly thus individuals with high SAT scores, "...are less likely to gain long term sobriety by simply immersing themselves in A.A. meetings without intensive treatment..." (p. 5-10) more so than individuals with high OAT and low SAT scores.

High scores on SAT indicate a willingness to admit to having problems, but a tendency to blame the problems on external sources and to believe one has control over substance use and other aspects of life. Therefore, like OAT, SAT correlates negatively with DEF but not as strongly,  $-.36$  with Detox subjects,  $-.38$  with IOP subjects, and  $-.24$  with Prob subjects (Miller). Whereas OAT tends to raise quickly as the client pursues treatment and defensiveness is broken down, SAT does not change so quickly during treatment.

Scores higher than six, which is two standard deviations above the mean, identified 73% of the Detox subjects, 36% of



the IOP primary abusers, 4% of the IOP nonabusers and 22% of the Prob subjects as abusers. Abusers scored 1-2 standard deviations above the mean for control and nonabuser groups. These same abusers, under instruction to "fake good," still scored 1/2 to 1 standard deviation higher than control and nonabuser groups. Therefore, the subscale appears to identify abusers in spite of defensive test taking behaviors.

SAT was statistically derived but has low internal consistency. Inter-item correlation is reported at .03 for the Detox group, .09 for the Total IOP group, and .05 for the Prob group. Alpha coefficients are .25, .49, and .32 for the groups respectively.

DEFensive Subscale (DEF). The Defensive Subscale (DEF) is composed of 14 items, 5 keyed true and 9 keyed false. The DEF scale identifies defensiveness, not addiction. Sample items include, "I have had days, weeks, or months when I couldn't get much done because I just wasn't up to it" (keyed false) and "I have avoided people I did not wish to speak to" (keyed false).

A high score could indicate either denial of problems or a deliberate attempt to conceal problems, addiction or otherwise. The high score can indicate a sense of superiority, associating positive attributes to one's self. High scoring individuals tend to have difficulty identifying initially with other addicts and will have difficulty accepting negative feedback. The high score will generally

fall as the person's resistance falls and he/she begins to see his/her own problems during treatment.

On the other hand, an addicted person who scores low on the DEF scale, may tend to have low self-esteem, great feelings of guilt, and worthlessness. Such individuals will easily see their faults but will be slow to accept positive feedback and to identify their own strengths. These individuals tend to cooperate quickly in treatment but are slow in overall recovery.

Admitted addicts scored high on DEF when given instructions to "fake good." Non-addicted family members also scored high on the DEF scale. The DEF2 scale was designed then to differentiate between defensive abusers and defensive co-dependents who are not abusers. Therefore, once defensiveness is identified on the DEF scale, the DEF2 is used to differentiate between the abuser and the codependent.

DEF correlates negatively with OAT at  $-.65$  for Detox,  $-.72$  for total IOP, and  $-.66$  for Prob; with DEF2 at  $-.73$  for Detox,  $-.72$  for total IOP, and  $-.74$  for Probation; with the RPSA at  $-.41$  for Detox,  $-.56$  for total IOP; and with the RPSD at  $-.38$  for Detox and  $-.39$  for total IOP.

Inter-item correlation was  $.08$  for Detox,  $.14$  for total IOP, and  $.09$  for Prob. The alpha coefficients were reported to be  $.57$  for Detox,  $.68$  for total IOP, and  $.58$  for Prob. Separate norms are built into the SASSI profiles to compensate

for the correlation between DEF with gender at  $-.16$  for Detox and  $-.03$  for prob.

DEFensive Abusers vs. Nonabusers (DEF2). Defensive abusers versus Nonabusers (DEF2) is comprised of 15 items, 9 keyed true and 6 keyed false designed to differentiate between defensive abusers and defensive nonabusers. This scale is only interpreted if the subject scores one or two standard deviations above the mean on the DEF subscale. Abusers scoring high on defensiveness (DEF) are expected to score high on DEF2. Defensive nonabusers are expected to score low on DEF2. Sample items include, "I have never been in trouble with the police" (keyed false) and "I have neglected obligations to family or work because of drinking or using drugs" (keyed true).

Mean scores are reported for subjects who scored two standard deviations above the mean on DEF; 7.67 for Detox, 7.11 for IOP abusers, 5.08 for Prob, and 2.75 for IOP nonabusers. Mean scores reported for subjects whose score on DEF was one standard deviation above the mean were: 8.65 for Detox, 8.22 for IOP abusers, 6.06 for Probation, and 4.15 for IOP nonabusers. Subjects who were classified according to the combination of DEF and DEF2 were correctly classified.

ALcohol or Drug Subscale (ALD). ALD Is a 10 item subscale with 7 items keyed true and 3 keyed false designed to identify a person's preference for alcohol or other drugs. Sample items include, "I know who is to blame for most of my

troubles" (keyed false) and "I have had a drink first thing in the morning to steady my nerves" (keyed true).

The scale is designed such that high scores would indicate a preference for alcohol while low scores would indicate a preference for other drugs. However, the validity and meaningfulness of this scale is limited. At this time it provides a theory to be verified through consultation with the client.

Furthermore, this is not considered a diagnostic measure. It is only to be interpreted for subjects identified as abusers on previous subscales. Therapeutic interpretation may be beneficial to a client who is a polydrug abuser acknowledging problems with only part of the addiction. Further studies are needed.

FAMILY Subscale (FAM). FAM consists of 14 items, 4 keyed true and 10 keyed false with the purpose of identifying enabling persons in codependent relationships with substance abusers. Sample items include, "I usually 'go along' and do what others are doing" (keyed false) and "I can be friendly with people who do many wrong things" (keyed true).

Of the nonabusive codependents, as identified by counselors, only about one half of the codependents scored above 60 (43% of males and 60% of females). Twenty-nine percent of males and 28% of females scored above a t-score of 70. Therefore, any interpretation should be conservative. Further research is recommended.

### Risk Prediction Scales (RPS)

The Risk Prediction Scales were developed by Linda A. Morton, Ph.D., for the State of Indiana, Department of Mental Health, Division of Addiction Services, to identify those persons in Indiana who are at varying degrees of risk of abusing alcohol and other drugs. This would enable the state to ensure availability of services to meet the needs of the at-risk people. Miller was granted permission to use the RPS Scales.

Original items for these measures were developed by 30 experts in the field. These experts determined which items would best identify the subject as a Non-Problematic user, a Problematic-User, or a Dysfunctional User (indicating dependency). Means and standard deviations were obtained for each item. Forty-eight alcohol and 49 drug items were retained based on a standard deviation of less than .60. Validation of the scales included known groups of alcohol and drug addicts from treatment programs compared with college students identified as nonproblematic users. Twelve (12) items were retained for the alcohol scale and 14 for the drug scale based on analysis using the Statistical Package for the Social Sciences (SPSS) Discriminant Analysis program.

Risk Prediction Scale, Form A (Alcohol). The Risk Prediction Scale for Alcohol (RPSA) is comprised of 12 four-point items, all scored in the same direction. Ten points identify abusers with low defensiveness and defensive

nonabusers. Sample items include, "Had drinks with lunch?" and "Gotten into trouble on the job, in school, or at home because of your drinking?"

The measure identified 88% of Detox, 63% of the IOP primary abusers, and 36% of IOP abusive family members as substance abusers. RPSA correlates with OAT (.53 Detox, .60 Total IOP), SAT (.35 Detox, .51 IOP), and DEF (-.41 Detox, -.56 IOP). These correlations show RPSA's similarity to OAT and SAT and opposition to DEF in identifying the less guarded abuser and that it is limited when identifying the truly defended abuser. Inter-item correlation are reported to be .42 with Detox and .47 with total IOP. Alpha coefficient are reported at .90 for Detox and .92 for the Total IOP.

Risk Prediction Scales, Form D (Drugs). The Risk Prediction Scale, Form D (RPSD) has 14 four-point items designed to assess a person's drug behavior and its consequences. Sample items include, "Taken drugs to help you feel better about a problem?" and "Gotten into trouble with the law because of drugs?"

A score of 10 points correctly identified 50% of the Detox subjects, 33% of the IOP primary abusers, 14% of the IOP family abusers, and 98% of the IOP nonabusers. Inter-item correlations for the RPSD is reported at .61 for the Detox group and .50 for the total IOP. The alpha coefficients are reported to be .96 for the Detox group and .93 for the total IOP group.

The combination of the RPSA and the RPSD correctly identified 94% of the Detox subjects, 70% of the IOP primary abusers, 43% of the IOP family abusers, and 96% of the IOP nonabusers. These results suggest that the measures are more accurate with subjects who are less defensive but not very accurate with highly defensive subjects.

### Procedure

#### Referral into the Substance Education Program (SEP)

"Mandatory" students were referred into the program by resident directors, campus security, City Police, or by the Assistant Dean of Students: Discipline and Judiciaries. Behaviors warranting such referral could have been illegal possession, inappropriate behaviors, found passed out, being physically unable to control one's self, or other disciplinary behaviors that involved the use of licit or illicit substance abuse. This referral procedure is in compliance with the University's Student Handbook. "Voluntary" students were self-referred into the program.

#### Substance Education Program

The alcohol/substance abuse education program is presented by the University in conjunction with a local health care facility. Attendance at all six sessions is mandatory. In addition to any fine or other disciplinary action imposed by the University, the cost for the program is the responsibility of the student. Failure to comply with the

program will result in additional disciplinary action imposed by the University, including suspension or dismissal. Students may volunteer to participate in the program referral. In such a case, the cost is absorbed by the university.

Students who have completed the educational program but who continue to exhibit alcohol related problems may be referred to a comprehensive alcohol/substance treatment program as a condition of continued enrollment at the University. The cost for additional assessment and/or treatment will be paid by the student. Failure to comply with such a referral may result in separation from the University.

#### Test Administration

As described in the Introduction, students began and ended the program with a session with a counselor at the University Counseling Center. During the first session, the SASSI was administered to the student. The test administrator said, "A graduate student is doing her research project on the SEP program. Read the permission slip. It is your choice to sign it or not. Your responses will be confidential." The consent form to participate in the study was presented to the student. The student had the option to sign or not without negative consequences. With or without consent to participate in the study, the SASSI was administered as part of SEP.

The SASSI form was handed to the student SASSI side up. The administrator reads the SASSI directions, "If a statement tends to be true for you, fill in the square in the column



headed 'T.' If a statement tends to be false for you, fill in the square in the column headed 'F.' Please answer all questions." After the student completed that side, the administrator asked the student to turn the form over and read the directions. "For each item below, circle the number which reflects how often you have experienced the situation described. The numbers represent: 0 = never; 1 = once or twice; 2 = several times; 3 = repeatedly." After the student completed all the items, the administrator informed the student, "At the final session, your counselor will go over the results with you. The results do not go to the Substance Education Program clinician." The administrator then checked to see if the student completed the entire form and asked the student to respond to any statements left unmarked.

SASSI was scored and dependency was determined by Decision Rules as seen in Figure 1, the Profile Sheet. The rules are based on individual subscale scores or combination of subscale scores. A high score on any of the three more obvious measures, the RPSA, RPSD, or the OAT indicate dependency. A high score on the more subtle SAT is also indicative of dependency. A combination of a relatively high score on both the OAT and SAT indicates dependency. Other combinations include the use of the DEF and DEF2. Elevations on these two scales can indicate dependency. Elevations, although not as extreme, combined with somewhat elevated scores on the OAT or the SAT can indicate dependency as well.

In all other instances, the person was classified as non dependent.

Results of the measure were presented to the student along with recommendations made by the clinician at the final session with the Counseling Center Counselor. Appropriate referrals were made.

#### The Certified Chemical Dependency Counselor's Criteria

The clinician explained (verbal communication, June, 1993) that recommendations are based on the information the client shares verbally in class and written on the Student Questionnaire (see appendix C). The clinician notes patterns of use, age of onset, and frequency and quantity of use as well as attending to the reported consequences on relationships, school, jobs, and legal situations. The clinician considers reports of family history, blackouts, previous treatment, and any other efforts made to quit or to cut down on use. The level of defense mechanisms exhibited by the student also gives important information.

Since the clinician did not make a formal clinical diagnosis, professional recommendations were given considering the level of need of the individual students. Therefore, determination of dependency was qualitatively stated. The determination of dependency was inferred by the researcher from phrases such as "probable dependency" combined with referrals for "further evaluation," "intensive treatment," or "continued treatment." Determination of not dependent was

based on phrases such as, "abused," "abuses," or "shows patterns of abuse." Some of the clinician's determinations were more ambiguous due to "not enough information." If such a statement was accompanied by, "at high risk," the student was identified as not dependent for the study. If such a statement was accompanied by, "shows signs of early dependency," dependency was assumed considering that SASSI was designed to identify individuals even in the early stages of dependency.

### Statistics

In order to show that SASSI is sensitive enough to stand alone and with a degree of confidence to identify the individuals who do have a substance abuse problem based on particular scores or combinations of scores on the subscales, concurrence will be looked for between the clinician's judgement and SASSI's judgement of dependency was assessed. Several analyses were performed on the data.

The primary test of agreement was be a chi-square analysis. The cells consisted of the number of students identified by both SASSI and the clinician as dependent (cell 1) or not (cell 4), as well as when either SASSI (cell 3) or the CCDC (cell 2) determine dependency without concurrence of the other. See Table 1.

Pearson Product Correlations were be performed to identify any relationships between the subscales, the clinician's determination and demographic variables. The

Demographic information included gender, year in school, age, and voluntary or mandatory participation.

Considering the low N, comparisons between dependent and not dependent students were examined with t-tests. Demographic information and subscale scores made up the dependent variables.

Table 1

---

Chi Square Analysis of SASSI's Agreement with the CCDC's Determination of Dependency

	SASSI	
	Dependent	Not Dependent
CCDC: Dependent	1	2
CCDC: Not Dependent	3	4

---

Multiple regression analyses were performed to examine which of the subscales contribute best in the determination of dependency. The analyses was performed twice, once with the clinician's determination as the criterion variable and once with SASSI's determination.

## RESULTS

### Subjects

All statistics were performed using the Statistic Package for the Social Sciences-Personal Computer (SPSS-PC+). Descriptive frequencies showed that 41 of the 52 students were male and 11 were female. Ages ranged from 17 through 22 with 40% being age 19. The subjects were comprised of 27 first year students, 17 sophomores, 4 juniors, and 4 seniors. Means, medians, modes, and skew of the variables are shown in Table 2.

Table 2.

Means, Medians, Modes, Ranges and Skews of the Variables.

	Mean	Median	Mode	Range	Skew
Gender	1.79	2.00	2.00	1-2	-1.45
Year in school	1.71	1.00	1.00	1-4	1.25
Age	19.15	19.00	19.00	17-22	.49
Mandatory vs. Voluntary	1.05	1.00	1.00	1-2	3.91
RPSA	6.52	5.00	4.00	1-26	2.45
RPSD	2.83	1.00	.00	0-26	2.89
OAT	6.06	6.00	3.00	0-14	.24
SAT	3.35	3.00	3.00	1-9	1.34
DEF	6.31	6.00	5.00	3-11	.43
DEF2	7.37	8.00	8.00	2-15	.26
ALD	4.92	5.00	4.00	3-8	.56
FAM	8.35	8.50	8.00	0-11	-1.40
CCDC	1.19	1.00	1.00	1-2	1.61
SASSI	1.17	1.00	1.00	1-2	1.78

Gender-Female=1, Male=2

Year in school-1=first year, 2=second year, 3=third year, 4=fourth year

Mandatory=1, Voluntary=2

RPSA - Risk Prediction Scale-Alcohol

RPSD - Risk Prediction Scale-Drugs

OAT - Obvious Attributes Subscale

SAT - Subtle Attributes Subscale

DEF - Defensiveness Scale Subscale

DEF2 - Defensive Abusers vs. Nonabusers Subscale

ALD - Alcohol or Drug Subscale

FAM - Family Subscale

CCDC - Certified Chemical Dependency Counselor, Expert Clinician; 1=not dependent, 2=dependent

SASSI - Substance Abuse Subtle Screening Inventory; 1=not dependent, 2=dependent

### Goodness of Fit

A chi-square analysis was used to compare the Certified Chemical Dependency Counselor's (CCDC), the expert clinician, determination of dependency with the Substance Abuse Subtle Screening Inventory's (SASSI) determination. The results (see Table 3) were significant,  $X^2 = 4.45$ ,  $df = 1$ ,  $p = .03$ , however, limited by a low expected value in one cell (1.731). The Fisher Exact calculations performed to compensate for this low expected value present an adjusted significance level of .05691. This suggests limited support for SASSI's ability to identify students who are and who are not addicted to substances.

Table 3

Chi-Square Analysis of the CCDC's Determination by SASSI's Determination

Count		SASSI's Determination		Row Total
		Not Dependent 1.00	Dependent 2.00	
CCDC	1	37	5	42
Not dependent				80.8
	2	6	4	10
Dependent				19.2
Column Total		43	9	52
Total		82.7	17.3	100.0

Chi-Square	Value	DF	Significance
----- Pearson	4.45458	1	.03481
Fisher's Exact Test:			
One-Tail			.05691
Two-Tail			.05691

Minimum Expected Frequency -	1.731		
Cells with Expected Frequency < 5 -	1 OF	4 ( 25.0%)	

Correlations of the variables are presented in Table 4. Notable are the significant and positive correlations found among RPSA, RPSD, OAT and SAT. Contrary to the fourth

hypothesis of this study, all of the nine students found to be dependent by SASSI were identified as such by these more obvious and admitted scales. DEF was also significantly and negatively correlated with RPSA,  $r = .45, p < .001$ ; OAT,  $r = .63, p < .001$ ; and SAT,  $r = -.45, p < .001$ ). Only one of these nine students was also identified by an elevation on DEF, in combination with DEF2 and OAT showing a moderate level of defensiveness. However, these correlations do support Miller's (1985) findings of strong correlations between the more admitted scales, RPS scales and OAT; lower yet positive correlations with the less obvious measure, SAT; and negative correlations with the defensive scale, DEF.

The determinations by the clinician (CCDC) were significantly and positively correlated with each RPSA,  $r = .53, p < .001$ ; RPSD,  $r = .47, p < .001$ ; OAT,  $r = .46, p < .001$ , and SAT,  $r = .50, p < .001$ . The SASSI determinations of dependency were also significantly and positively correlated with RPSA,  $r = .68, p < .001$ ; RPSD,  $r = .38, p < .01$ ; OAT,  $r = .44, p < .001$ ; and SAT,  $r = .61, p < .001$ . CCDC was correlated significantly and negatively with DEF,  $r = -.38, p < .01$ . Correlations were also found between DEF2 and RPSA,  $r = .69, p < .001$ ; RPSD,  $r = .51, p < .001$ ; OAT,  $r = .89, p < .001$ ; SAT,  $r = .54, p < .001$ ; and DEF,  $r = -.70, p < .001$ .

T-tests (see Table 4) of the variables were performed to determine significant differences between Group 1 (not

Table 4

Correlations of the Variables

	FAM	Gender	Year	Age	VOL	RPSA	RPSD	OAT	SAT	DEF	DEF2	ALD
Gender	1.0000											
Year	-.1649	1.0000										
Age	-.0611	.8073**	1.0000									
VOL	-.1282	-.1944	-.1197	1.0000								
RPSA	.2740	-.2317	-.0914	-.1197	1.0000							
RPSD	.1634	-.0027	-.0427	-.0914	-.1197	1.0000						
OAT	.2936	-.1969	-.0427	-.0914	-.1197	-.3100	1.0000					
SAT	.2560	-.1969	-.0427	-.0914	-.1197	-.3100	-.3127	1.0000				
DEF	.0672	-.3282*	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	1.0000			
DEF2	-.2413	-.3282*	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	1.0000		
ALD	-.2155	-.3282*	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	1.0000	
FAM	-.2155	-.3282*	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	-.2640	1.0000
CCDC	-.2927	-.1678	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745
SASSI	.2927	-.1678	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745	-.0745

N of cases: 52 1-tailed Signif: \* - .01 \*\* - .001

Correlations: CCDC SASSI

GENDC	.1333	.2370
YR	-.1678	-.1349
AGE	-.0745	.0311
VOL	.2978	.5408**
RPSA	.5280**	.6826**
RPSD	.4704**	.3786*
OAT	.4563**	.4440**
SAT	.5022**	.6076**
DEF	-.3832*	-.2770
DEF2	.4220**	.5185**
ALD	.1184	.2091
FAM	-.0841	-.3066
CCDC	1.0000	.2927
SASSI	.2927	1.0000

N of cases: 52 1-tailed Signif: \* - .01 \*\* - .001



dependent) and Group 2 (dependent). The means between the two groups were found to be significantly different on RPSA,  $t(50) = -6.60, p < .0001$ ; RPSD,  $t(50) = -2.89, p < .01$ ; OAT,  $t(50) = -3.50, p < .001$ ; SAT,  $t(50) = -5.41, p < .0001$ ; and DEF2,  $t(50) = -4.29, p < .0001$ . Dependents had scored higher than

Table 4

T-Tests of the Differences Between Means of Not Dependents and Dependents as per SASSI

Variable	Not Dependent		Dependent		T-Value	DF
	M	SD	M	SD		
Year in school	1.77	.90	1.44	1.01	.96*	50
Age	19.14	.99	19.22	1.20	-.22	50
RPSA	5.14	2.18	13.11	6.55	-6.60**	50
RPSD	2.02	2.83	6.67	8.82	-2.89**	50
OAT	5.42	2.73	9.11	3.55	-3.50**	50
SAT	2.95	.95	5.22	1.86	-5.41**	50
DEF	6.53	1.82	5.22	1.39	2.04*	50
DEF2	6.70	2.36	10.56	2.92	-4.29**	50
ALD	4.81	1.14	5.44	1.13	-1.51	50
FAM	8.63	2.01	7.00	1.58	2.28*	50

\* \* indicates significance at the .05 level.  
 \* \*\* indicates significance at the .001 level.

Table 5

T-Tests of Differences Between the Means of Dependents and Not Dependents as Per the CCDC

Variable	Not Dependent		Dependent		T-Value	DF
	M	SD	M	SD		
Gender	1.76	.43	1.90	.32	-.95	50
Year in school	1.79	.95	1.40	.70	1.20	50
Age	19.19	1.07	19.00	.82	.53	50
Voluntary vs. Mandatory	1.02	.15	1.20	.42	-2.21*	50
RPSA	5.38	2.59	11.30	7.11	-4.40**	50
RPSD	1.76	2.95	7.30	7.57	-3.77**	50
OAT	5.35	2.69	9.00	3.50	-3.63**	50
SAT	3.00	1.08	4.80	1.81	-4.11**	50
DEF	6.64	1.77	4.90	1.20	2.93*	50
DEF2	6.79	2.34	9.80	3.55	-3.29*	50
ALD	4.86	1.12	5.20	1.32	-.84*	50
FAM	8.43	2.15	8.00	1.41	.60	50

\* \* indicates significance at the .05 level.  
 \* \*\* indicates significance at the .001 level.

non-dependents. The means were also found to be significantly different on DEF,  $t(50) = 2.04$ ,  $p < .05$ , and FAM,  $t(50) = 2.28$ ,  $p < .05$ , with dependents scoring lower than non-dependents. Gender and Voluntary scores are not represented here because no variance was found in the dependent group. All of those found dependent in this sample were male and all who volunteered were considered dependent based on SASSI.

Similar results were found between group means as per the clinician's judgement (see Table 5). Significant differences were found on RPSA,  $t(50) = -4.40$ ,  $p < .001$ ; RPSD,  $t(50) = -3.77$ ,  $p < .001$ ; OAT,  $t(50) = -3.63$ ,  $p < .001$ ; and SAT,  $t(50) = -4.11$ ,  $p < .001$ . Dependent students scored higher on these scales. Significance was found for DEF,  $t(50) = 2.93$ ,  $p < .05$  with dependent students scoring lower. Voluntary and gender were calculated since the clinician found one female dependent and one voluntary student not dependent creating variance in the variable.

Results of Multiple Regression tests once using the CCDC as the dependent variable and another time using the SASSI as the dependent variable showed different results. The first analysis identified RPSA,  $R^2 = .28$ ,  $F(1, 50) = 19.32$ ,  $p < .0001$ , as the best predictor and RPSD,  $R^2 = .34$ ,  $F(2, 49) = 12.76$ ,  $p < .0001$ , as the second best predictor of the clinician's determination. The second analysis also

found RPSA,  $R^2 = .47$ ,  $F(1, 50) = 43.62$ ,  $p < .0001$ , to be the best predictor but found SAT,  $R^2 = .73$ ,  $F(2, 49) = 27.33$ ,  $p < .0001$ , to be the second best predictor of SASSI's determination of dependence. These results are shown in table 6.

Table 6

Multiple Regression Analysis on CCDC and SASSI as dependent variables.

		Multiple R	$R^2$	Delta R	Beta	F
CCDC	RPSA	.53	.28	.53	.53	19.32*
	RPSD	.59	.34	.06	.39	12.76*
SASSI	RPSA	.68	.47	.68	.68	43.62*
	SAT	.73	.53	.05	.50	27.33*

" \* " indicates significance level at .0001.

## DISCUSSION

The students in this study were a unique group. All of the participants had encountered at least one if not more than one problem associated with substance abuse considering that they were either referred into the program for violations of university policies or self-identified as having problems with substance abuse. They were comprised of mostly males (78.8%), aged 17-22, with a preponderance of 18 (25%), 19 (40.4%) and 20 (23.1%) year olds. This supports findings in the literature suggesting that more males on campuses are problem drinkers (Berkowitz & Perkins, 1987; Canterbury, et al., 1992; Hansen, 1990; Klein, 1989; Klein, 1992) at younger ages (Berkowitz and Perkins, 1987; Engs and Hanson, 1985). Being primarily first and second year students, most were underaged drinkers living in monitored residence halls. This left these students more vulnerable to being "caught" in violation of alcohol abuse policies. This study found 19.2% to be addicted as per the clinician and 17.3% addicted as per SASSI which is similar to other research findings. Sherry and Stolberg, (1987), O'Hare (1990), and Hanson (1990) found 10%, 18.8%, and 20.2%, respectively, of the students studied were considered heavy drinkers. In Seay and Beck's study (1984), 7% were identified as alcoholics.

The findings of the chi square analysis suggest support, although limited, for the use of Substance Abuse Subtle Screening Inventory (SASSI) as a screening tool for college students who may have addiction problems with alcohol or drugs. That is, the Certified Chemical Dependency Counselor, the expert clinician in this study, and the SASSI test agreed on classification of 41 of 52 clients (78.8%). The use of SASSI along with the clinician's expert judgement appears to be a complementary combination.

The correlations among the subscales support SASSI as reported in the manual. The more obvious the measure, the stronger the correlation with the Risk Prediction Scales. The Subtle Attributes scale (SAT) is less highly correlated with the obvious measures and the Defensiveness scale (DEF) is negatively correlated. Of limited interest are the high correlations of scales with the Defensive Abusers vs. Nonabusers Scale (DEF2). Considering that there was only one slightly elevated DEF scale score indicating a need to consider the value of the DEF2, the relevance of this finding is questionable.

T-tests were performed first using the clinician's determinations as the dependent variable and a second time with SASSI determinations as the dependent variable. Results from both classification systems were similar with higher significant differences found on the more obvious measures

than on the more subtle and defensive scales. Dependency was determined by these more obvious measures rather than by the scales designed to pick up on the more defensive addict. This contradicts the fourth hypothesis that addicted college students would be guarded and defended about their addiction problems. However, having found similar results on identification of addiction by the more admitted scales, Cooper and Robinson (1987) suggest that "college populations could be more open in reporting use, but have developed fewer problems and attributes associated with chronic use" (p. 183).

The most face valid measures, the Risk Prediction Scale-Alcohol (RPSA) and Risk Prediction Scale-Drug (RPSD), were also the first and second (respectively) most influential variables when multiple regression tests were performed with the clinician's determination as the dependent variable. However, with SASSI's determination as the dependent variable, RPSA and SAT were identified as the first and second most influential variables. The clinician may be identifying addiction based primarily on obvious and face valid information shared by the student. The clinician may have more difficulty identifying students who are experiencing more subtle aspects of addiction. Conversely, SASSI may be adept at identifying students who are addicted but more defended. These students may be able to conceal the addiction well enough to evade detection by the clinician. This supports the

idea the SASSI compliments the RPS scales and the clinician by being more sensitive to the more subtle attributes of addicted persons.

As was stated previously, some ambiguous decisions were made by the clinician leaving question of error on the part of the clinician. However, in several of the determinations of dependency by the clinician and "not dependent" by SASSI, the clinician had firm statements supporting the determination. The clinician's recommendation forms included information based on the students' class participation and answers on their questionnaires. These notes included numerous concerns such as, "gulping drinks to get drunk," "frequent blackouts," "craving," failed "attempts to control use," "family history of addictions," and "age of onset." Conversely, SASSI made clearcut decisions on a few of the students when the clinician was undecided. This suggests that SASSI be used, as Holt (1986) suggests empirical measures be used, in combination with clinical judgement.

This study had two shortcomings. One is that of a low N. Due to the nature of the program, the number of participants is limited unlike studies done in larger settings with more intensive, community wide programming. A low number of participants is inherent when assessing the use of a measure on a particular population in a small program. In addition, the data was gathered by seven counselors with varied

interpretations of the process. The experimenter believes that the N could have been enhanced by the gathering of data being performed more uniformly by one test administrator.

The other limitation was that only one expert clinician was used to determine SASSI's ability to identify addiction. When subjective data is used, several clinicians should participate to counter the effects of human error and subjectivity. However, again, due to the nature of the program, this condition was not under the control of the experimenter. Nevertheless, the clinician's judgement and the test results were quite consistent with each other as the analysis shows. Future studies should include more control over the administration of the measure, a larger N, and more expert clinicians.

Contrary to suggestions that the adult form of SASSI would best identify addiction in the college population (personal communication, Glenn Miller, January, 1993), the adolescent form of SASSI developed by Miller (1990, cited in Miller, 1985) may work best with this particular population. This hypothesis could be considered for future studies.

This researcher concludes that SASSI is a good measure for use in identification of addiction in college students provided it is used along with a clinician trained in treatment of chemical dependency. This study does not support the use of SASSI alone. Support for the measure as described



in the manual was found through correlational analyses and t-tests. SASSI appears to supercede the clinician in identification of addiction based on subtle attributes associated with dependency. Suggestions for future research include the use of a larger N, more strict conditions for gathering data, and the comparison of SASSI with more than one clinician. Future studies might also include item analyses to determine the appropriateness of each item for use with this particular population. The adolescent form of SASSI may be a better option or a third version may need to be developed specifically for the college population.

## APPENDIX A

### Student Handbook 1992-1993 The University of Dayton

#### University Disciplinary Regulations

##### Alcohol Policy

The University of Dayton expects **all students** to adhere to University regulations, Ohio State and local codes concerning alcohol distribution, sale and usage listed below. Violation of State Laws and local statutes may result in penalties of up to \$1000 in fines, six months imprisonment, and five years probation and also are subject to University disciplinary action.

##### Sale, Distribution, Possession and Consumption of Alcohol

Ohio State Law prohibits the purchase, possession or consumption of alcoholic beverages by any person under the age of 21.

Ohio State Law prohibits the sale, distribution, or dispensing of alcoholic beverages to any person under the age of 21.

Ohio State Law prohibits the sale or dispensing of alcoholic beverages to any person who is intoxicated or who appears to be intoxicated.

##### Disorderly Conduct

Irresponsible alcohol usage resulting in drunken and/or disorderly conduct is not acceptable on the University of Dayton Campus\* and is subject to disciplinary action.

##### Drinking in Public

Persons in the City of Dayton are prohibited from drinking alcoholic beverages in "...any street, alley, parking lot, or in any vehicle in or upon the same..."

##### Misrepresentation of Age

It is against the law in the State of Ohio for any person to use a falsified driver's permit or other identification or to misrepresent his or her age in any way for the purpose of obtaining alcoholic beverages.

## **Driving Under the Influence (DUI)**

**No person shall operate any type of vehicle, whatsoever, while under the influence of alcohol or drugs of abuse or any combination thereof.**

## **Alcohol Use In Campus Facilities and On University Property**

**The Possession or consumption of alcoholic beverages by students under the age of 21 is not permitted at any time on the University of Dayton Campus\*. The consumption or possession of open containers of alcoholic beverages by students aged 21 or older is regulated by the following:**

**Resident Halls, Suites, Apartments, and Houses:** The possession or consumption of alcoholic beverages by those students 21 years of age or older is permitted only in private rooms/houses: alcoholic beverages are not permitted in hallways, stairways, lobbies, or lounges.

**Kennedy Union:** Alcoholic beverages in the Kennedy Union must be purchased from and served by a Kennedy Union Food Service employee.

**McGinnis Center:** Beer in cans only may be served under authorized conditions and in limited quantities in the McGinnis Center Multipurpose Room. No kegs, bottled beer or hard liquor may be served. Regulations specific to the McGinnis Center can be obtained from the Coordinator of the McGinnis Center.

**UD Arena and Welcome Stadium:** Alcoholic beverages are not permitted in the UD Arena nor in Welcome Stadium.

## **Keg Policy**

**Beer Kegs** (defined as any container that dispenses beer by means of a tap) **are prohibited from all University facilities, grounds and activities** (including all University houses) **unless prior approval is obtained.** Approval for the use of kegs will be granted only in those cases where proper validation of legal drinking age can be systematically insured. Information regarding the approval process may be obtained from the McGinnis Center Office.

Empty beer kegs are not permitted on University property or in University facilities and may be confiscated. Violators are subject to disciplinary action.

## **Alcohol Consumption Devices**

**Beer bongs or any other devices used to artificially increase alcohol consumption are not permitted on University property or in University facilities and will be confiscated. Violators will be subject to disciplinary action.**

## **Mandatory Alcohol/Substance Abuse Education Program**

As an educational component of the University's discipline process, **students involved in disciplinary violations in which their behavior indicates an alcohol or substance abuse problem may be required to participate in an alcohol/substance abuse educational program.** Behaviors resulting from the abuse of alcohol or other substances which will result in placement in such a program include property destruction, violent or abusive behavior, the loss of motor control, or the loss of consciousness. Participation in the education program also may be required in cases of repeated disruptive and disorderly conduct which are alcohol related.

The alcohol/substance abuse education program is administered by the University in conjunction with a local health care facility. Attendance at all sessions is mandatory for students required to participate in the program as a result of University disciplinary action. In addition to any fine or other disciplinary action imposed by the University, the cost for the program will be the responsibility of the student. Failure to comply with the program will result in additional disciplinary action imposed by the University, including suspension or dismissal.

Students who have completed the educational program but who continue to exhibit alcohol related behavioral problems may be referred to a comprehensive alcohol/substance treatment program as a condition of continued enrollment at the University of Dayton. The cost for additional assessment and /or treatment will be paid by the student. Failure to comply with such a referral may result in separation from the University.

**\*The University of Dayton Campus** is defined as all University owned buildings, facilities and properties including all houses in the residential area and the arena and its grounds as well as places where official UD activities are being held.

pp. 60, 62, 64.

APPENDIX B  
Consent Forms  
Winter Term 1993  
and  
1993-1994 Academic Year

January 12, 1993

Dear Student:

I am a Master's level graduate student in the Psychology Department at the University of Dayton. I also work as a counselor at the University of Dayton Counseling Center. I am conducting research on the Substance Education Program (S.E.P.) offered to you through the U.D. Counseling Center and the Greene Hall unit of Xenia Memorial Hospital.

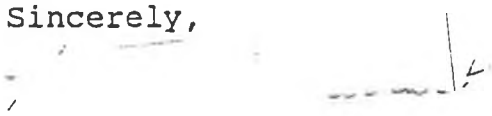
Your participation in this study will involve no additional efforts other than to grant permission for me to access your records pertaining to your participation in S.E.P.

Your participation in this study is voluntary. You may choose not to participate or to withdraw from the study at any time without affecting your S.E.P. participation or evaluation. Data will be analyzed using a coding system rather than names. The results of the study may be published but confidentiality will be respected.

Although there may be no direct benefit to you, the possible benefit of your participation may include improvements in the S.E.P. program for future participants and contributions to this field of study.

If you have any questions concerning the research study, please call me, Kathleen Gierhart, at 229-3141.

Sincerely,

  
Kathleen M. Gierhart, B.A., L.S.W.

\*\*\*\*\*

I give consent to participate in the above study and I extend permission to Kathleen M. Gierhart to access my S.E.P. records. This permission will expire upon completion of this research study.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Dear Student:

I am a Master's level graduate student in the Psychology Department at the University of Dayton. I am conducting research on the Substance Education Program (S.E.P.) offered to you through The U.D. Counseling Center, Office of Special Programs-Student Development, and Lynn Laubach, M.A., CCDC III, private consultant.

Your participation in this study will involve no additional efforts other than to grant permission for me to access your records pertaining to your participation in S.E.P.

Your participation in this study is voluntary. You may choose not to participate or to withdraw from the study at any time without affecting your S.E.P. participation or evaluation. Data will be analyzed using a coding system rather than names. The results of the study may be published but confidentiality will be respected.

Although there may be no direct benefit to you, the possible benefit of your participation may include improvements in the S.E.P. Program for future participants and contributions to this field of study.

If you have any questions concerning the research study, please call me, Kathleen Gierhart, at 426-7460.

Sincerely,

\*\*\*\*\*

I give consent to participate in the above study and I extend permission to Kathleen M. Gierhart to access my S.E.P. records. This permission will expire upon completion of this research study.

---

Signature

---

Date

**APPENDIX C**

**Student Questionnaire**



Student Questionnaire

Female \_\_\_\_\_

Freshman \_\_\_\_\_

Male \_\_\_\_\_

Sophomore \_\_\_\_\_

Junior \_\_\_\_\_

Age \_\_\_\_\_

Senior \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

1. List all the chemicals you have used.
  
2. How long have you used chemicals (including alcohol) beginning with experimentation?
  
3. How often do you use in a week?
  
4. How much do you use in a week?
  
5. How much money do you spend for chemicals in a month, if you were to pay for all your chemicals?
  
6. Have you ever received an evaluation or received treatment for drug abuse? If so, explain.
  
7. How is school going for you (i.e., grades, skipping classes, etc.)?
  
8. Have you ever had a blackout? Describe any blackouts you have experienced.
  
9. Have you ever been stopped by the police and/or been arrested for any chemical related offense? (Public intoxication, DUI, disorderly conduct, open container, etc.)
  
10. What are your rules for using? How did they come about?
  
11. Have you ever broken one of your rules for using? What happened?

12. Do you ever use alone? If so, how often and why?
13. Have you ever lost a friend because of your use? Boyfriend--girlfriend?  
What happened?
14. Is there anyone in your family (parents, sibling, aunts/uncles, grandparents) who has had or has a chemical problem? Explain.
15. Have you ever tried to cut down on your use? How did it work?
16. Have you ever tried to quit using? How did it work?
17. What harmful consequences are you aware of as a result of your chemical use (i.e., blackouts, decreased school/work performance, effects on relationships/family, legal trouble, health, financial, accidents, fights, etc.)? Be specific.
18. Do you feel you have a problem or have ever had a problem with chemicals?  
Explain.

APPENDIX D  
SASSI  
(Miller, 1985)

If a statement tends to be TRUE for you, fill in the square in the column headed T; that is, if a statement tends to be FALSE for you, fill in the square in the column headed F; that is, Please try to answer all questions.

Fill in this way.

T F

Not like this.

- T  F PEOPLE GENERALLY LIKE TO HELP OTHERS.
- T  F I USUALLY "GO ALONG" AND DO WHAT OTHERS ARE DOING.
- T  F AT LEAST ONE OF MY PARENTS WAS OFTEN DEPRESSED, UNHAPPY OR INSECURE WHEN I WAS A CHILD.
- T  F I HAVE NEVER BEEN IN TROUBLE WITH THE POLICE.
- T  F I WAS ALWAYS WELL BEHAVED IN SCHOOL.
- T  F MY TROUBLES ARE NOT ALL MY FAULT.
- T  F I HAVE NOT LIVED THE WAY I SHOULD.
- T  F I CAN BE FRIENDLY WITH PEOPLE WHO DO MANY WRONG THINGS.
- T  F I DO NOT LIKE TO SIT AND DAYDREAM.
- T  F SOMETIMES I HAVE A HARD TIME SITTING STILL.
- T  F AT TIMES I FEEL WORN OUT FOR NO SPECIAL REASON.
- T  F I BELIEVE EVERYTHING IS TURNING OUT JUST THE WAY THE BIBLE SAID IT WOULD.
- T  F MY FATHER USUALLY IGNORED ME WHEN I WAS A CHILD.
- T  F I HAVE HAD DAYS, WEEKS, OR MONTHS WHEN I COULDN'T GET MUCH DONE BECAUSE I JUST WASN'T UP TO IT.
- T  F I AM VERY RESPECTFUL OF AUTHORITY.
- T  F I LIKE TO OBEY THE LAW.
- T  F I HAVE BEEN TEMPTED TO LEAVE HOME.
- T  F I OFTEN FEEL THAT STRANGERS LOOK AT ME WITH DISAPPROVAL.
- T  F I FREQUENTLY FEEL NAUSEATED.
- T  F I HAVE AVOIDED PEOPLE I DID NOT WISH TO SPEAK TO.
- T  F SOME CROOKS ARE SO CLEVER THAT I HOPE THEY GET AWAY WITH WHAT THEY HAVE DONE.
- T  F MY SCHOOL TEACHERS HAD SOME PROBLEMS WITH ME.
- T  F I HAVE NEVER DONE ANYTHING DANGEROUS JUST FOR FUN.
- T  F I HAVE SOMETIMES DRUNK TOO MUCH.
- T  F MUCH OF MY LIFE IS UNINTERESTING.
- T  F SOMETIMES I WISH I COULD CONTROL MYSELF BETTER.
- T  F SOMETIMES I AM NO GOOD FOR ANYTHING AT ALL.
- T  F I BREAK MORE LAWS THAN MANY PEOPLE.
- T  F IF SOME FRIENDS AND I WERE IN TROUBLE TOGETHER, I WOULD RATHER TAKE THE WHOLE BLAME THAN TELL ON THEM.
- T  F PORNOGRAPHY AND OBSCENITY HAVE BECOME SERIOUS PROBLEMS AND MUST BE CURBED.
- T  F I THINK THERE IS SOMETHING WRONG WITH MY MEMORY.
- T  F I HAVE SOMETIMES BEEN TEMPTED TO HIT PEOPLE.
- T  F I ALWAYS FEEL SURE OF MYSELF.
- T  F I HAVE NEVER BROKEN A MAJOR LAW.
- T  F THERE HAVE BEEN TIMES WHEN I HAVE DONE THINGS I COULDN'T REMEMBER LATER.
- T  F I THINK CAREFULLY ABOUT ALL MY ACTIONS.
- T  F I HAVE USED ALCOHOL OR "POT" TOO MUCH OR TOO OFTEN.
- T  F I KNOW WHO IS TO BLAME FOR MOST OF MY TROUBLES.
- T  F I GUESS I KNOW SOME PRETTY UNDESIRABLE TYPES.
- T  F MOST PEOPLE WOULD LIE TO GET WHAT THEY WANT.
- T  F I HAVE RARELY BEEN PUNISHED.
- T  F I SMOKE CIGARETTES REGULARLY.
- T  F AT TIMES I HAVE BEEN SO FULL OF PEP THAT I FELT I DIDN'T NEED SLEEP FOR DAYS AT A TIME.
- T  F I HAVE SOMETIMES SAT ABOUT WHEN I SHOULD HAVE BEEN WORKING.
- T  F I AM OFTEN RESENTFUL.
- T  F I TAKE ALL MY RESPONSIBILITIES SERIOUSLY.
- T  F AT LEAST ONCE A WEEK I USE SOME NON-PRESCRIPTION STOMACH AIDS (PEPTO-BISMOL, ROLAIDS, ETC.)
- T  F I AM RARELY AT A LOSS FOR WORDS.
- T  F I AM USUALLY HAPPY.
- T  F I AM A RESTLESS PERSON.
- T  F I HAVE NEGLECTED OBLIGATIONS TO FAMILY OR WORK BECAUSE OF DRINKING OR USING DRUGS.
- T  F I HAVE HAD A DRINK FIRST THING IN THE MORNING TO STEADY MY NERVES OR GET RID OF A HANGOVER.

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Marital Status \_\_\_\_\_ Date \_\_\_\_\_

Occupation \_\_\_\_\_ Last school grade completed \_\_\_\_\_

IT IS ILLEGAL TO REPRODUCE THIS FORM

Copyright, May, 1985 by Glenn Miller

\*These items are taken from the Psychological Services Inventory Copyright 1968 by Richard L. Iverson, Ph.D. and are used here by permission.

For each item below, circle the number which reflects how often you have experienced the situation described.

The numbers represent the following categories:

0 = Never    1 = Once or Twice    2 = Several Times    3 = Repeatedly

## ALCOHOL

- |         |  |         |  |
|---------|--|---------|--|
| 0 1 2 3 | 1. HAD DRINKS WITH LUNCH?  | 0 1 2 3 | 1. TAKEN DRUGS TO IMPROVE YOUR THINKING AND FEELING?   |
| 0 1 2 3 | 2. TAKEN A DRINK OR DRINKS TO HELP YOU EXPRESS YOUR FEELINGS OR IDEAS?   | 0 1 2 3 | 2. TAKEN DRUGS TO HELP YOU FEEL BETTER ABOUT A PROBLEM?  |
| 0 1 2 3 | 3. TAKEN A DRINK OR DRINKS TO RELIEVE A TIRED FEELING OR PEP YOU UP WHEN YOU HAVE TO KEEP GOING?               | 0 1 2 3 | 3. TAKEN DRUGS TO BECOME MORE AWARE OF YOUR SENSES (e.g. SIGHT, HEARING, TOUCH, ETC.)?                                 |
| 0 1 2 3 | 4. HAD MORE TO DRINK THAN YOU INTENDED TO?   | 0 1 2 3 | 4. TAKEN DRUGS TO IMPROVE YOUR ENJOYMENT OF SEX?   |
| 0 1 2 3 | 5. EXPERIENCED PHYSICAL PROBLEMS AFTER DRINKING? (e.g. NAUSEA, SEEING/HEARING PROBLEMS, DIZZINESS, ETC.)       | 0 1 2 3 | 5. TAKEN DRUGS TO HELP FORGET THAT YOU FEEL HELPLESS AND UNWORTHY?   |
| 0 1 2 3 | 6. GOTTEN INTO TROUBLE ON THE JOB, IN SCHOOL, OR AT HOME BECAUSE OF YOUR DRINKING?                             | 0 1 2 3 | 6. TAKEN DRUGS TO FORGET SCHOOL, WORK, OR FAMILY PRESSURES?  |
| 0 1 2 3 | 7. BECAME DEPRESSED AFTER HAVING SOBERED UP?   | 0 1 2 3 | 7. GOTTEN INTO TROUBLE WITH THE LAW BECAUSE OF DRUGS?  |
| 0 1 2 3 | 8. ARGUED WITH YOUR FAMILY OR FRIENDS BECAUSE OF YOUR DRINKING?  | 0 1 2 3 | 8. GOTTEN REALLY STONED OR WIPE OUT ON DRUGS (MORE THAN JUST HIGH)?  |
| 0 1 2 3 | 9. HAD THE EFFECTS OF DRINKING REOCCUR (e.g. FLASHBACKS, HALLUCINATIONS, ETC.) AFTER NOT DRINKING FOR A WHILE? | 0 1 2 3 | 9. TRIED TO TALK A DOCTOR INTO GIVING YOU SOME PRESCRIPTION DRUG (e.g. TRANQUILIZERS, PAIN KILLERS, DIET PILLS, ETC.)? |
| 0 1 2 3 | 10. HAD PROBLEMS IN RELATIONSHIPS (e.g. LOSS OF FRIENDS, SEPARATION, DIVORCE, ETC.) BECAUSE OF YOUR DRINKING?  | 0 1 2 3 | 10. SPENT YOUR SPARE TIME IN DRUG-RELATED ACTIVITIES (e.g. TALKING ABOUT DRUGS, BUYING, SELLING, TAKING, ETC.)?        |
| 0 1 2 3 | 11. BECAME NERVOUS OR HAD THE SHAKES AFTER HAVING SOBERED UP?  | 0 1 2 3 | 11. USED DRUGS AND ALCOHOL AT THE SAME TIME?   |
| 0 1 2 3 | 12. TRIED TO COMMIT SUICIDE WHILE DRUNK?   | 0 1 2 3 | 12. CONTINUED TO TAKE A DRUG OR DRUGS IN ORDER TO AVOID THE PAIN OF WITHDRAWAL?  |

## OTHER DRUGS

- |         |  |         |  |
|---------|--|---------|--|
| 0 1 2 3 | 1. TAKEN DRUGS TO IMPROVE YOUR THINKING AND FEELING?   | 0 1 2 3 | 1. TAKEN DRUGS TO IMPROVE YOUR THINKING AND FEELING?   |
| 0 1 2 3 | 2. TAKEN DRUGS TO HELP YOU FEEL BETTER ABOUT A PROBLEM?  | 0 1 2 3 | 2. TAKEN DRUGS TO HELP YOU FEEL BETTER ABOUT A PROBLEM?  |
| 0 1 2 3 | 3. TAKEN DRUGS TO BECOME MORE AWARE OF YOUR SENSES (e.g. SIGHT, HEARING, TOUCH, ETC.)?                         | 0 1 2 3 | 3. TAKEN DRUGS TO BECOME MORE AWARE OF YOUR SENSES (e.g. SIGHT, HEARING, TOUCH, ETC.)?                                 |
| 0 1 2 3 | 4. HAD MORE TO DRINK THAN YOU INTENDED TO?   | 0 1 2 3 | 4. TAKEN DRUGS TO IMPROVE YOUR ENJOYMENT OF SEX?   |
| 0 1 2 3 | 5. EXPERIENCED PHYSICAL PROBLEMS AFTER DRINKING? (e.g. NAUSEA, SEEING/HEARING PROBLEMS, DIZZINESS, ETC.)       | 0 1 2 3 | 5. TAKEN DRUGS TO HELP FORGET THAT YOU FEEL HELPLESS AND UNWORTHY?   |
| 0 1 2 3 | 6. GOTTEN INTO TROUBLE ON THE JOB, IN SCHOOL, OR AT HOME BECAUSE OF YOUR DRINKING?                             | 0 1 2 3 | 6. TAKEN DRUGS TO FORGET SCHOOL, WORK, OR FAMILY PRESSURES?  |
| 0 1 2 3 | 7. BECAME DEPRESSED AFTER HAVING SOBERED UP?   | 0 1 2 3 | 7. GOTTEN INTO TROUBLE WITH THE LAW BECAUSE OF DRUGS?  |
| 0 1 2 3 | 8. ARGUED WITH YOUR FAMILY OR FRIENDS BECAUSE OF YOUR DRINKING?  | 0 1 2 3 | 8. GOTTEN REALLY STONED OR WIPE OUT ON DRUGS (MORE THAN JUST HIGH)?  |
| 0 1 2 3 | 9. HAD THE EFFECTS OF DRINKING REOCCUR (e.g. FLASHBACKS, HALLUCINATIONS, ETC.) AFTER NOT DRINKING FOR A WHILE? | 0 1 2 3 | 9. TRIED TO TALK A DOCTOR INTO GIVING YOU SOME PRESCRIPTION DRUG (e.g. TRANQUILIZERS, PAIN KILLERS, DIET PILLS, ETC.)? |
| 0 1 2 3 | 10. HAD PROBLEMS IN RELATIONSHIPS (e.g. LOSS OF FRIENDS, SEPARATION, DIVORCE, ETC.) BECAUSE OF YOUR DRINKING?  | 0 1 2 3 | 10. SPENT YOUR SPARE TIME IN DRUG-RELATED ACTIVITIES (e.g. TALKING ABOUT DRUGS, BUYING, SELLING, TAKING, ETC.)?        |
| 0 1 2 3 | 11. BECAME NERVOUS OR HAD THE SHAKES AFTER HAVING SOBERED UP?  | 0 1 2 3 | 11. USED DRUGS AND ALCOHOL AT THE SAME TIME?   |
| 0 1 2 3 | 12. TRIED TO COMMIT SUICIDE WHILE DRUNK?   | 0 1 2 3 | 12. CONTINUED TO TAKE A DRUG OR DRUGS IN ORDER TO AVOID THE PAIN OF WITHDRAWAL?  |
| 0 1 2 3 |  | 0 1 2 3 | 13. FELT YOUR DRUG USE HAS KEPT YOU FROM GETTING WHAT YOU WANT OUT OF LIFE?  |
| 0 1 2 3 |  | 0 1 2 3 | 14. BEEN ACCEPTED INTO A TREATMENT PROGRAM BECAUSE OF DRUG USE?  |

APPENDIX E

SASSI Substance Abuse Subtle Screening Inventory

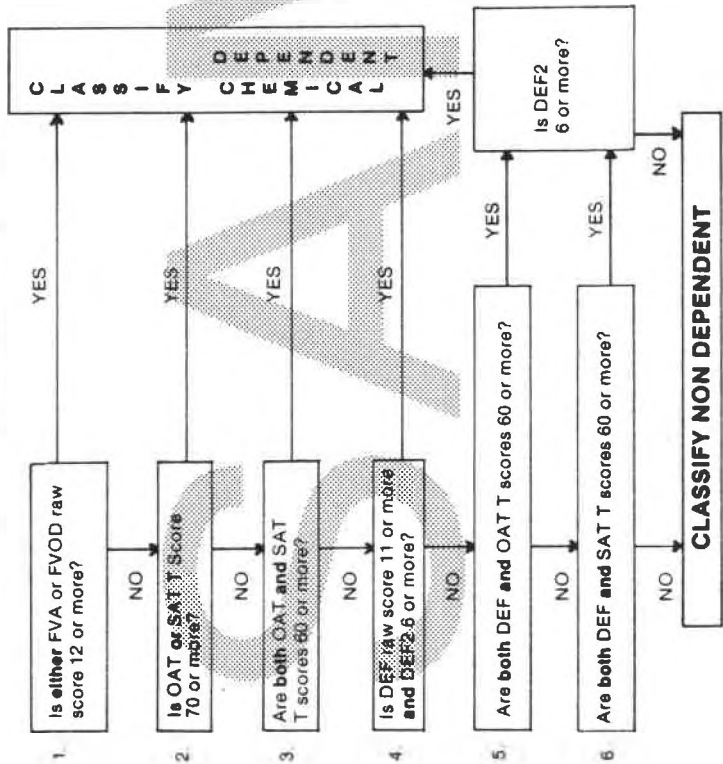
Adult Male/Female Profile

(Miller, 1985)

SASS - Substance Abuse Subtle Screening Inventory ADULT MALE PROFILE

Name \_\_\_\_\_ Age \_\_\_\_\_ Date \_\_\_\_\_  
 Marital Status \_\_\_\_\_ Occupation \_\_\_\_\_ Location \_\_\_\_\_  
 Education \_\_\_\_\_

Decision Rules for the Adult SASSI



T SCORE	(RPSA*) (RPSD*)			(DEN*) (DAN*)			PERCENTILE			
	FVA	FVOD	OAT	SAT	DEF	DEF2	ALD	FAM	PERCENTILE	
80	14	12	16	7	14	15	9	13	98th	
75	13	11	15	7	13	14	8	12	85th	
70	12	10	14	6	12	13	7	11	50th	
65	11	9	13	6	11	12	6	10	15th	
60	10	8	12	5	10	11	5	9		
55	9	7	11	4	9	10	4	8		
50	8	6	10	3	8	9	3	7		
45	7	5	9	2	7	8	2	6		
40	6	4	8	1	6	7	1	5		

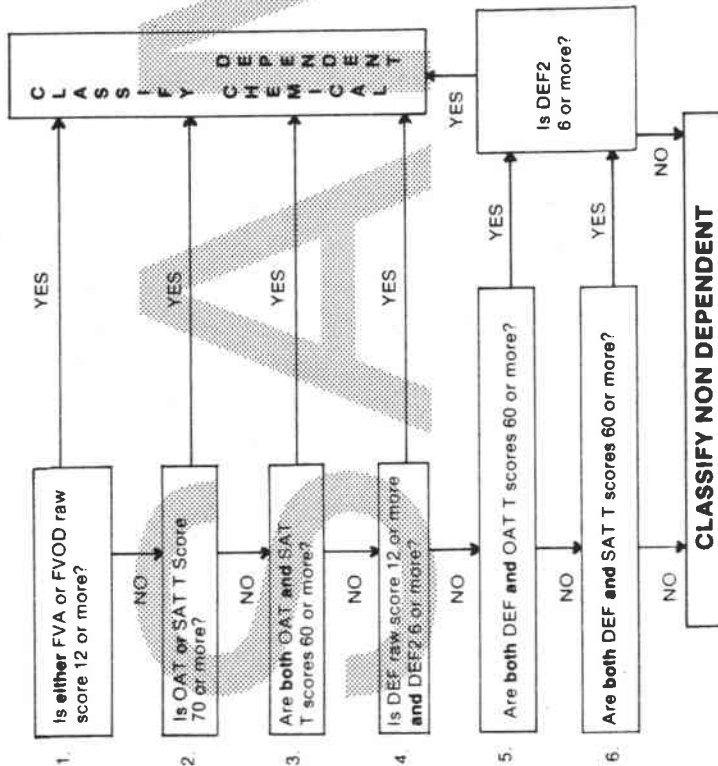
COMMENTS:

ALC \_\_\_\_\_ DRUG \_\_\_\_\_  
 Obvious Attributes \_\_\_\_\_  
 Subtle Attributes \_\_\_\_\_  
 Defensiveness \_\_\_\_\_  
 Defensive vs Defensive Non Dependent \_\_\_\_\_  
 Alcohol vs Drug \_\_\_\_\_  
 Family vs Controls \_\_\_\_\_

\*Former name of scale.

Name \_\_\_\_\_ Age \_\_\_\_\_ Date \_\_\_\_\_  
 Marital Status \_\_\_\_\_ Occupation \_\_\_\_\_ Location \_\_\_\_\_  
 Education \_\_\_\_\_

**Decision Rules for the Adult SASSI**



**COMMENTS:**

STANDARD T SCORE	(RPSA*) (RPSD*)			(DEN*) (DAN*)			PERCENTILE
	FVA	FVOD	OAT	SAT	DEF	DEF2	
80	13 → 12	13 → 11	16	7	15	14	14
70	11	10	14	13	13	12	13
60	9	8	12	6	12	12	12
50	8	7	11	11	11	11	11
	7	6	10	5	10	10	10
	6	5	9	4	9	9	9
	5	4	8	8	8	8	8
	4	3	7	7	7	7	7
	3	2	6	6	6	6	6
	2	1	5	5	5	5	5
	1	0	4	4	4	4	4
	0		3	3	3	3	3
			2	2	2	2	2
			1	1	1	1	1

ALC \_\_\_\_\_  
 DRUG \_\_\_\_\_  
 Obvious Attributes \_\_\_\_\_  
 Subtle Attributes \_\_\_\_\_  
 Defensiveness \_\_\_\_\_  
 Defensive vs. Dependent \_\_\_\_\_  
 Non Dependent \_\_\_\_\_  
 Alcohol vs. Drug \_\_\_\_\_  
 Family vs. Controls \_\_\_\_\_

\*Former name of scale.



## REFERENCES

- American College Health Association (1987). Statement on college alcohol and drug abuse. Journal of American College Health, 36, 64.
- American Psychiatric Association. (1987). Diagnostic and Statistical Manual of Mental Disorders (3rd. Ed., Revised). Washington D.C., American Psychiatric Association.
- Abbey, A. (1991). Acquaintance rape and alcohol consumption on college campuses: How are they linked? Journal of American College Health, 39, 165-168.
- Berkowitz, A.D., & Perkins, H.W. (1987). Recent research on gender differences in collegiate alcohol use. Journal of American College Health, 36, 123-129.
- Black, Claudia. (1981) It Will Never Happen to Me. Denver, CO.: M.A.C. Printing.
- Canterbury, R.J., Gressard, C.F., Vieweg, W.V.R., Grossman, S.J., McKelway, R.B., & Westerman, P.S. (1992). Risk-taking behavior of college students and social forces. American Journal of Drug and Alcohol Abuse, 18(2), 213-222.
- The Carnegie Foundation for the Advancement of Teaching. (1990). Campus Life: In Search of Community, Princeton Press.
- Claydon, P. (1987). Self-reported alcohol, drug, and eating-disorder problems among male and female collegiate children of alcoholics. Journal of American College Health, 36(2), 111-116.
- Colligan, R.C. & Offord, K.P. (1990). MacAndrew versus MacAndrew: The relative efficacy of the MAC and the SAP Scales for the MMPI in screening male adolescents for substance misuse. Journal of Personality Assessment, 55(3&4), 708-716.
- Cooper, S.E., & Robinson, D.A. (1987). Use of the Substance Abuse Subtle Screening Inventory with a college population. Journal of American College Health, 36(3), 180-184.

- CORE Drug and Alcohol Survey-Form 191 Executive Summary. (1993). UCS Office of Measurement Services. University of Minnesota.
- Doweiko, H.E. (1990). Concepts of Chemical Dependency. Brooks/Cole Publishing Co. Pacific Grove, CA.
- Doweiko, H.E. (1993). Concepts of Chemical Dependency. (2nd ed.). Brooks/Cole Publishing Co. Pacific Grove, CA.
- Eigen, Lewis D. 1991. Alcohol Practices, Policies, and Potentials of American Colleges and Universities: An OSAP White Paper. U.S. Department of Health and Human Services.
- Engs, R.C. & Hanson, D.J. (1985). The drinking patterns and problems of college students: 1983. Journal of Alcohol and Drug Education, 31(1), 65-83.
- Elsworth, R.B. (1978). Profile of Adaptation to Life Holistic Scale-Manual. Roanoke, VA.: Institute for Program Evaluation.
- Feshbach, S. & Weiner, B. (1986). Personality (2nd ed.). Lexington MA: D.C. Heath and Company.
- Fleming, Barry, & MacDonald. (1991). Alcohol use disorders identification test: AUDIT. International Journal of the Addictions, 26(11), 1173-1185.
- Frezza, M., Di Padova, C., Pozzato, G., Terpin, M., Baraona, E., & Lieber, C. (1990). High blood alcohol levels in women: The role of decreased gastric alcohol dehydrogenase activity and first-pass metabolism. The New England Journal of Medicine, 322(2), 95-99.
- Graham, J.R. (1993). MMPI-2. Assessing Personality and Psychopathology. (2nd Edition.). Oxford University Press, New York.
- Gliksman, L. (1988). Consequences of alcohol use: Behavior changes and problems during first year of university. The International Journal of the Addictions, 23(12), 12-1295.
- Gottesman, I.I. & Prescott, C.A. (1989). Abuses of the MacAndrew MMPI Alcoholism Scale: A critical review. Clinical Psychology Review, 2(2), 223-242.

- Holt, R.R. (1986). Clinical and statistical prediction: A retrospective and would-be integrative perspective. Journal of Personality Assessment, 50(3), 376-386.
- Indiana Division of Addiction Services, (1978). Predicting the Degree of Risk of Abusing Alcohol and Other Drugs: The Risk Prediction Scales. State of Indiana, Department of Mental Health (internal publication).
- Jellinek, E.M. (1960). The Disease Concept of Alcoholism. New Haven, CT: College and University Press.
- Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1988). Illicit Drug Use, Smoking, and Drinking by America's High School Students, College Students, and Young Adults: 1975-1987, National Institute on Drug Abuse. (DHHS Publication No. ADM 89-1602). Washington DC: U.S. Government Printing Office.
- Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1991). Drug Use Among High School Seniors, College Students and Young Adults, 1975-1990, Volume II: College Students and Young Adults, National Institute on Drug Abuse. (DHHS Publication No. ADM 91-1835). Washington DC: Government Printing Office.
- Jung, J. (1994). Under the Influence: Alcohol and Human Behavior. Brooks/Cole Publishing Co., Pacific Grove, CA.
- Klein, H. (1989). Helping the college student problem drinker. Journal of College Student Development, 30, 323-330.
- Klein, H. (1992). College student's attitudes toward the use of alcoholic beverages. Journal of Alcohol and Drug Education, 37(3), 35-52.
- Lex, B.W. (1991). Some gender differences in alcohol and polysubstance users. Health Psychology, 10(2), 121-132.
- MacAndrew, C. (1965). The differentiation of male alcoholic outpatients from nonalcoholic psychiatric outpatients by means of the MMPI. Quarterly Journal of Studies on Alcohol, 26, 238-246.

- MacAndrew, C. (1979). On the possibility of the psychometric detection of persons who are prone to the abuse of alcohol and other substances. Addictive Behaviors, 4, 11-20.
- Maslow, A. (1943). A theory of human motivation. Psychological Review, 50, 370-396.
- Mayfield, D., McLeod, G, & Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism screening test. American Journal of Psychiatry, 131(10), 1121-1123.
- McPhail, C. 1993. Alcohol at the University of (Undisclosed Name): A Report on Keg Parties, Street Gatherings and St. Patrick's Day Celebrations. Unpublished manuscript.
- Meehl, P. (1986). Causes and effects of my disturbing little book. Journal of Personality Assessment, 50(3), 370-375.
- Miller, G.A. (1985). The Substance Abuse Subtle Screening Inventory Manual. Spencer, IN: Spencer Evening World.
- Moore, R.H. (1984). The concurrent and construct validity of the MacAndrew Alcoholism Scale among at-risk adolescent males. Journal of Clinical Psychology, 40(5), 1264-1269.
- National Center for Education Statistics, (1993). Digest of Education Statistics 1993. (U.S. Department of Education, NCES 93-292). Office of Educational Research and Improvement.
- National Institute on Drug Abuse. (1990). National Household Survey on Drug Abuse: Main Findings (DHHS Publication No. ADM 91-1788). Washington DC: U.S. Printing Office.
- O'Conner, P. (1993, May 15). Basic notes for understanding the SASSI Scales. The SASSI Institute: News and Reports. Available from The SASSI Institute, 4403 Trailridge Road, Bloomington, IN. 47408.
- O'Hare, T.M. (1989). Drinking in college: Consumption patterns, problems, sex differences and legal drinking age. Journal of Studies on Alcohol, 51(6), 536-541.
- Public Laws-101-226, Federal Register, Vol. 55, No. 79, p. 17384.

- Phillips, J.C. & Heesacker, M. (1992). College student admission of alcoholism and intention to change alcohol-related behavior. Journal of College Student Development, 33, 403-410.
- Presley, C.A., Meilman, P.W. & Lyerla, R. (1993). Alcohol and Drugs on American College Campuses: Use, Consequences, and Perceptions of the Campus Environment. Vol. 1. The Core Institute, Student Health Program. Southern Illinois University. Carbondale, Illinois. not copyrighted.
- Reed, C. (1993, November 2). Six face charges after UD ghetto melee. Dayton Daily News, pp. A1, A5.
- Santana Cooney, R. & Nonnamaker, J.B. (1992). Alcoholic behavior: Commuting versus Resident Students. Journal of College Student Development, 33, 395-402.
- Sarbin, T.R. (1986). Prediction and clinical inference: Forty years later. Journal of Personality Assessment, 50(3), 362-369.
- Schwartz, M.F. & Graham, J.R. (1979). Construct validity of the MacAndrew Alcoholism Scale. Journal of Consulting and Clinical Psychology, 47(6), 1090-1095.
- Seay, T.A. & Beck, T.D. (1984). Alcoholism Among College Students. Journal of College Student Personnel, 25(1), 90-92.
- Selzer, M.L. (1971). The Michigan Alcoholism Screening Test: The quest for a new diagnostic instrument. American Journal of Psychiatry, 127(12), 1653-1658.
- Sherry, P. & Stolberg, V. (1987). Factors affecting alcohol use by college students. Journal of College Student Personnel, 28(4), 350-355.
- Smith, M.C. (1989). Students, suds, and summonses: Strategies for coping with campus alcohol abuse. Journal of College Student Development, 30, 118-122.
- Smith, D.S., Collins, M., Kreisberg, J.P., Volpicelli, J.R., & Alterman, A.I. (1987). Screening for problem drinking in college freshmen. Journal of American College Health, 36, 89-94.

- Wasyliw, O.E., Haywood, T.W., Grossman, L.S., & Cavanaugh Jr., J.L. (1993). The psychometric assessment of alcoholism in forensic groups: The MacAndrew Scale and response bias. Journal of Personality Assessment, 60(2), 252-266.
- Werch, C.E., Gorman, D.R., & Marty, P.J. (1987). Relationship between alcohol consumption and alcohol problems in young adults. Journal of Drug Education, 17(3), 261-276.
- Wolf, A.W., Scbert, S.P., Patterson, M., Grande, T., & Pendleton, L. (1990). The use of the MacAndrew Alcoholism Scale in detecting substance abuse and antisocial personality. Journal of Personality Assessment, 54(3&4), 747-755.