ASSESSMENT OF POSTTREATMENT FOLLOW-UP EVALUATION PROCEDURES WITH ALCOHOL-ABUSE PATIENTS: A METHODOLOGICAL STUDY

DISSERTATION

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By

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The purpose of this project was to clarify the methodological considerations involved in the posttreatment follow-up evaluation of alcohol-abuse patients. A two-part project was undertaken in an attempt to answer the follow-up questions of how and when to measure treatment effects with discharged alcoholics.

In Part I, a large-scale survey was utilized to examine return rates across various program evaluation methods and time frames. No significant differences were found in return rates between the relatively short posttreatment evaluation time periods. Among the evaluation techniques in use, both telephone interviews and telephone interviews in combination with mailout questionnaires reveal significantly higher return rates than the singular use of mailout questionnaires.

In Part II, the predictive validity of scores received at short-term follow-up in relation to scores received at 1-year follow-up was assessed for measures of psychosocial functioning and alcohol consumption. Sixty male alcoholic
veterans in treatment at one Veterans Hospital were randomly assigned to one of six initial short-term follow-up groups. Follow-up measures were taken for each subject at the time of (a) pretreatment, (b) initial short-term follow-up, and (c) 1-year follow-up. Significant positive Pearson product-moment correlations were found between measures taken 15 to 18 weeks after discharge and measures taken 1 year after discharge. Measurements at 3, 6, 9, and 12 weeks following discharge do not significantly predict scores at 1-year follow-up.

Consonant with Part I findings, no significant differences in return rates were found in Part II among the six initial short-term follow-up periods. In contrast to published research, no significant differences in return rates were found between the initial short-term and 1-year follow-up time periods. No pretreatment group differences were found that could have contaminated the findings of Part II. The implications and generalizability of the results are presented.
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The purpose of this project was to clarify the methodology involved in the posttreatment follow-up evaluation of alcohol-abuse patients and, by doing so, fill a void in the information available to working clinicians involved in alcohol-abuse-treatment program evaluation projects. The four basic questions were addressed of who, what, when, and how to measure treatment effects with alcoholics.

**Comprehensive Literature Reviews**

Several literature reviews were evaluated for answers to the basic questions of (a) what to measure, (b) who to measure, (c) when to measure, and (d) how to measure in posttreatment follow-up evaluations of alcohol-abuse patients. In an early review of the alcohol-abuse-treatment literature, Voegtlin and Lemere (1942) cite over 200 articles that were written during the period from 1908 to 1940; they found a critical lack of data on the outcome of patients who received therapy for alcoholism. Hill and Blane (1967) assess the literature from 1953 to 1963 that concerns psychological intervention in alcoholism. Among the enumerated research inadequacies is their finding that most reports contained inadequate follow-up techniques. The major
research shortcomings cited were "difficulties involved in locating and following patients and the problems arising from the choice of time interval between the collection of pre- and post-therapeutic data" (Hill & Blane, 1967, p. 93). Guillespie (1967) discusses 22 longitudinal alcohol treatment follow-up studies that were conducted between 1944 and 1965. He found that many of the studies contained incomplete data, inconsistent methods of follow-up, and a lack of information on large groups of patients who were lost to follow-up.

More recently, Crawford and Chalupsky (1977) used several computer-based retrieval systems to scan the research from 1968 through 1971 in the area of alcohol treatment. The services utilized include those of the Defense Documentation Center, the Educational Resource Information Center Dialog System, the Medical Literature Analysis and Retrieval Service, and the Psychological Abstracts Search and Retrieval Service. Over 200 articles were identified of which only 40 have the explicit purpose of evaluating some type of psychological intervention.

Crawford and Chalupsky (1977) identify the following weaknesses in the reviewed articles: (a) difficulty in following patients for evaluation [how], (b) inconsistent temporal considerations [when], and (c) inadequately reported follow-up measures and procedures [what]. Moreover, most of the studies give no description of follow-up
procedures (or the description is so as to be of little use). Of the 28 studies that contained sufficient follow-up data, the return rates were 50% or less in 5 studies, 51 to 75% in 4 studies, 76 to 89% in 4 studies, and 90% or more in 15 studies.

Crawford and Chalupsky (1977) also discuss the three major time dimensions in evaluation of (a) time from intake to follow-up, (b) time for treatment completion, and (c) time from treatment completion to follow-up. Nine studies were identified that had substantial time variations within the project, and 10 studies were cited in which time dimensions were not clearly reported. In addition, substantial variations were noted among studies on the temporal variables; this made it impossible to assess the effect of the various time components that were used in evaluation projects.

In their discussion of follow-up methods utilized in 40 studies, Crawford and Chalupsky (1977) found it was common practice to interview the former patient. Five studies utilized self-administered questionnaires, and eight studies used either interviews or questionnaires (depending on patient availability). In the assessment of follow-up measures, only three studies were found in which pretreatment and follow-up data-coll ecting measures appeared to be designed for use as pre- and posttreatment instruments. All of the studies used some type of measure to reflect drinking patterns, but many did not measure other behaviors; 12
measured marital adjustment, 32 measured vocational success, and 2 studies measured psychological adjustment. However, only 5 of the 40 studies probed the relationship between these factors or searched for relationships among outcome criteria. A summary indicated that there has been a modest improvement in alcohol research since the time of the earlier reviews. Crawford and Chalupsky (1977) conclude that the early studies were inadequate in outlining how and when to assess discharged alcoholics; furthermore, they state that a multimodal approach is needed in order to decide what dimensions to measure following treatment.

Emrick (1974, 1975), in a series of comprehensive reviews covering the years from 1952 to 1971, analyzed 271 articles that evaluate outcome following some psychologically-oriented treatment for alcoholism. A computer-based retrieval system (as well as reliability checks using known bibliographies) was employed to compile an exhaustive list of references. The pace of alcoholism research is reflected by the steady increase from eight articles per year from 1952 to 1955 to more than 20 per year from 1967 through 1971. While Emrick does not comment on the difficulty of tracing patients [how] or identifying inconsistent temporal considerations [when], he thoroughly discusses follow-up measures [what].

Similar to the findings of Crawford and Chalupsky (1977), Emrick (1974) found that "drinking behavior was by
far the most often used index to evaluate alcoholism treat-
ment" (p. 525). Emrick points out that if the drinking rate is not perfectly correlated with other measures of functioning, then its feasibility as the only follow-up measure is diminished (e.g., an alcoholic may begin to have more problems at work when alcohol is no longer utilized to reduce the stress level of the job). Drinking level serves as an important criterion since it relates positively (although not perfectly) with other measures; however, its relationship to other specific outcome criterion needs to be studied empirically.

Using a cluster analysis procedure, Emrick (1974) was able to analyze the relationship between drinking behavior and other criterion that are related to an alcoholic lifestyle. He concludes that drinking outcome was associated positively with outcome on dimensions in the following clusters: affective-cognitive, work situations, interpersonal relationships in the home, physical condition, arrests and other legal problems, mixed variables, social situations, and Alcoholics Anonymous attendance.

(pp. 528-529)

These conclusions are similar to those reached by Pattison (1968) who found that "improvement in drinking and improvement in social, vocational, and psychological adaptation were related but not parallel" (p. 270). Thus, measures of other
criterion of adjustment above and beyond the level of drinking are once again declared as necessary for adequate follow-up measurement in alcohol treatment studies. Published literature reviews were available covering the years 1908 to 1971. The early literature in this area is fraught with methodological as well as measurement errors that lead one to question the reliability and validity of findings. The more recently published articles correct many of the methodological errors and measurement shortcomings. The conclusions of the recent articles appear more useful for program evaluators who are concerned with measurement accuracy. These reviews answer the basic questions concerning what should be measured in alcohol treatment research.

1. The follow-up must measure drinking behavior. It should not simply be a measure of the dichotomy drinking or abstinent (based on the Alcoholics Anonymous' premise of total abstinence), but, rather, a continuous measure.

2. The rate of alcohol consumed over a specific period of time is seen as necessary to allow use of parametric statistical methods and to allow better measurement of degrees of improvement.

3. Measures concerning other areas of functioning and adjustment should be used, including marital, vocational, legal, physical health, and psychological components.
The published literature reviews, however, are of little help to the program evaluator who is attempting to answer the other basic questions of who, when, and how to measure when evaluating alcohol treatment program graduates. For answers to these questions, an assessment was made of the more recent literature.

Who to Measure in Alcohol-Treatment Program Evaluation

Researchers in the alcohol-treatment evaluation field have been faced with a dilemma concerning who should give the information they need. The reliability and validity of self-reports from alcoholics (a population clinically known for their denial-based defense structure) was questionable. The controversy began with a frequently referenced report by Summers (1970) in which she claims that alcoholics do not give valid self-reports of drinking behavior either before or after treatment. According to Sobell and Sobell (1978), this study has several methodological shortcomings because (a) only 15 subjects were used, (b) 1/3 of the subjects were first interviewed while intoxicated, (c) the population from which the sample was drawn was not representative of alcoholics in general, (d) 9 of the 14 questions required answers of an attitudinal or circumstantial nature, and (e) the study measured inter-interview reliability, not validity, as claimed in the title. Although the methodology of this project contains many errors that render the findings
of limited utility, it has heuristic value in that it initiated a flurry of research into the validity and reliability of self-reports by alcoholics.

Reliability. According to Nunnally (1979) "in order for a test to be highly valid, it must be highly reliable also. High reliability is a necessary but not sufficient condition for high validity" (p. 197). In a study designed to test reliability of alcoholics' self-reports over a 6-week test-retest interval, Sobell, Maisto, Sobell, Cooper, and Sanders (1980) found that self-reports of daily drinking, alcohol-related incarcerations, and drinking-problem history (360 days preceding admission) were highly reliable (r = .79 to .98). Thus, using a research design that eliminated the apparent flaws in Summers' (1970) article, these researchers found alcoholics' self-reports to be highly reliable in a test-retest design.

Validity. A comprehensive series of studies have demonstrated the validity of alcoholics' self-reports of verifiable life events (Cooper, Sobell, Maisto, & Sobell, 1980; Cooper, Sobell, Sobell, & Maisto, 1980; Sobell, 1976; Sobell & Sobell, 1975, 1978; Sobell, Sobell, & Samuels, 1974). Several methods of validating alcoholics' reports have been used, including (a) infield breath tests (Miller, 1975; Sobell, Sobell, & VanderSpeck, 1979), (b) liver function tests (Boone, Tietz, & Weinstock, 1977; Reyes, Miller, Taylor, & Spalding, 1978; Sobell, Maisto, Sobell,
Cooper, Cooper, & Sanders, 1980), and (c) correlations of alcoholics' self-reports of their drinking and related behaviors with reports from collateral informants (Guze, Tausen, Stewart, & Picken, 1963; Maisto, Sobell, & Sobell, 1979; McCrady, Paolino, & Longabaugh, 1978; Miller, Crawford, & Taylor, 1979). All of these methods demonstrate the validity of self-reports by alcoholics; when discrepancies occurred between collaterals' and patients' reports, these were usually the result of patients describing their behavior in more negative manner than their respective informants.

Thus, the recent research literature clearly demonstrates that the information needed for alcohol-treatment program evaluation follow-up studies should come from the discharged patients. Unfortunately, the remaining questions of when and how to evaluate alcoholics following treatment were not clearly answered by these studies.

When to Measure Discharged Alcoholics

In a discussion of the implications and drawbacks of various evaluation time frames from discharge to follow-up, Foster, Horn, and Wanberg (1972) highlight several considerations for the researcher.

As the follow-up is lengthened: (a) it becomes increasingly difficult to contact the subjects, (b) the treatment effect becomes more difficult to identify, partly because of increased error variance due to the
accumulation of effects that intervene between the time of therapy and the time of follow-up and are random with respect to any statistical design, (c) aspects of treatment relevant to the outcome may have become increasingly difficult for the subject to identify because of forgetting or interference, and (d) the variance of variables important in measuring outcome may decrease, or distributions of these variables may show tendencies toward marked skewness, factors which either reduce correlations or make them difficult to interpret. On the other hand, as follow-up interval is decreased: (a) predictive aspects of the findings are limited to a shorter interval, (b) the identification of trend, and in particular non-monotonic trends (such as "sleeper" effects) is precluded, (c) the findings may generalize only for a short period of time, and (d) sufficient time may not have elapsed to find evidence of variability with regard to certain symptoms associated with long periods of continuous drinking.

(p. 102)

Therefore, there are two questions which must be asked when temporal decisions in alcohol treatment follow-up are assessed. At what posttreatment assessment interval will the results have predictive validity for long-term effects? What is the optimal time for follow-up in order to glean the highest response rates to evaluation procedures?
Predictive validity. Gerard and Saenger (1959) are among the earliest researchers to question the long-term predictive validity of follow-up with discharged alcoholics. In a retrospective follow-up design of every third patient seen by the Connecticut Commission on Alcoholism during 1950, they found that there were no major significant or systematic differences in current health, employment status, family relations, marital status, living arrangements, or pattern of social life over 1-, 2-, 5-, or 8-year intervals. Costello, Bechtel, and Giffen (1974), using a number of cases pooled from several different programs, also found that the proportion of cases that had no drinking-related problems did not vary as a result of follow-up intervals of 1, 4, or 8 years. In the literature following this research, the use of follow-up intervals of 1 year or longer appears to become the norm. Costello (1975a, 1975b) was able to locate 58 studies using a 1-year follow-up and 23 studies employing a 2-year follow-up. Thus, measurements taken 1 year following discharge are valid predictors of functioning 2, 4, 5, and 8 years later. Furthermore, 1-year or longer follow-up intervals are most frequently utilized in recent literature.

The predictive validity of short-term (less than 1 year) follow-up of alcoholics is not as well documented as long-term follow-up. Several researchers have found significant outcome differences in evaluations that cover 6 months or
less, only to find no such results at later times (Hollister, Shelton, & Krieger, 1969; Laverty, 1966; Ludwig, Levine, & Stark, 1970; Ludwig, Levine, Stark, & Lazar, 1969; Madill, Campbell, Laverty, Sanderson, & Vanderwater, 1966). The initial benefits of alcohol treatment were not apparent when the patients were followed at a later time. However, none of these studies deal with the psychological treatment of alcoholism through intensive inpatient hospital care. Several of these previously cited studies are from the same series of projects that investigate the usefulness of LSD in alcohol rehabilitation. These facts raise questions concerning the validity of the findings when extrapolated to psychologically oriented, inpatient treatment units.

Among the studies that do examine the psychologically oriented treatment of alcoholism, Armor, Polich, and Stambul, (1976) found, 18 months after treatment, that 10% of those who had abstained during the first 6 months had reverted to problem drinking. Pardes, Gregory, Rundell, and Williams (1979) found that 21% of those who abstained for 1 month had reverted to drinking after 16 months. Each research team claims that significant change had occurred which limited the value of the initial measurement in predicting long-term functioning.

There is also contradictory evidence that short-term evaluation of psychologically oriented treatment programs is useful for long-term prognosis of treatment outcome.
Hunt, Barnett, and Branch (1971) show abstinence at 3 months to be a valid predictor of 6- and 12-month abstinence. Dwoskin, Gordis, and Dorph (1979) found abstinence at 2 months to be a good predictor of abstinence at 4, 6, 8, and 10 months following halfway-house discharge. Fontanna and Dowds (1975) found that a marked decrease in symptomatology at the 1-month follow-up was also maintained at 6 months. Employment adjustment and social involvement also appear to remain constant from 1 to 6 months following discharge. The alcohol-abuse scores did not remain constant, however, and such scores reached a level that was close to admission level within 6 months after discharge from treatment. Finally, Ellsworth, Finnell, and Leuthold (1978) found that patient adjustment at 1 month correlates with 6-month adjustment ($r = .53$ to $.56$). Thus, in answering the first question concerning when to conduct follow-up evaluations (the predictive validity aspects), it appears that long-term predictive validity through the use of short-term follow-up of discharged alcohol-treatment-program patients has not yet been demonstrated clearly. Given multi-dimensional measurement of treatment success over time, some indices tend to remain constant and others tend to change. Furthermore, the degree of relationship between short- and long-term evaluations for various time periods and measurement indices is unknown.
Before discussing the second question of when to initiate follow-up (increasing response rates), the assessment of differences between followed and unfollowed patients should be examined. If there were no clear differences between followed and unfollowed patients at follow-up, there would be no necessity for increasing follow-up return rates for program evaluation projects with discharged alcoholics.

Followed and unfollowed patients. Several articles in the literature claim that unfollowed and difficult to follow patients have poorer posttreatment adjustment than easy to follow patients (Barr, Rosen, Antes, & Ottenberg, 1973; Hill & Blane, 1967; Sobell, 1978; Vannicelli, Pfau, & Ryback, 1976; Wolff & Holland, 1964). Of the studies that make this claim, only Moos & Bliss (1978) had a research design to study this question. They state, "the treatment outcome of patients who were more difficult to locate was generally considerably worse than that of more accessible patients" (p. 486). Furthermore, in an article discussing sources of data loss (Miller, Pokorny, Valles, & Cleveland, 1970), it was found that the patients who are untraceable or uncooperative at follow-up are more poorly adjusted than the more easily followed patients in the areas of marital status, work history, work prospects, and trouble with the law.

Only two studies claim that difficult to follow or unfollowed patients do as well at follow-up as those who
are more easily followed. In one study across 18 hospitals (Ellsworth, Collins, Casey, Schoonover, Hickey, Hyer, Twemlow, & Nesselroade, 1979) patients who failed to return a questionnaire at 3 months following discharge were no less well adjusted when located and surveyed than those who did return the questionnaire. Differential return rates were attributed to motivational factors and not adjustment factors. Laporte, McLellan, Erdlen, and Parente (1981) report that subjects who were more difficult to contact for follow-up were comparable to those who were more easily contacted. It should be noted that these findings are in opposition to those in most earlier research, and that the method utilized may be partly responsible for the differences. The question concerning the relative adjustment of followed and unfollowed patients is yet to be satisfactorily answered; therefore, the goal of program evaluation researchers should be to obtain the highest possible follow-up rate.

Return rates. It is clear from the reports of available research that the longer the period from patient discharge to initial follow-up, the lower the response rate for an evaluation of an alcohol-treatment program. Table 1 data (Appendix A) show a sampling of alcohol treatment research projects that were published from 1971 (the last year reviewed in the published literature reviews) to the present. These data reveal generally, that the longer the
time between discharge and follow-up, the lower the response rate (down to a minimum acceptable rate for publication). A notable exception to this trend is found in the work of Sobell (1976, 1977, 1978a, 1978b). In a series of research articles, she has been able to evaluate nearly 100% of the subjects through the use of multi-avenue evaluation techniques. Sobell uses court records, informants, man-on-the-street investigators, hospital files, and various other methods to locate and evaluate subjects after discharge. However, her methods may be considered by many researchers as too time consuming and impractical for use in day-to-day alcohol-treatment evaluation projects. Using a system similar to Sobell's, only 5 months after patient discharge, Moos and Bliss (1978) found that it would take 15 months for the equivalent of one full-time worker to follow the 429 patients in their study. Thus, the current research indicates that as the time increases between discharge to follow-up, the response rates decrease; with the exception of the studies in which diligent measures were used to combat data loss, this appears to be a nearly universal attribute of alcohol-treatment follow-up studies. If these unfollowed patients were presumed to be, at most, only equal to the followed patients on outcome measures and, at worst, less well adjusted than the followed group, then leaving them out of an analysis decreases the validity of the findings. However, if the long-term predictive
validity of short-term follow-up periods were known, then shorter follow-up times (with their inherently higher response rates) could be used to help circumvent this attrition problem.

**Pretreatment measurement.** According to Vogler, Compton, and Weissbach (1975), pretreatment measures of alcoholics on levels of alcohol consumption and psychosocial functioning are needed. They state,

Pretreatment subject characteristics appear to be important determinants of success in treatment. The proportion of outcome variance accounted for by pretreatment factors underscores the need to analyze all possible determinants of outcome. We recommend a thorough analysis of pretreatment factors when evaluating or comparing the success of different programs. Failure to do so ignores determinants of success other than treatment procedures and may lead to overly optimistic estimates of treatment effectiveness. (p. 242)

This introduces another important factor into post-treatment alcohol-abuse patient follow-up. The accurate measurement of pretreatment levels of functioning has been determined to be necessary due to the large amount of posttreatment variance that was accounted for by these measures. The use of experimental methodologies utilizing pretreatment measures for assessment of any pretreatment
experimental group differences or for use as covariates is demonstrated in some of the more recent alcohol-abuse follow-up studies (Cannon & Baker, 1981; Cannon, Baker, & Wehl, 1981).

How to Measure Discharged Alcoholics

The final methodological consideration assessed in the literature is how to measure discharged alcoholics. The specific question concerns which measurement techniques are most appropriate. The areas of psychometric acceptability and differential return rates are discussed.

Psychometric acceptability. As discussed previously, it was discovered that measurements are needed to ascertain the rate of alcohol consumed and the level of psychosocial functioning of alcoholic patients. No universal measurement technique has been employed by researchers in the alcohol treatment evaluation field. Table 1 data (Appendix A) demonstrate the wide variety of methods and combinations of methods utilized among studies; personal interviews, telephone interviews, home visits, and mailout questionnaires are all utilized. Struenig and Guttentag (1975) give descriptions of the positive and negative factors involved in the use of each of these evaluation techniques. Most of the differences among the methods are related to cost effectiveness and the differential data available from each. However, each method, when properly administered, is capable
of reaching satisfactory levels of reliability and validity to meet the criteria of acceptable psychometrics.

Return rates. The importance of securing the highest possible return rates has been established. No research was found on discharged alcoholics that explores return rates across various measurement techniques. Although an attempt was made to assess return rates among published research that used various measurement techniques, there are two reasons why it was not possible to make this assessment. First, many of the published studies describe data collection methods or combinations of methods that are idiosyncratic to the individual project; since there are an insufficient number of studies that use the same procedures, the assessment of return rates across the various methods utilized is unwarranted. Second, the return rates for various program evaluation techniques in the published studies do not represent a random sample; for publication, minimum acceptable return rates are imposed, and research projects that do not meet this standard are rejected. This standard not only eliminates any data collection methods that produce low return rates, but it also restricts variability to the point that statistical evaluation is not possible.

It was thus found that, psychometrically, all of the methods used in the published alcohol treatment evaluation literature are equally acceptable. When properly
administered, each method meets the standards of reliability and validity generally accepted in psychological measurement. Assessment of return rates among the various, currently utilized data collection techniques is not possible due to the research designs and publication standards.

In summation, four basic methodological considerations have been examined for the posttreatment follow-up evaluation of discharged alcohol-abuse patients. The questions in need of answers include who, what, when, and how to measure for evaluations of alcohol-treatment programs.

The published comprehensive literature reviews adequately answer the question concerning what to measure. Continuous measures of the levels of alcohol consumption and psychosocial functioning are necessary due to the less than perfect correlation between the different areas measured. Since, however, these literature reviews were unable to answer the questions concerning who, when, and how to measure discharged alcoholics, more recently published studies were examined for answers to these questions.

The validity and reliability of self-reports by alcoholics has been questioned. This problem was due to the alcoholics' denial-based defense structure as well as published reports which found that self-reports by alcoholics were invalid. However, recent well-controlled research
studies demonstrate that alcoholics are able to give self-reports that are both reliable and valid. Thus, the discharged alcoholic is the one who should be measured in follow-up research.

Several practical findings for program evaluators were discovered when evaluating the temporal aspects of post-treatment follow-up.

1. Pretreatment measurement was found necessary (a) in order to rule out any pretreatment group differences or (b) for utilization as possible covariates in the statistical analysis.

2. Except in cases where diligent steps were utilized to avoid data loss, the longer the time between discharge and follow-up, the lower the return rate; this finding was highlighted by the fact that the level of functioning for unfollowed patients was unknown.

3. Follow-up at 1 year has high predictive validity for the level of functioning 2, 4, 5, and 8 years later.

4. The predictive validity of short-term follow-up at later times is uncertain (short-term follow-up produced higher return rates but was of unknown utility in predicting functioning over longer time periods).

The basic decision that had to be reached for an assessment of how to measure discharged alcoholics was the choice of which technique to employ. A variety of techniques and combinations of techniques have been utilized in
published studies. When properly administered, all are equally able to meet the criteria of psychometric acceptability. However, the question concerning variable return rates between the individual techniques is not answered in the current literature.

Statement of Experimental Problem

In the foregoing discussion, it is noted that there are two important program evaluation methodology questions which are unanswered in the literature on alcohol-treatment program evaluation. First, what is the predictive validity of short-term follow-up for measures of long-term levels of functioning? Second, is there a difference in return rates between the various follow-up techniques currently being utilized? The experimental problem is to investigate empirically these questions and to reexamine some of the findings in the earlier literature. A two-part study was utilized that involves a large-scale survey of 98 alcohol treatment programs. The survey was followed by a more intensive investigation of a single treatment unit.

Hypotheses

Published research findings and speculations generated therefrom led to the formulation of the following research hypotheses.

1. There will be no significant differences in return rates (percentage of patients completing evaluation
procedures) between the various techniques used in alcohol-abuse program evaluation follow-up research projects.

2. Short-term posttreatment evaluation time periods will have significantly greater return rates (percentage of patients completing evaluation procedures) than long-term evaluation time periods in alcohol-abuse program evaluation follow-up research projects.

3. Short-term evaluation time periods will have a high level of predictive validity (correlation) for measures of alcohol consumption and psychosocial functioning 1 year following discharge from an alcohol-abuse treatment program.

Method

Part I

Research design and questions. Part I of this investigation was designed to test empirically Hypotheses 1 and 2. Return rates were examined among the various techniques and time frames employed in alcohol-abuse posttreatment follow-up evaluations. The information in this portion of the project was collected through a large-scale survey of the unit chiefs in an existing system of alcohol treatment programs. The treatment program system was known to be utilizing varying techniques and time frames among its separate treatment locations. The research schema was an ex post facto, static-group comparisons two-factor design. A 3 (evaluation techniques) X 3 (evaluation time frames) factorial design was utilized to assess the possible effects of the independent
variables. The dependent variable in this project was each program's evaluation return rate as reported by the unit chiefs. Return rate was defined as the percentage of veterans successfully contacted and evaluated. The design of this portion of the project is presented schematically in Figure 1.

This study was designed to answer three research questions with regard to program evaluation with discharged alcoholics.

1. What is the relationship between time of discharge to initial follow-up and return rates?
2. What is the relationship between evaluation technique and return rates?
3. Is there an interaction between time of discharge to initial follow-up and evaluation technique for return rates?

Subjects. The subjects included all 98 unit chiefs of the Alcohol Dependence Treatment Programs in the Veterans Administration Medical Center system. The current listings and addresses of the units were obtained from the Veterans Administration Central Office in Washington, D.C.

Materials. The materials utilized in this survey included a cover letter, a two-page questionnaire, and a postage-paid return envelope. The cover letter explained the purpose of the questionnaire and requested the participation of the unit chief. The questionnaire elicited
### Evaluation Techniques

<table>
<thead>
<tr>
<th>Time from Discharge to Follow-Up in Months</th>
<th>Telephone Interview</th>
<th>Mailout Questionnaire</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>N = 11 Unit Chiefs</td>
<td>N = 7 Unit Chiefs</td>
<td>N = 10 Unit Chiefs</td>
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<tr>
<td>1 ≤ 3</td>
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<td>&gt; 3</td>
<td>N = 3 Unit Chiefs</td>
<td>N = 3 Unit Chiefs</td>
<td>N = 2 Unit Chiefs</td>
</tr>
</tbody>
</table>

Figure 1. Schema of the basic 3 x 3 research design of Part I.
information concerning the length and age of the programs as well as information about program evaluation procedures and return rates. Appendices B and C, respectively, contain the cover letter and survey used in the project.

Procedure. On June 30, 1980, the cover letter, the two-page questionnaire, and a postage-paid return envelope were mailed to all 98 unit chiefs. Any chief who did not respond within 1 month was contacted by telephone during the week of July 28, 1980. In instances where a unit chief could not be contacted, unit program evaluators (or other persons who could supply the needed information) were contacted and requested to return the questionnaire as soon as possible.

Data analysis. Of the 98 questionnaires mailed, 50 were returned before July 28, 1980. An additional 26 responses were received following telephone contacts for a total of 76 questionnaires returned. The preliminary return rate of 51.0% was therefore increased to a total return of 77.6%.

Data utilized for these analyses were obtained from 49 of the 76 returned questionnaires. Reasons for excluding certain questionnaires from analyses were (a) lack of current usable data at the unit (N = 12), (b) no program evaluation at the unit (N = 10), and improperly completed questionnaires (N = 5). The findings do not include figures for outpatient treatment.
Ex post facto inspection of the returned questionnaires revealed that three program evaluation techniques were being utilized. These techniques were the use of (a) mail-out questionnaires ($N = 16$), (b) telephone interviews ($N = 18$), and (c) a combination of telephone interviews and mail-out questionnaires ($N = 15$). Inspection also revealed that the amount of time which elapsed between discharge and initial follow-up contact fell into the three categories of (a) up to and including 1 month ($N = 28$), (b) greater than 1 month and up to and including 3 months ($N = 13$), and (c) greater than 3 months ($N = 8$). A 3 (evaluation time frames) X 3 (evaluation techniques) factorial design was therefore utilized in the statistical analysis (see Figure 1).

Part II

Research design and questions. Part II was designed to examine empirically Hypotheses 2 and 3. The predictive validity of scores received at short-term follow-up (18 weeks or less following treatment for alcohol abuse) for scores received at long-term follow-up (1 year following treatment) was assessed for measures of psychosocial functioning and alcohol consumption. The research schema was a time series design. All subjects were measured (a) prior to their treatment for alcoholism, (b) at one of six initial short-term follow-up periods, and (c) 1 year following treatment. The predictive validity of scores received at each of the six separate initial short-term follow-up
periods (for the prediction of scores 1 year following treatment) was measured utilizing Pearson product-moment correlation coefficients. The design of this portion of the project is presented schematically in Figure 2.

One shortcoming of Part I of this project was the questionable generalizability of information pooled from a variety of treatment programs that were known to have different treatment orientations, patient population sizes, and treatment lengths. In Part II, the relationship between return rates for long- and short-term posttreatment evaluation time periods were explored using a single treatment setting.

This investigation was designed to answer three research questions with regard to program evaluation follow-up with discharged alcoholics.

1. What is the predictive validity of short-term follow-up evaluation for levels of functioning at 1 year?

2. What is the relationship between time of discharge to initial follow-up and return rates for short-term evaluation periods?

3. What is the relationship between return rates for short- and long-term evaluations?

Subjects. The subjects were 60 male veterans who had completed the Alcohol Dependence Treatment Program at the Veterans Administration Medical Center in a large southwestern metropolitan area and who were consecutively
## Time Elapsed between Discharge and Follow-Up

<table>
<thead>
<tr>
<th></th>
<th>Pre-alcohol-abuse Treatment</th>
<th>Short-term Follow-up</th>
<th>Long-term Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-4 weeks</td>
<td>3 weeks</td>
<td>6 weeks</td>
</tr>
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<td>X&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>X</td>
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</tbody>
</table>

<sup>a</sup><sup>N</sup> = Ten subjects per short-term follow-up group.

<sup>b</sup>X = Measurement of psychosocial functioning and alcohol consumption.

**Figure 2.** Schema of the time series research design of Part II.
discharged between July and September of 1980. The alcohol treatment unit is a 30-day self-admitting inpatient program. Any patients who are diagnosed as psychotic or who have alcohol withdrawal symptoms are not admitted directly to the unit; detoxification is available through a medical unit at the hospital. The program utilizes a milieu-therapy treatment approach. Both group treatment and individual therapy are available. Therapy groups (Provocative, Reality, Transactional Analysis, Behavioral, Didactic Educational, and Spiritual) were used in varying combinations depending on the patients' individual treatment plans. Recreational and physical therapy are available to patients who request these activities, as are psychological and vocational testing and counseling. The overall program goal is to reach total abstinence; controlled drinking is not a goal of the program. Alcoholics Anonymous groups are available at the hospital, although attendance at the meetings is not required.

The unit is staffed by registered nurses, social workers, alcohol counselors, occupational therapists, and a chaplain. Recovered alcoholics are also among the staff on the unit. Many recovered outpatient alcoholics who have been through the program are available during the day, and they frequently engage in informal counseling with the inpatients.
All subjects voluntarily agreed to enter the program and participate in this study. The mean age of the veterans was 42 years, with a standard deviation of 14.04 years and an age range of from 25 to 75 years. Marital status of the sample was 42.5% married, 12.3% single, 2.2% separated, and 42.5% widowed or divorced. Occupationally, 36.6% was employed prior to hospitalization. The racial distribution of the subjects was 78% Caucasian, 16% black, 3% Hispanic, and 1.6% other racial origins.

Materials. As noted in the introduction, past research indicates that in order to evaluate properly the graduates of an alcohol-treatment program, certain information must be obtained from the patients, both prior to treatment and at follow-up. Also needed were measures of drinking behaviors (continuous) as well as measures of adjustment and functioning (psychosocial) in other areas of living due to the less than perfect correlation between drinking behavior and these other measures. Furthermore, instruments were required that had been designed for use together as pre- and posttreatment measures. The following instruments were chosen for this study because they satisfy the conditions outlined herein and the criteria of psychometric acceptability.

The Alcohol Use Screening Form (Appendix D) was compiled for use as a preliminary admission screening device for the alcohol treatment unit. It contains demographic
and medical information as well as an account of present and past drinking patterns.

The Follow-up Alcohol Use Form (Appendix E) was designed by the researcher as an adjunct to the Alcohol Use Screening Form. Many questions on the screening form are the same as those contained in this follow-up questionnaire. The specific purpose of this form is to determine current alcohol consumption rates at the time of follow-up.

It was assumed that the Alcohol Use Screening Form and the Follow-up Alcohol Use Form meet the necessary psychometric standards for this study. The high reliability and validity of alcoholics' self-reports on forms such as these has been fully discussed previously.

The Alcohol Use Inventory (Horn, Wanberg, & Foster, 1974) (Appendix F) was normed on 1,030 patients admitted to a large northwestern mental health center between July, 1969 and December, 1971. Studies determining the stability of the psychometric properties of the scales were conducted at the same institution between 1969 and 1973. The inventory was the result of a factor analytic test compilation procedure, and its profile is scored along 16 primary factors, four second order factors, and one broad principal-component factor. A list of the 21 scales and a brief description of each is contained in Appendix G.

The Alcohol Use Inventory was constructed with three major psychometric goals in mind: (a) adequate scale
internal consistency, (b) scale independence, and (c) stability of measurement over time. The psychometric evidence revealed that the scales are internally consistent and have sufficient unique variances, indicating that each measures an independent alcohol use construct. All scales except Scale 16 ($r = .54$) show test-retest reliabilities greater than .70. A more detailed description of the extensive psychometric testing of this inventory is available in an article by Poster, Horn, and Wanberg (1972).

The 147 items in the Alcohol Use Inventory (Appendix F) cover three conceptually distinct domains: (a) style of alcohol use, (b) items concerning unfavorable consequences of drinking (symptoms), and (c) items pertaining to the beneficial consequences of drinking. Due to the length, weight, and mailing expense of this inventory, its use was not feasible for posttreatment mailout evaluation.

The Profile of Adaptation to Life, Form H (Ellsworth, 1979) (Appendix H) is a 52-time questionnaire specifically designed to measure the psychosocial functioning of people in follow-up program evaluation projects. It contains the seven clinical scales of adjustment and functioning of: (a) negative emotions, (b) well-being, (c) income management, (d) physical symptoms, (e) alcohol and drug use, (f) close relations, and (g) child relations. Form H (holistic) also contains five additional holistic scales. These scales are (a) social activity, (b) self-activity,
(c) nutrition and exercise, (d) personal growth, and (e) spiritual awareness.

The four components that comprise the criteria used to select items for the Profile of Adaptation to Life, Form H were (a) sensitivity of the item to change (shown by those involved in counseling, etc.), (b) ability of items to discriminate between groups known to differ in adjustment (i.e., clinic patients vs. nonclient groups), (c) salience of the item for measuring adjustment domain, as determined by factor loadings, and (d) item impact on factor score reliability as determined by coefficient Alpha. This criterion was used to insure the questionnaire would have the necessary psychometric properties required for measuring adjustment and functioning at follow-up (Ellsworth, 1979). The questionnaire was found to meet or exceed the acceptable levels of reliability and validity for instruments of this type. A detailed account of the psychometric construction and validation of this instrument is available in the manual of the Profile of Adaptation to Life, Form C (Ellsworth, 1978). The psychometric considerations that went into the construction and validation of this instrument make it among the best available devices for measuring psychosocial functioning with a mailout questionnaire.

Procedure. At the time veterans were screened for admission to the unit (approximately 1 week prior to admission), and alcohol counselor assisted the patients to
complete the Alcohol Use Screening Form. During their first week in the hospital, the patients completed the Profile of Adaptation to Life, Form H and the Alcohol Use Inventory. At the time of discharge, the patients attended an exit interview with a program evaluator who was blind to the purposes of the study. Addresses and telephone numbers were recorded so that patients could be reached for follow-up; at least one backup address and telephone number was recorded for each patient. Patients were randomly assigned to one of six short-term evaluation follow-up groups. These groups would be initially evaluated at 3, 6, 9, 12, 15, or 18 weeks after discharge. If the end of the time period fell on a weekend, the follow-up was mailed on the first working day after the weekend. Sixty discharged patients (who had completed at least 23 days of the 30-day program) were assigned consecutively to the 6 groups until there were 10 subjects in each short-term follow-up group. The patients were informed of the exact date the evaluator would mail the follow-up forms. Subsequently, if no response was received within 10 calendar days after mailing the evaluation packet, the patient was telephoned and urged to respond to the evaluation. If a patient could not be reached by telephone, or if the evaluation was not returned within 5 days of the call, an additional evaluation packet was mailed to the alternative address with a request for forwarding. The follow-up packet contained a Profile of
Adaptation to Life, Form H, the Follow-up Alcohol Use Questionnaire, and a cover letter explaining the purpose of the study and requesting cooperation (see Appendix I). An identical follow-up packet was mailed again 1 year following discharge. The same procedure was used for mailings, telephone calls, and contact via collateral addresses furnished by the patients during the exit interview. Thus, an intensive combination of mailout questionnaires and reminder telephone contacts was utilized in this study.

In summary, the psychosocial functioning and adjustment of alcoholic patients was assessed (using the Profile of Adaptation to Life, Form H) (a) prior to the alcohol-abuse treatment, (b) at the initial short-term follow-up, and (c) at the 1-year follow-up. Psychosocial functioning was also measured prior to treatment with the Alcohol Use Inventory, but due to the nature of this instrument, its use was not feasible during follow-up. Alcohol consumption was also measured (a) prior to alcohol-abuse treatment, (b) at the initial short-term follow-up, and (c) at the 1-year follow-up. The Alcohol Use Screening Form was used to measure alcohol consumption levels prior to alcohol-abuse treatment and the Follow-up Alcohol Use Form was used to measure initial short-term and 1-year follow-up of alcohol consumption. The procedure outlined above is presented schematically in Figure 3.
<table>
<thead>
<tr>
<th>Criterion Measures</th>
<th>Evaluation Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-alcohol-abuse</td>
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<tr>
<td></td>
<td>Treatment</td>
</tr>
<tr>
<td>Alcohol Use Inventory</td>
<td>Short-term</td>
</tr>
<tr>
<td>Profile of Adaptation to Life, Form H</td>
<td>Follow-up</td>
</tr>
<tr>
<td>Alcohol Use Screening Form</td>
<td>Long-term</td>
</tr>
<tr>
<td></td>
<td>Follow-up Alcohol Use Form</td>
</tr>
</tbody>
</table>

Figure 3. Criterion measures utilized at the various pretreatment and follow-up evaluation time periods.
There were six initial short-term follow-up time periods. Ten subjects were randomly assigned to each of these six groups. All subjects were evaluated again 1 year after discharge from the alcohol treatment unit.

Data analysis. In order to assess the relationship between return rates for short- and long-term evaluations, the overall return rates for the initial short-term (3-, 6-, 9-, 12-, 15-, and 18-week) and 1-year follow-up time periods were analyzed. A one-tailed $t$ test for dependent measures was performed. No differences in return rate for the initial short-term follow-up time periods were expected. A chi-square analysis was performed to compare the return rates between the initial short-term follow-up periods. Due to low expected frequencies in some of the cells, the six initial short-term time periods were collapsed into three time periods (3- and 6-weeks, 9- and 12-weeks, and 15- and 18-weeks) for this analysis. This analysis was carried out for return rates between the six short-term follow-up groups at initial and 1-year follow-up.

The subjects who composed the six short-term follow-up groups utilized in this study were analyzed (prior to treatment for alcohol abuse) for pretreatment differences in either alcohol consumption or psychosocial functioning. The three pretreatment measures of alcohol consumption used were: (a) total number of years drinking, (b) number of years drinking had been a problem, and (c) number of ounces
of alcohol consumed per day. The amount of alcohol consumed was converted into ounces of ethanol consumed per day. A one-way ANOVA was utilized to assess any pretreatment short-term follow-up group differences for these three measures.

The Alcohol Use Inventory and the Profile of Adaptation to Life, Form H, were used to measure psychosocial functioning prior to treatment for alcohol abuse. On the latter instrument, the clinical scales, close relations, and child relations sections were omitted from all analyses; this was due to the small number of patients who qualified to receive scores on these scales. One-way ANOVAs were utilized to assess any pretreatment short-term follow-up group differences on the scales of these two instruments.

Correlation coefficients were used to assess the predictive validity of scores obtained at initial short-term follow-up for the prediction of scores at 1-year follow-up. The amount of alcohol consumed per day and the results of the scales of the Profile of Adaptation to Life, Form H, were assessed. All scores in this analysis were continuous and at the interval level of measurement; therefore, Pearson product-moment correlation coefficients were performed.

Pearson product-moment correlation coefficients were also utilized to assess the predictive validity of scores obtained prior to alcohol-abuse treatment for the prediction
of scores at 1-year follow-up. The amount of alcohol consumed daily and the results of the scales of the Profile of Adaptation to Life, Form H were analyzed again.

**Results**

**Part I**

A 3 X 3 analysis of variance was calculated for the percentage of veterans who responded to the follow-up evaluation procedures (return rate) from the various alcohol treatment units that were surveyed. The evaluation time frame factor and the evaluation technique factor were examined for main and interaction effects. As shown by Table 2 data (Appendix J), there is a significant main effect for the evaluation technique factor, $F(2, 40) = 5.31$, $p < .01$. No significant main effect was found for the evaluation time frame factor, $F(2, 40) = .053$, $p > .05$, or for the interaction effect, $F(4, 40) = .81$, $p > .05$. The mean return rates for each of these factors are presented in graphic form in Figure 4.

The significant main effect for evaluation technique is followed by the Newman Keuls a priori test for comparison of group means. As seen in Table 3 data (Appendix K), no significant mean differences are revealed. Winer (1971) suggests using a less conservative test in cases where no significant mean differences are found following a significant main effect. Therefore, $t$ tests (two-tailed) between group means were performed, and significant difference was
Figure 4. Mean return rates for program evaluations with discharged alcoholics; evaluation techniques x time frames.
found between telephone interview evaluations ($\bar{X} = 74.5\%$) and mailout questionnaires ($\bar{X} = 42.71\%$), $t(19) = 3.36$, $p < .05$. Another significant difference was found between mailout questionnaires and the telephone interview plus mailout questionnaire combination ($\bar{X} = 60.43\%$), $t(39) = 2.41$, $p < .05$. No significant difference was revealed between the telephone interview and the telephone interview plus mailout questionnaire combination conditions, $t(37) = 1.76$, $p > .05$.

**Part II**

**Return rates.** There was no significant difference in return rates between the short-term and 1-year follow-up time intervals utilized in this study, $t(41) = 1.03$, $p > .05$ (one-tailed). The overall return rates for the initial short-term period and the 1-year follow-up period are 82% and 70%, respectively. Table 4 displays the return rates at initial and 1-year follow-up for each of the separate short-term follow-up groups. At initial follow-up, no significant difference in return rate between the follow-up groups was found, $\chi^2(5) = 8.13$, $p > .05$. No significant differences in return rates were found between the initial follow-up groups at 1-year follow-up, $\chi^2(5) = 9.44$, $p > .05$.

**Pre-alcohol-abuse-treatment group differences.** There were no pretreatment group differences on either of the measures for alcohol consumption or psychosocial functioning. The means and standard deviations for each of the pretreatment
Table 4

Follow-up Packet Return Rates for Initial and 1-Year Follow-up Periods

<table>
<thead>
<tr>
<th>Measure</th>
<th>Follow-up Group in Weeks&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Initial Follow-up

| Percent Returned | 100 | 90 | 80 | 80 | 70 | 70 |

### 1-Year Follow-up

| Percent Returned | 80 | 70 | 70 | 70 | 70 | 60 |

<sup>a</sup>Ten subjects were initially assigned to each group.

measures of alcohol consumption are presented in Table 5 (Appendix L). One-way ANOVAs were performed on each of the measures of alcohol consumption across short-term follow-up groups. No significant between-group differences were found for number of years drinking, $F(5,54) = 1.43, p > .05$; years with a drinking problem, $F(5,54) = 1.23, p > .05$; or number of ounces of alcohol consumed per day, $F(5,54) = 1.13, p > .05$.

Tables 6 and 7 (Appendices M and N) contain the means and standard deviations across short-term follow-up groups for each of the scales on the two instruments used to assess psychosocial functioning prior to treatment for alcohol abuse. One-way ANOVAs were calculated for each scale across
groups. As seen in Table 8 (Appendix O), no significant differences were found between groups on any of the scales of these two instruments.

**Predictive validity of initial follow-up scores.** As the time between initial and 1-year follow-up decreases, the predictive validity scores increase for initial alcohol consumption and psychosocial functioning. Table 9 data (Appendix P) present the correlations between initial short-term and 1-year follow-up across groups for number of ounces of alcohol consumed daily. These data indicate that when the time between initial and 1-year follow-up decreases, the correlations increase from -.09 to .66. However, due to the small number of subjects in each group, none of these correlations meets the criterion for statistical significance (two-tailed $t$ tests). In order to increase the sample size for each cell, the six groups were collapsed into three groups (3- and 6-weeks, 9- and 12-weeks, and 15- and 18-weeks), and the correlations were averaged using Fischer's $r$ to $z$ weighted averages method (McNemar, 1969). Table 9 data (Appendix P) indicate that when the groups are collapsed, the combined 15- and 18-weeks group reflects a significant positive correlation ($r = .65$) between initial short-term and 1-year follow-up data, $t(11) = 2.84, p < .05$.

Table 10 data (Appendix Q) show the correlations between the initial short-term and the 1-year follow-up
data across groups for scales on the Profile of Adaptation to Life, Form H. These results indicate that as the time between initial and 1-year follow-up decreases, the correlation on the measures of psychosocial functioning tend to increase from a low of -.37 to a high of .99. Only 1 of the 10 scales shows a significant positive correlation ($r = .72$) for the 3-week follow-up group although 9 of the 10 scales show a significant positive correlation for the 18-week group. These data are presented in graphic form in Figures 5 and 6.

**Predictive validity of pretreatment scores.** Pre-alcohol-abuse treatment scores on the measures of alcohol consumption and psychosocial functioning are not highly predictive of functioning at 1-year follow-up. The correlations are negligible between the pretreatment and 1-year follow-up data for these measures. None of the data using the alcohol consumption rates reach statistical significance (the correlations range between -.36 and -.11). Table 11 data (Appendix R) indicate that only 3 of the 60 possible correlations reach statistical significance using the psychosocial functioning scales.

**Discussion**

The results of Part I of the project fail to support Hypotheses 1 and 2. It was hypothesized that there would be no significant differences in return rates between the various techniques utilized in alcohol-abuse program
Figure 5. Correlations across scales and time frames between initial and 1-year follow-up data for the Profile of Adaptation to Life, Form H.
Figure 6. Correlations across scales and time frames between initial and 1-year follow-up data for the Profile of Adaptation to Life, Form H.
evaluation follow-up research projects. A significant difference in return rates was found between the various program evaluation techniques used in alcohol-abuse posttreatment follow-up evaluation projects. Among the techniques in use, utilization of telephone interviews and telephone interviews plus the mailout questionnaire combination each reveal significantly higher return rates over the singular use of the mailout questionnaire; however, the use of mailout questionnaires in combination with telephone interviews does not significantly improve response rates over the singular use of telephone interviews.

It was also hypothesized that short-term evaluation time frames would have significantly greater return rates than long-term evaluation time periods. No significant difference in return rates was found among the various time frames utilized in this survey for the posttreatment evaluation of discharged alcoholics. Furthermore, no interaction effect was found between follow-up time frame and evaluation technique for return rates in the posttreatment follow-up of discharged alcoholics.

An important finding is the apparent superiority in return rates through the use of telephone interviews, whether alone or in combination with other methods of evaluation. There are several possible reasons for this finding.
1. It is relatively easy for a former patient to procrastinate and delay returning a questionnaire received in the mail; these may later be lost, thrown away, or simply forgotten. However, it is not easy to delay when the interviewer is waiting on the telephone.

2. It takes more time and effort for a person to fill out a questionnaire and mail it back than it does to answer questions over the telephone.

3. It is possible that the personal nature of a telephone call may accentuate the importance of the evaluation in the opinion of those being interviewed. This in turn increases their cooperation.

4. There are several steps involved in the process of a mailout questionnaire survey: (a) the instrument must be mailed to the correct address, (b) the instrument must be delivered by the postal service, (c) the addressee must reside at that residence or have left a forwarding address, (d) the addressee must take the time to fill out the questionnaire and mail it back, and (e) the instrument must be returned to the program evaluator. Since there are more steps involved in evaluations that use mailout questionnaires than in telephone interview evaluations, the chance of an error increases in the questionnaire-return process. Furthermore, if there is an error in the mailout questionnaire return process, the evaluator does not know
at what point the error occurred and, consequently, has no means to correct it.

5. If the telephone is answered, the program evaluator usually receives immediate information concerning the whereabouts of a discharged patient; if the patient has moved, is away from home, or dead, the evaluator has this information. In most cases, if the patient is not available at that telephone location, the person who answers the telephone can relay the patient's whereabouts to the interviewer. Thus, one of the primary reasons for not evaluating patients by telephone (other than patients' refusal to cooperate) is that they are no longer residing at the given telephone location and cannot be located. If, however, the evaluator does not receive a returned questionnaire, he has no way of knowing why it was not returned.

The reliability and validity of mailout questionnaires and interviews (in person or via telephone) are discussed by Struenig and Guttentag (1975). Psychometrically, it appears that these are equally reliable and valid tools. However, there are many methodological problems inherent in interviews which must be controlled in order to reach this equality. Areas that must be examined when using a telephone interview for program evaluation are difficulty in training interviewers, inter-interviewer reliability, difficulty of double-blind designs, interviewer bias, and design of structured interviews. Mailout questionnaires,
on the other hand, do not have as many methodological problems. Information is available regarding the validity and reliability of published assessment instruments. Furthermore, the validity and reliability of self-made instruments are easily measured using a norm group comparable to those being assessed. Under standard procedures of administration, it can be assumed that sufficient levels of reliability and validity are reached with mailout questionnaires. Thus, although telephone interviews have higher return rates than mailout questionnaires, the mailout questionnaires present fewer methodological difficulties than telephone interviews.

One way to avoid the methodological difficulties of telephone interviews and, at the same time, retain high return rates would be to use mailout questionnaires in combination with reminder telephone calls. If the mailout questionnaires were not returned within a specified period of time, the patient could be called and urged to return the questionnaire. With this telephone call, the program evaluator is able to ascertain at which point the evaluation stopped in the return process. This allows the evaluator to remedy the situation with appropriate steps. For example, if the patient never received the questionnaire, a new one could be mailed; or if the patient had received but not answered the questionnaire, he could be encouraged to do so and return it as soon as possible. Furthermore,
if the patient no longer resides at that location, immediate information concerning his whereabouts may be available. In this study, the combination telephone interview and mailout questionnaire method had a significantly greater return rate than the singular use of mailout questionnaires. While the telephone calls in Part I of this project were not for the purpose of reminding patients to return the questionnaires, it is noteworthy that this evaluation technique produced a significantly greater return rate than the singular use of mailout questionnaires. Also, in the survey of unit chiefs, the initial return rate of 51.0% was improved to 77.6% as a result of a reminder telephone call. This combination evaluation technique was utilized in Part II of this study due to the psychometric properties and high expected return rates.

The nonsignificant decrease in return rates over increasing evaluation time periods is also noteworthy since this finding is not consonant with the literature. The literature indicates that as time from discharge to follow-up increases, return rates decrease. The probable reason for the absence of this relationship in the present study is the use of relatively short ($\bar{X} = 2.8$ months) follow-up periods; only one program uses an initial follow-up period that is longer than 6 months from discharge. This is in contrast with the 1-year or greater follow-up intervals that are predominant in published research. It appears
reasonable to extrapolate that had there been more treatment programs with evaluations at 1 year or longer after discharge, a significant effect for the time factor would have been found. Since there are no differences in return rates between various time frames when relatively short follow-up time intervals are used, program evaluators can base their temporal decisions on the merits of predictive validity without concern for increasing the return rates. The long-term predictive validity of short-term evaluation follow-up time periods was therefore evaluated in Part II of this project.

One limiting factor in regard to the findings of Part I is the pooling of information from various treatment programs. The programs are known to differ in length of treatments, patient population sizes, and treatment orientations. It is further assumed that a differential diligence among evaluators (e.g., doctoral students collecting data for dissertations as opposed to government clerical workers) exists between the separate units that were surveyed. How such factors may have contaminated the results of this study is unknown. The findings of this study were therefore partially reevaluated in Part II by examining the effects of various evaluation time frames within a given treatment program. It is suggested that future research should examine the effects of various evaluation techniques within a single treatment program.
A second limitation to these findings is the utilization of an ex post facto static groups design. It is possible that systematic uncontrolled variables may have correlated with the independent variables to account for the findings of this survey. It is therefore recommended that future research should reevaluate these findings utilizing an experimental design which systematically accounts for uncontrolled variables.

The results of Part II of this project partially support Hypothesis 3 and fail to support Hypothesis 2. It was hypothesized that there would be a significant difference in return rates between the short- and long-term evaluation time periods in this study. No significant difference in return rates was found among the six initial follow-up time periods or between initial and 1-year follow-up time periods. Predictive validity is defined as the correlation between short-term and long-term scores on the measures of psychosocial functioning and alcohol consumption. Short-term follow-up at 3, 6, 9, and 12 weeks does not significantly predict psychosocial functioning or alcohol consumption 1 year after discharge; however, follow-up at 15 to 18 weeks does significantly predict functioning on these measures 1 year after treatment. Finally, no pre-alcohol-abuse-treatment group differences are found among the six initial short-term follow-up groups on the measures of alcohol consumption or psychosocial functioning.
Furthermore, the pretreatment scores on these measures do not significantly predict scores at 1-year follow-up.

Program evaluators who are designing posttreatment follow-up evaluation projects must balance return rates and long-term predictive validity. In the past, it was believed that short-term evaluation time periods have high return rates but also have unknown levels of predictive validity. It was also believed that longer evaluation time periods have lower return rates but high levels of predictive validity for long-term functioning. The results of this study indicate that a short-term follow-up at 15 to 18 weeks after discharge has sufficient 1-year predictive validity to warrant its use in evaluation projects; however, shorter posttreatment evaluation time periods do not significantly predict functioning 1 year after treatment. Thus, when balancing posttreatment evaluation time periods for optimum return rates and predictive validity, short-term evaluation at 15 to 18 weeks should be implemented.

In Part I it was noted that while most published research projects use 1-year or greater follow-up periods, many of the day-to-day nonresearch-oriented evaluation projects across the country use relatively short ($\bar{X} = 2.8$ months) posttreatment evaluation time periods. The results of this study indicate that these relatively short evaluation time periods may not have sufficient predictive validity to measure patient functioning 1 year after discharge. It
is therefore recommended that any program evaluator who is interested in the long-term functioning of the discharged patients (beyond the time of initial follow-up) should use no less than a 15- to 18-week posttreatment evaluation time period. This recommendation is for measures in the areas of psychosocial functioning as well as alcohol consumption.

After the presentation of data results for Part I, it was suggested that a combination of mailout questionnaires and reminder telephone calls may be the best evaluation technique to insure high return rates from discharged alcoholics in program evaluation projects. Using this combination technique, no difference in return rates were found (a) among the six initial short-term follow-up groups, or (b) between short-term and 1-year follow-up evaluation periods. While the first finding was expected because it is consonant with the results of Part I, the latter finding was unexpected. It was hypothesized that the number of patients who are successfully contacted and evaluated will significantly decrease over a period of 1 year. However, this was not found to be the case. Two reasons may account for the failure of return rates to decrease significantly between discharge and 1-year follow-up utilized in this study.

First, the variability in return rates is restricted. The use of the best suggested evaluation technique for increasing return rates probably removes variability at
the lower end of the range of return rates. Also, a ceiling of 100% is reached when all of the people in a given group return the questionnaire. Thus, the variability of return rates is restricted at both extremes. This diminishes the chances of finding statistically significant differences. While there is a 12% difference in return rates between initial short-term and 1-year follow-up, the gap is not sufficient to reach statistical significance for this study.

Second, the subjects in this evaluation were contacted twice, the first time at initial follow-up and the second time 1 year after discharge form the hospital. One of the methods that the Sobell's (1978) suggest to reduce attrition in follow-up return rates is repeated contact with the discharged patients. Had the patients in this study been discharged with no further evaluation contact for a full year, it is believed that the return rates for the 1-year follow-up evaluation would be lower than those reported. It is known that several of the patients moved between the time of their discharge and the initial short-term follow-up. Since the initial follow-up occurred less than 6 months after their moves, the postal service forwarded the questionnaires to the new addresses. The patients' new addresses and telephone numbers were obtained from the returned questionnaires for use at 1-year follow-up. However, without the initial evaluation, these subjects may have been lost to follow-up. It is therefore suggested that program
evaluators who plan to use posttreatment follow-up time periods of more than 6 months should attempt to contact the patients between the time of discharge and follow-up. A telephone call or letter informing the patients that they will be evaluated at a future date (and requesting information about any change of address or telephone number) may substantially improve return rates. The results of this study indicate, however, that is is not necessary to use relatively long-term posttreatment evaluation time periods to insure the measurement of the lasting effects of treatment. Therefore, except for utilization as an internal check of the long-term predictive validity of an individual program's evaluation procedure, there are apparently few reasons to use long-term posttreatment evaluation time periods.

Vogler, Compton, and Weissbach (1975) advocate pre-experimental assessment of the measures that are used in treatment-outcome research with alcoholics. While this study is not a treatment-outcome study, the evaluation of pretreatment measures is analyzed for the prediction of scores at follow-up. No pretreatment short-term follow-up group differences are found on measures of alcohol consumption or psychosocial functioning. Thus, the randomization procedure implemented in this study was successful, and the findings of this project cannot be attributed to pretreatment short-term follow-up group
differences. The pretreatment scores in this study do not significantly predict psychosocial functioning or alcohol consumption at 1-year follow-up (as measured by correlation coefficients). This finding further supports the position that the results of this study are not significantly accounted for by preexisting short-term follow-up group differences.

A limitation of Part II of this project is its unknown generalizability to alcohol treatment programs outside the Veterans Administration system. First, all subjects in this project are male veterans; the generalizability of these findings to female and nonveteran alcohol-abuse patients is unknown. Second, the alcohol unit studied is a self-admitting program; since none of the patients is legally committed or in any way forced to remain in treatment, the generalizability of these findings to state hospitals, which serve legally committed alcoholics, is unknown. Third, since the veterans receive all treatment free of charge, it is not known how this factor differentially affects discharged patients' willingness to cooperate with evaluation follow-up procedures; it is assumed that persons who pay $3,000 for a 10-day private treatment program would have a greater motivation to finish what they have paid for by completing posttreatment evaluations. Finally, the Veterans Administration is an agency of the federal government, and it is not known what effect this
has on the patients' willingness to cooperate in an evaluation that request them to answer questions which they may consider to be of a personal nature. Although all subjects were told that this information was to be used strictly for research purposes, and that all names would be converted to code numbers for evaluation, this assurance may not have been sufficient to convince them that "the government" would not have access to the information. Since many of the veterans in treatment receive Service Connected Disability Compensation Pensions that are reviewed regularly, such patients are very skeptical about giving any nonrequired information to a federal agency. Although this study provides very useful information for the 98 Alcohol Dependence Treatment Units in the Veterans Administration system, more research is needed to assess the generalizability to other treatment settings; it is therefore recommended that the findings of this project be reevaluated, using both public and private alcohol treatment programs. Furthermore, female patients should be included as subjects in future research projects.

A second possible limitation to the results of Part II is the necessary assumption of linearity (for the use of Pearson product-moment correlations) between the separate measurement time intervals utilized in this time series design. While there is no reason to suspect that there is any relationship present other than linear (i.e., curvilinear,
parabolic, etc.), the exact relationship that exists between the measurements at the separate time intervals is unknown. The effects are unknown as to the relationship between measurement time intervals and the correlation coefficients that are reported (i.e., attenuated or inflated).

In conclusion, the purpose of this project was to clarify the methodology involved in the posttreatment follow-up evaluation of alcohol-abuse patients. The four basic questions were addressed of who, what, when, and how to measure treatment outcome with alcoholics. Published research has adequately answered the questions of who and what must be measured in follow-up studies with alcohol-abuse patients. As indicated in the literature, levels of psycho-social functioning and alcohol consumption should be assessed via self-report by the discharged alcoholic.

Parts I and II of this project provide answers to the two remaining basic questions of how and when to measure discharged alcohol-abuse patients. In Part I of this project, it was discovered that mailout questionnaires in combination with telephone interviews or telephone interviews alone yield significantly higher return rates than the singular use of mailout questionnaires. In order to avoid the methodological difficulties inherent with the use of telephone interviews and at the same time maintain high return rates, the use of mailout questionnaires in combination with reminder telephone calls is recommended.
Utilizing this combination method in Part II, it was found that in order to obtain high return rates and at the same time maintain long-term predictive validity, posttreatment evaluation should take place approximately 15 to 18 weeks after discharge from treatment. Furthermore, pretreatment assessment is suggested for the evaluation of any pre-experimental group differences, or for use as possible covariates, in treatment outcome research projects.

The implications of the findings of this project are that a program evaluation with discharged alcoholics should utilize mailout self-report questionnaires in combination with reminder telephone calls which should be undertaken 15 to 18 weeks following discharge from the hospital. The use of this procedure will produce high return rates and predictive validity. The findings of this study fill a void left by previous research that can be used by alcohol treatment program evaluators to assist them in their establishment of psychometrically acceptable program evaluation follow-up procedures.
Appendix A

Table 1
A Sampling of Alcohol-Abuse Treatment Outcome Projects
Published between 1971 and 1980

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Questionnaire</th>
<th>Telephone</th>
<th>Home Interview</th>
<th>Visit Interview</th>
<th>Other</th>
<th>Follow-up Time</th>
<th>Return Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bateman &amp; Petersen</td>
<td>1971</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 mos.</td>
<td>72%</td>
</tr>
<tr>
<td>Foster, Horn, &amp; Wanberg</td>
<td>1972</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>3 mos.</td>
<td>70%</td>
</tr>
<tr>
<td>Galen</td>
<td>1974</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>1 yr.</td>
<td>100%</td>
</tr>
<tr>
<td>Costello</td>
<td>1975</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>1 yr.</td>
<td>79%</td>
</tr>
<tr>
<td>Costello</td>
<td>1975</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>2 yr.</td>
<td>81%</td>
</tr>
<tr>
<td>Fontanna &amp; Dowds</td>
<td>1975</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 mo.</td>
<td>87%</td>
</tr>
<tr>
<td>Skolada, Alterman, Cornelison, &amp; Gottheil</td>
<td>1975</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>6 mos.</td>
<td>93%</td>
</tr>
<tr>
<td>Authors</td>
<td>Year</td>
<td>Questionnaire</td>
<td>Telephone</td>
<td>Home Interview</td>
<td>Live Interview</td>
<td>Other</td>
<td>Follow-up Time</td>
<td>Return Rate</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
<td>---------------</td>
<td>-----------</td>
<td>----------------</td>
<td>----------------</td>
<td>-------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Uecker &amp; Boutilier</td>
<td>1976</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 yr.</td>
<td>52%</td>
</tr>
<tr>
<td>Alterman, Gottheil,</td>
<td>1977</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>6 mos.</td>
<td>84%</td>
</tr>
<tr>
<td>Skolada, &amp; Thornton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sobell</td>
<td>1977</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1 mo.</td>
<td>98%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 yr.</td>
<td>98%</td>
</tr>
<tr>
<td>Cronkite &amp; Moos</td>
<td>1978</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 mos.</td>
<td>87%</td>
</tr>
<tr>
<td>Cronkite &amp; Moos</td>
<td>1980</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 yrs.</td>
<td>79%</td>
</tr>
<tr>
<td>Kish, Ellsworth, &amp; Woody</td>
<td>1980</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>6 mos.</td>
<td>80%</td>
</tr>
</tbody>
</table>
Appendix B

Cover Letter to Unit Chiefs

June 30, 1980

Dear

In response to the professional services letter of May 23, 1980, describing the findings of Ted Lewzkiewiez, we have decided to examine our follow-up program. We found an extremely low return rate for questionnaires sent to veterans six months after treatment on our ADTP.

Our response has been a two-pronged approach. First, we are empirically studying a variety of time periods after treatment to determine if the rate of questionnaires returned will increase; and second, we are checking with all of the VA alcohol treatment programs on their follow-up techniques.

If you would be willing to take a few minutes to fill out the enclosed questionnaire, we would be very grateful. If you are interested in our findings, please indicate on the questionnaire.

Sincerely,

H. L. Charles, M.D.
Chief, ADTP

E. T. Patterson, Ph.D.
Assistant Chief, ADTP
Appendix C

Program Evaluation Procedure Questionnaire

Date

1. Location of ADTP

2. What is the length of your program?
   Inpatient Outpatient

3. How old is your program?
   Inpatient Outpatient

4. What technique do you use in your program evaluation after the veteran has been discharged?
   Inpatient Outpatient
   ___ none ___ none
   ___ tele. ___ tele.
   ___ ques. ___ ques.
   ___ other ___ other
   Specify Other

5. How many veterans have you attempted to contact for follow-up information?
   Inpatient Outpatient

6. How many veterans were successfully contacted?
   Inpatient Outpatient

7. How much time elapsed between discharge and initial follow-up contact attempt?
   Inpatient Outpatient
8. If initial contact is unsuccessful, is further contact attempted? (If yes, please explain.)

Yes   No

9. Have any program changes been implemented on your ADTP as a direct result of program evaluation follow-up data? (If yes, please explain.)

Yes   No

10. Do you wish to receive the results of this survey?

Yes   No

11. Comments:

Thank you,

E. T. Patterson, Ph.D.

S. M. Till, M.A.
Appendix D

Alcohol Use Screening Form

Date __________________________

Name _________________________ Age __________________

SC? __________ NSC? __________

SS# __________ Sex _____ Race _____ Religion _____

Single ____ Married ____ Separated ____ Divorced _____

Spouse's Name __________________________ Address ________________________

Telephone number where you can always be reached __________

Type of admission wanted: Inpatient ____ Outpatient ______

Drinking ____ years: Problem ____ years.

Average Daily Amount __________________________

Last Drink __________________________

Other Drugs __________________________

Have you ever been in a treatment program for alcohol abuse before? Yes ____ No _____. If so, where, and when? ________

Do you drink alone? __________________________

Have you had: DTs ____ Blackouts ____ Hallucinations _______

Shakes ______ Seizures _____ Suicide Ideas _______

Legal Status (On bond, probation, etc.) _________________

Living Arrangements __________________________

Employment __________________________

Did you have drinking problems while in service? Yes ____ No
What do you want from our program? ____________________________

Medical problems: Pancreatitis __ Ulcers __ Cirrhosis of Liver __ High Blood Pressure __ Heart Trouble __ Diabetes __
Other Medical Problems ____________________________

__________________________

__________________________
Appendix E

Follow-Up Alcohol Use Form

Name __________________________ Date __________

Directions: The information you give in this survey will be kept strictly confidential and will in no way affect your status with the ADTP or the VA Medical Center. Because we will be using this information to evaluate and improve treatment for persons with problems related to drinking, it is very important that you be as accurate as possible in answering these questions.

1. How many years have you been drinking alcohol? ____ years

2. How long was the drinking a problem? ____ years

3. Have you ever attended AA meetings? __ Yes __ No

4. How many AA meetings have you attended in the past 3 weeks? ____

5. In the past 3 weeks have you had occasion to drink any alcohol at all?
   __ Yes (If yes, complete a through d below.)
   __ No (if no, go on to Question 6.)
   a. How many days did you drink in the past 3 weeks? ____ days
   b. What type of alcoholic beverage did you drink?
   c. What was the average amount of alcohol consumed per day while drinking in the past 3 weeks?
   d. What was the largest number of days in a row that you consumed alcohol in the past 3 weeks?

6. In the past 3 weeks have you had:
   a. Shakes __ No __ Yes (How often?)
   b. Seizures __ No __ Yes (How often?)
   c. DTs __ No __ Yes (How often?)
   d. Blackouts __ No __ Yes (How often?)
   e. Hallucinations __ No __ Yes (How often?)
7. In the past 3 weeks, how would you describe your drinking?

____ No drinking at all

____ Problem drinking (periodic)

____ Moderate or controlled

____ Problem drinking (steady)

8. In the past 3 weeks, would you say your drinking problem had improved, worsened, or stayed the same?

____ Improved

____ Worsened

____ Stayed the same

9. At the moment, do you feel your drinking is:

____ No problem at all

____ A slight problem

____ A moderate problem

____ A very serious problem

10. Have there been any significant stressful changes in your life in the past 3 weeks?

____ No

____ Yes (please explain) ____________________________

__________________________

__________________________

__________________________

__________________________

Thank you for your cooperation,

ADTP Staff
VA Medical Center, Dallas
Appendix F

The Alcohol Use Inventory (Horn, Wanberg, & Foster, 1974)

1. Does drinking help you feel more important?
   a. No    b. Yes

2. Does drinking help you overcome feelings of inferiority?
   a. No    b. Yes

3. Do most of your friends drink?
   a. No    b. Yes

4. Does your social life require you to drink?
   a. No    b. Yes

5. When you drink, do you drink several days and then sober up for a period of time before drinking again?
   a. No    b. Yes

6. Do you drink to help you go to sleep at night?
   a. No    b. Yes

7. Does your drinking cause hardships for your family and/or friends?
   a. No    b. Yes

8. Do you avoid talking to others about your drinking?
   a. No    b. Yes

9. Do you get belligerent or mean when you drink?
   a. No    b. Yes

10. Have you had blackouts as a result of drinking?
    a. No, never
    b. Sometimes
    c. Often
    d. Almost every time I drink
11. How much did you drink the last time you drank?
   a. Enough to get high or less
   b. Enough to get drunk
   c. Enough to pass out

12. Have you passed out as a result of drinking?
   a. No
   b. About once a year
   c. Twice a year or more

13. After a night of heavy drinking do you have physical discomfort?
   a. No  
   b. Yes

14. How long were you unemployed during the last year?
   a. Had a job throughout the year
   b. Had a job for about 1 month
   c. Without a job for about 1 to 3 months
   d. Without a job more than 3 months

15. Have you ever attended a treatment program for alcohol problems?
   a. No
   b. Yes, once
   c. Yes, several times

16. Do you drink to get over being irritated and resentful?
   a. No
   b. Yes

17. Do you drink in the morning to relieve a hangover?
   a. No
   b. Yes

18. When drinking do you usually drink more than one kind of alcohol (for example--beer and hard liquor)?
   a. No
   b. Yes

19. After an evening of heavy drinking, do you usually have something to eat before going to bed?
   a. No
   b. Yes
20. Do you sometimes neglect your work because of drinking?
   a. No  
   b. Somewhat  
   c. To a great extent  

21. Do you have frightening dreams when sobering up as a result of drinking?
   a. No  
   b. Sometimes  
   c. Almost every time I drink  

22. Does drinking help you overcome shyness?
   a. No  
   b. Yes  

23. Does drinking help you get along with other people?
   a. No  
   b. Yes  

24. Do you do most of your drinking at bars?
   a. No  
   b. Yes  

25. Do you go to parties where there is drinking?
   a. No  
   b. Yes, about once a month  
   c. Yes, about several times a month or more  

26. When you drink, do you drink every day about the same time?
   a. No  
   b. Yes  

27. Have you been drinking almost every day?
   a. No  
   b. For about the last 6 months or less  
   c. For more than the last 6 months  

28. Are you worried that your drinking is occurring at times other than the times you are accustomed to drinking?
   a. No  
   b. Yes  

29. Do you drink to change your mood (drink when bored, angry, flat)?
   a. No  
   b. Yes
30. Do you swing from periods of great happiness to periods of great despair?
   a. No  b. Yes

31. Have you used antabuse to help you to stop drinking?
   a. No  b. Yes

32. Have you turned to religion to help you with your drinking problem?
   a. No  b. Yes

33. When you drink, do you stumble about, stagger, and weave?
   a. No  b. Yes

34. Do you gulp drinks (drink rapidly)?
   a. No  b. Yes

35. Have you been living in a marriage or a marriage type relationship within the last six months?
   a. No  b. Yes

36. As a result of being drunk, has your thinking been fuzzy or unclear?
   a. No
   b. Yes, but only for an hour
   c. Yes, for one or two days
   d. Yes, for many days

37. Have you had a convulsion following a period of drinking?
   a. No
   b. Once
   c. Several times

38. Do you get the inner shakes when you stop drinking?
   a. Yes
   b. Sometimes
   c. No
39. After taking one or two drinks, can you usually stop?
   a. Yes
   b. Sometimes
   c. No

40. When drinking over a period of several days, do you:
   a. Eat regular meals
   b. Eat occasionally
   c. Not eat

41. As a result of drinking do you have swelling or puffiness in your hands or feet?
   a. No
   b. Yes, mild swelling
   c. Yes, severe swelling

42. Recently the amount you drink has:
   a. Increased
   b. Stayed about the same
   c. Decreased

43. Does drinking help you to relax socially?
   a. No
   b. Yes

44. Does drinking help you to be more alert mentally?
   a. No
   b. Yes

45. When you drink, do you usually drink alone?
   a. No
   b. Yes

46. Do you panic because you fear you may not have a drink when you need it?
   a. No
   b. Yes

47. Do you sneak drinks or hide bottles?
   a. No
   b. Yes

48. Do you go "On the wagon" (not drink at all) after a period of drinking?
   a. No, I drink a little most of the time
   b. Yes, I don't touch a drop between drinking periods
49. Are you afraid your drinking is getting worse?
   a. No b. Yes

50. Do you drink to relieve tensions?
   a. No never b. Occasionally c. Often

51. When drinking are you often very sad (for example cry a lot)?
   a. No b. Yes

52. Do you take tranquilizer pills to settle you down or to calm your nerves?
   a. No b. Yes

53. Do you take medicine to help you sleep at night (such as sleeping pills or sedatives)?
   a. No b. Yes

54. Do you lose control over what you do when you are drinking?
   a. No b. Yes

55. Have you ever been jailed for public drunkenness?
   a. No b. One or two times c. Three or more times

56. Are you presently living alone as a result of drinking?
   a. No Yes

57. As a result of drinking, have you seen things that were not there?
   a. No b. Yes, once c. Yes, several times
58. Have you had "shakes" when sobering up as a result of drinking?
   a. No
   b. Several times
   c. Often

59. Have you recently used pep pills such as "bennies" or "speed"?
   a. No
   b. Several times
   c. Often

60. Have you ever broken out in small sores as a result of drinking?
   a. No
   b. Yes

61. Have you ever had a "dry drunk" (act or feel like you are drunk when you have had nothing to drink)?
   a. No
   b. Yes

62. Are you able to recall events in the past better when drinking?
   a. No
   b. Yes

63. Do you have better ideas when drinking?
   a. No
   b. Somewhat
   c. Definitely

64. Does drinking help you to make friends?
   a. No
   b. Yes

65. Do you have better ideas when drinking?
   a. No
   b. Yes

66. Do you usually drink with the same people?
   a. No
   b. Yes

67. Do you usually have a bottle by your bedside?
   a. No
   b. Yes
Appendix F—Continued

68. Do you drink throughout the day?
   a. no           b. Yes

69. Do you:
   a. Drink mainly only on weekends, holidays, or days off?
   b. Drink throughout the week and weekends?

70. Is the result of your drinking causing you to have noticeable fear?
   a. No           b. Yes

71. Do you drink to let down?
   a. No           b. Yes

72. Do you drink to forget?
   a. No           b. Yes

73. Do you show marked resentments when you drink?
   a. No           b. Yes

74. Have you ever had medical help to sober up?
   a. No
   b. Once
   c. Several times

75. With respect to blackouts (loss of memory):
   a. Have never had a blackout
   b. Have had blackouts that last less than an hour
   c. Have had blackouts that last for several days
   d. Have had blackouts that last for a day or more

76. Have you ever received a ticket for driving under the influence of alcohol or driving while intoxicated?
   a. No           b. Yes
77. Have you missed work because of drinking during the past year?
   a. No
   b. Yes, but not more than 2 to 3 times
   c. Yes, about 4 to 5 times
   d. Yes, more than 10 times

78. Do you often have hangovers on Sunday or Monday mornings?
   a. No
   b. Yes

79. As a result of drinking have you heard "things" that were not there?
   a. No
   b. Yes, once
   c. Yes, several times

80. Have you used barbiturates (Yellow jackets, red devils, etc.)?
   a. No
   b. Once or twice
   c. Often

81. When drinking how much hard liquor (whiskey, vodka, gin) do you drink per day?
   a. None
   b. Up to 3 drinks
   c. Up to ½ pint
   d. Up to 1 pint
   e. More than 1 pint

82. When you drink at a bar or a party in the evening, how many drinks do you usually have before calling it a night?
   a. One or two
   b. Three to five
   c. Five or more

83. With a few drinks, is your ability to drive an automobile:
   a. Better
   b. The same
   c. Worse
84. Have you ever received individual counseling or therapy for a drinking problem?
   a. Never
   b. Once or twice
   c. More than two times

85. When drinking, do you feel better able to express your ideas and opinions?
   a. No       b. Yes

86. Do your ideas come more freely when you are drinking?
   a. No       b. Yes

87. Do you do most of your drinking with friends and acquaintances?
   a. No       b. Yes

88. Do you drink in order to have fun?
   a. No       b. Yes

89. Do you almost constantly think about drinking alcohol?
   a. No       b. Yes

90. Usually how much time is there between your periods of drinking time when you don't drink at all?
   a. None, I drink steadily
   b. Less than a week
   c. Up to a month
   d. More than a month

91. Are you usually depressed after a period of heavy drinking?
   a. No       b. Yes

92. Do you have vague fears and anxieties after a period of drinking?
   a. No       b. Yes

93. Do you frequently begin drinking because things pile up?
   a. No       b. Yes
94. When you are drinking, are your moods about the same as when you do not drink?
   a. No  b. Yes

95. In the last few months have you been attending AA?
   a. No  b. Yes

96. Do you tend to be physically harmful to other people when drinking?
   a. No  b. Yes

97. Have you ever taken the "geographic cure" that is, move from town to town, place to place, to stop drinking and make a new start?
   a. No  b. Yes

98. Have you had weird and frightening sensations when drinking?
   a. No  
   b. Yes, perhaps once or twice  
   c. Yes, often

99. As a result of drinking have you "felt things" crawling on you that were not there (bugs, spiders, etc.)?
   a. No  
   b. Once  
   c. Several times

100. Do you get physically sick (vomit, stomach cramps, etc.) as a result of drinking?
   a. No  
   b. Sometimes  
   c. Almost every time I drink

101. Have you used marihuana?
   a. No  
   b. Once or twice  
   c. Often
102. When you are drinking, how much beer do you drink per day?
   a. None
   b. Up to three cans
   c. Up to 6 cans
   d. Up to 10 cans
   e. More than 10 cans

103. Have you drunk hair tonic, shaving lotion, canned heat or anything like this?
   a. No
   b. Yes

104. As a result of your drinking are you easily irritated?
   a. No
   b. Yes

105. Have you lost possessions because of drinking?
   a. No
   b. Yes

106. Do you go out to drink in order to meet people?
   a. No
   b. Yes

107. Does drinking help you feel that you can reach higher goals?
   a. No
   b. Yes

108. Do you do most of your drinking at home?
   a. No
   b. Yes

109. Do you encourage other people (such as your wife, husband, friends) to drink with you?
   a. No
   b. Yes

110. Do you carry a bottle with you or keep one close at hand?
   a. No
   b. Some of the time
   c. Most of the time
111. How long do your drinking periods usually continue?
   a. Less than a week
   b. From one week to one month
   c. More than a month

112. Do you make excuses or lie to cover up your drinking?
   a. No
   b. Yes

113. Do you have guilt or remorse after a drunk?
   a. No
   b. Yes

114. Do you start drinking to get over being depressed?
   a. No
   b. Yes

115. Do you resent others talking about your drinking?
   a. No
   b. Yes

116. How many times have you received help for your drinking problem?
   a. None
   b. Once
   c. Several times

117. Have you ever attempted suicide when drinking?
   a. No
   b. Yes

118. As a result of drinking, have you ever had delirium tremens or DTs (seen, felt, or heard things not really there)?
   a. No
   b. Yes, once
   c. Yes, several times

119. Have you lost a job because of drinking?
   a. No
   b. Yes

120. As a result of drinking have you felt your heart beating rapidly?
   a. No
   b. Yes, once
   c. Yes, several times
121. As a result of drinking have you felt overly hot and sweaty?
   a. No
   b. Yes, once
   c. Yes, several times

122. Have you used hard narcotics (such as heroin, morphine, or other opiates)?
   a. Never
   b. Once or twice
   c. Several times

123. When drinking, how much wine do you drink per day?
   a. None
   b. Up to 2 or 3 glasses
   c. Up to 1 quart
   d. Up to 2 quarts
   e. More than 2 quarts

124. When drinking heavy how much do you typically sleep during a 24-hour period?
   a. 7 to 8 hours or more
   b. 5 to 6 hours
   c. 3 to 4 hours
   d. Less than 2 hours

125. Do you turn to a less socially accepted life when drinking?
   a. No
   b. Yes

126. Has your life style deteriorated because of drinking?
   a. No
   b. Somewhat
   c. To a great extent

127. When you are drinking, are you better able to relate your feelings and thoughts to the opposite sex?
   a. No
   b. Yes

128. Does drinking help you work better?
   a. No
   b. Yes
129. Do you usually drink with a person of the opposite sex?
   a. No  b. Yes

130. Are you usually happier when you are drinking?
   a. No  b. Yes

131. Do you usually drink during your work day?
   a. No  b. Yes

132. Do you usually keep yourself somewhat intoxicated throughout the day?
   a. No  b. Yes

133. Does alcohol enable you to better perform certain tasks?
   a. No  b. Yes

134. Do you tend to shut out the world when drinking?
   a. No  b. Yes

If you have been living in a marriage or marriage-type situation within the past six months please complete the following 13 questions. If not, you are through with this questionnaire.

135. Has your drinking been a factor in marital difficulties?
   a. No  b. Yes

136. Did you have difficulties in your marriage before you started to drink?
   a. No  b. Yes

137. Does your spouse get angry over your drinking?
   a. No  b. Yes

138. Have changes in your wife or husband contributed to your drinking heavily?
   a. No  b. Yes
139. Do you get irritated when your spouse comments on your drinking?  
   a. No  
   b. Yes

140. Do you feel your spouse has been unfaithful?  
   a. No  
   b. Yes

141. Do you argue with or belittle your spouse when you are drinking?  
   a. No  
   b. Yes

142. Is your spouse too friendly with persons of the opposite sex?  
   a. No  
   b. Yes

143. Do you sometimes physically abuse your wife or husband when drinking?  
   a. No  
   b. Yes

144. Is your spouse excessively jealous?  
   a. No  
   b. Yes

145. Does your spouse nag you about your drinking?  
   a. No  
   b. Yes

146. Does your spouse regard you as overly jealous?  
   a. No  
   b. Yes

147. Do you feel that your marital problems have caused you to drink?  
   a. No  
   b. Yes
Appendix G

The Scales of the Alcohol Use Inventory
(Wanberg, Horn, & Foster, 1977)

**Scale 1: Drink to Improve Sociability—Social Benefit.** Scale 1 represents use of alcohol for the purpose of enhancing one's ability to relate socially. Persons obtaining high scores on this scale are saying in effect that alcohol helps them to relax socially, to overcome shyness, to meet people, and to relate in a social setting. This measure thus indicates that for some people alcohol is believed to be beneficial to their ability to relate socially and to improve communication with others.

**Scale 2: Drink to Improve Mental Functioning—Mental Benefit.** The second scale measures the person's reported belief that alcohol benefits his intellectual functioning. The high scoring respondent apparently believes that some drinking helps to improve mental functioning.

**Scale 3: Gregarious versus Solitary Drinking.** Scale 3 indicates both a category of benefit from drinking and a style of alcohol use. A person who obtains a high score on this scale reports that he drinks primarily under convivial, gregarious conditions, in gatherings with friends and acquaintances. The suggestion is that drinking facilitates gregarious needs. Low scores on the scale indicate a withdrawn, nonsocial lifestyle associated with drinking. In this case the pattern is similar to what has been described
in the clinical literature as identifying the solitary drinker—a person who drinks alone, at home, away from bars, parties, and acquaintances.

Scale 4: Obsessive Compulsive Drinking. Scale 4 indicates preoccupation and compulsion in drinking. The items leading to a high score pertain to inability to resist the attractions of alcohol, inability to stop when once started, and surreptitious behavior that is associated with drinking. The scale measures a style of alcohol use that is associated with problem drinking.

Scale 5: Continuous, Sustained Drinking. A high score on Scale 5 indicates sustained, continuous (what some call plateau) drinking; at the low end the measure is of periodic binge pattern of drinking. On the high end then, there is prolonged and sustained alcohol use uninterrupted by any significant abstinence; while on the other end there is a pattern of short periods of drunkenness followed by definite periods of staying "on the wagon." A high score means that the patient has sustained alcohol use for 6 months or more. Low scores reflect short binges.

Scale 6: Postdrinking Worry, Fear, and Guilt. Scales 6 and 7 measure the relationship of alcohol use to affective and emotional responses. A person with a high score on Scale 6 is saying that drinking has caused noticeable fear, depression, anxiety, worry, remorse, resentment; and there is an avoidance of talking to others about drinking behavior.
High scores on Scale 6 suggest the need for therapy to deal with the feelings and emotions resulting from drinking.

**Scale 7: Drink to Change Mood.** The pattern revealed in this scale is one representing the use of alcohol to relieve symptoms of tension, depression, worry, fear, and despair. Those who score high on Scale 7 are thus saying that they use alcohol as a stress reducer and as a way of coping with depression and anxiety. Scale 6 represents anxiety as a consequence of alcohol use, Scale 7 measures use of alcohol to relieve anxiety.

**Scale 8: External Support to Stop Drinking.** This measure provides an indication of the extent to which the person has made prior attempts to use established facilities and procedures to cope with problems associated with drinking.

**Scale 9: Loss of Behavior Control when Drinking.** Scales 9 through 12 provide measures of patterns often discussed in the clinical literature as indicating the essence of a unitary alcoholism "disease." Scale 9 represents a pattern of loss of behavior control, as indicated by belligerency, blackouts, passing out, gulping drinks, stumbling, staggering, weaving, and the infliction of physical harm on others and to oneself. This loss of control is identified with specific behaviors associated with drinking, rather than with loss of control pertaining to the amount of alcohol consumed at any one time. A high
score on Scale 9 may serve as an indication that the patient's drinking behavior could be harmful to himself or to others.

**Scale 10: Social-Role Maladaptation.** This scale is descriptive of what is sometimes referred to as the Skid Row syndrome. Such persons have lost jobs, are unemployed, have been jailed or detained for public drunkenness, live alone, and lack family involvement. All of these characteristics are associated with excessive drinking.

**Scale 11: Psychoperceptual Withdrawal.** Scale 11 involves many of the perceptual symptoms and distortions associated with delirium tremens. Because it measures the perceptual distortions of alcohol withdrawal, a high score may indicate the patient has experienced symptoms associated with, although perhaps not as extreme as, full-blown delirium tremens.

**Scale 12: Psychophysical Withdrawal.** This factor is descriptive of physical symptoms related to withdrawal, such as experiencing "shakes," hangovers, vomiting, rapid heartbeat, sweatiness, and feverishness, when in the process of sobering up. Although this set of symptoms is usually assumed to be present with those of Scale 11, and vice versa, the empirical evidence upon which scale construction was based indicates that psychometrically the physical symptoms of this factor can often appear when there are few of the symptoms of Scale 11.
Scale 13: Use of Drugs other than Alcohol. This scale represents a pattern of symptoms often associated with excessive drinking. It measures the extent of drug use and contains items mainly associated with illicit use of agents such as the amphetamines, barbiturates, and marijuana.

Scale 14: Quantity of Alcohol Used. This is an a priori scale, rather than one defined on the basis of factoring. The scale does not measure the absolute amount of alcohol used per day, but it does give a rough approximation. A quartile score of 1 indicates that a person drinks up to 8 ounces of distilled spirits, or up to 24 ounces of wine or 2 quarts of beer a day. This score can also be obtained by one who drinks a combination of spirits, wine, and beer. A person with a score of 3 or 4 is reporting that he drinks spirits, beer, or wine, or a combination of the beverages to ingest 8 to 15 ounces of alcohol per day. Scores of 3 or 4 represent alcohol intake that is usually regarded as excessive.

Scale 15: Drinking Followed Marital Problems. Scales 15 and 16 describe two patterns of marital problems associated with alcohol use. A high score on Scale 15 describes a condition in which the person reports his drinking problem to be an outgrowth of marital discord and conflict. The patient is indicating that the marriage is in difficulty or at least creating considerable stress for the patient.
Alcohol is being used as a means of escape from or coping with the marital stress.

**Scale 16: Drinking Provokes Marital Problems.** In this scale there is expression of belief that marital problems have resulted from excessive alcohol use. It can be inferred that high scores indicate that drinking is the primary source of marital stress. One can expect significant alcohol-related symptoms in persons obtaining high scores on this scale.

**Dimension A: Self-Enhancement Drinking.** This dimension is a combination of items drawn from Scales 1, 2, and 3, all of which indicate use of alcohol for the purpose of improving psychological and social adjustment. A high score on Dimension A indicates a person's acceptance of the use of alcohol as part of a lifestyle. This indicates a kind of psychological dependency that is not usually diagnosed in assessment of alcoholism. The dependency in this case is associated mainly with problems relating to people. Alcohol is used to help the person be sociable.

**Dimension B: Obsessive, Sustained Drinking.** This dimension is based on items obtained from Scales 4 and 5. It indicates compulsive and sustained drinking, a preoccupation with alcohol, and an inability to leave it alone. The scale is bipolar, however, and thus distinguishes two logically opposing styles of drinking. The high score indicates sustained compulsive drinking, but low scores
indicate binge drinking (one who uses alcohol for several days or weeks and then discontinues its use completely for a definite period of time).

**Dimension D1:** Alcohol Use Disruption $D_1$ is defined by many of the symptoms commonly mentioned in descriptions of a unitary concept of alcoholism. These are the items drawn from Scales 9 through 12 and 14. A high score represents a broad alcohol related disruption in the physical, psychological, and social areas of functioning. Since all of the items are symptoms of problems associated with alcohol use, even a moderate score indicates a noteworthy alcohol-related condition. A sten score of only 3 represents a report of at least four of such symptoms. A sten score of 7 or above is highly indicative of what is clinically judged to be severe alcoholism.

**Dimension D2:** Alcohol-Use Disruption (Adjunct). This scale was constructed to provide a cross-check on $D_1$. It is also a measure of deterioration or disruption associated with alcohol use. Although it correlates .77 with $D_1$, it is comprised of items that appear in none of the other scales. If $D_1$ and $D_2$ differ by more than 3 sten scores, the validity of the individual's scores is called into question.

**Dimension G:** General Alcoholism. Because the four broad dimensions are positively correlated, there is some support for the use of an overall conglomerate measure of alcoholism. Dimension G is comprised of items pertaining to
all of the basic categories of alcohol use and misuse, viz., alcohol use benefits, styles, and symptoms; but it is most heavily represented by items of $D_1$ and $D_2$. The clinical value of Dimension G is realized in the fact that it can be used to gain a quick and general indication of whether a person is reporting a pattern of the symptoms commonly associated with problem drinking. The G score will not indicate much about the specific nature of problems associated with alcohol use. The primary and second-order scales provide the necessary independent measures for differential diagnosis.
Appendix H

Profile of Adaptation of Life, Form H

(Ellsworth, 1979)

During the past month, have you . . .

1. Worried about something?
2. Felt gloomy, blue?
3. Been on edge, tense?
4. Felt uneasy, troubled?
5. Been unhappy?

During the past month, I've . . .

6. Enjoyed talking with others.
7. Felt trusting of people.
8. Found work useful and interesting.
10. Felt needed and useful.

During the past month, have you . . .

11. Had money for unexpected expenses?
12. Had enough money to pay your bills?
13. Been free from worry about debts?

During the past month, have you . . .

14. Had headaches?
15. Felt hot, feverish?
16. Had spells of dizziness?
17. Waken from sleep feeling tired?
18. Had nausea (sick to stomach)?
19. Taken medication for headache?
20. Taken medication for stomach?

During the past month . . .

21. Have you used alcohol or mood altering drugs (Valium, pot, etc.)?
22. Have you gotten high on alcohol or drugs?
23. Has alcohol or drugs caused problems between you and family members?
24. Has alcohol or drugs caused problems in your thinking clearly?
Are you living with a spouse, parent, or someone in a close relationship?  ____ No  ____ Yes (Please answer the five questions below)

During the past month, have you and this person . . .

25. Been able to talk it out when angry?
26. Spent enjoyable times together?
27. Discussed important matters?
28. Felt close to each other?
29. Agreed on social activities, friends?

Are there children where you live?  ____ No  ____ Yes (Please answer the five questions below)

During the past month, have you and the child(dren) . . .

30. Spent time talking with each other?
31. Spent time doing things together?
32. Treated each other with respect?
33. Felt close to each other?
34. Done things for each other?

During the past month, have you . . .

35. Spent time with a close friend?
36. Entertained friends in your home?
37. Attended meetings of civic or other organizations?
38. Gone to parties or social activities outside the home?

During the past month, have you . . .

39. Taken time to be by yourself?
40. Spent time outdoors enjoying nature?
41. Meditated?

During the past month, have you . . .

42. Eaten fresh fruits (apples, oranges, bananas, etc.)?
43. Eaten natural foods (whole grains, nuts, seeds, etc.)?
44. Done physical exercise?

During the past month, have you . . .

45. Read something about personal psychological growth?
46. Read something about mystical or spiritual things?
47. Participated in a study group?
It is my opinion that . . .

48. Spiritual or psychic healing is often as effective as medical treatment.
49. Mental telepathy is a reality.
50. Many people have "out of body" experiences.
51. Problems in life are really opportunities to learn and grow.
52. People create their own reality by the kinds of thoughts they let themselves have.
Appendix I

Cover Letter to Discharged Patients

You were recently discharged from our program here at the Dallas Veterans Administration Medical Center. At that time, you filled out a questionnaire and were told you would receive another to keep in touch. Two (2) questionnaires are attached. Please fill out both of them and return them to us in the enclosed postage-paid envelope. The purpose of these questionnaires is to evaluate the effectiveness of our program and to improve it to allow us better to treat our veterans.

If you are unable to return the questionnaire, please contact us, either by using the postage-paid envelope or by calling us at Area Code (214) 376-5451, Ext. 738 or 739.

Thank you for your cooperation in this project.

Sincerely,

E. T. Patterson, Ph.D.
Assistant Chief, ADTP

H. L. Charles, M.D.
Chief, ADTP
Appendix J

Table 2

Summary of ANOVA on Return Rates for Evaluation Techniques and Time Frame Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
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<td>2</td>
<td>2,252.35</td>
<td>5.32*</td>
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<td>Evaluation Time Frame</td>
<td>47.23</td>
<td>2</td>
<td>23.62</td>
<td>.05</td>
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<td>Technique X Time Frame</td>
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<td>360.61</td>
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<td>Within Cell</td>
<td>17,706.47</td>
<td>40</td>
<td>442.66</td>
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*p ≤ .01
Appendix K

Table 3

Main Effect Comparisons Newman Keuls Test of Differences of Means Percent Return Rates

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<thead>
<tr>
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<th>Mailout Questionnaire</th>
<th>Mailout Questionnaire/Telephone Interview Combination</th>
<th>Telephone Interview</th>
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<tr>
<td>Mailout Questionnaire/</td>
<td>14.12</td>
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<td>Telephone Interview</td>
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Note. No significant mean differences are found using the Newman Keuls a priori test.
Appendix L

Table 5

Means and Standard Deviations of Preexperimental Alcohol Consumption Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>3 week</th>
<th>6 week</th>
<th>9 week</th>
<th>12 week</th>
<th>15 week</th>
<th>18 week</th>
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<tr>
<td><strong>Years Drinking</strong></td>
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<td></td>
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<tr>
<td>M</td>
<td>20.50</td>
<td>16.00</td>
<td>19.71</td>
<td>22.00</td>
<td>22.10</td>
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<td>SD</td>
<td>5.75</td>
<td>10.99</td>
<td>11.79</td>
<td>12.04</td>
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<td><strong>Years Problem</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>M</td>
<td>8.50</td>
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<td>8.00</td>
<td>8.37</td>
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<td>M</td>
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<td>17.19</td>
<td>18.14</td>
<td>13.66</td>
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\( N = 60 \)

\( ^b \) Ten subjects in each group.
Appendix M

Table 6

Means and Standard Deviations of Preexperimental Scores on the Alcohol Use Inventory

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\(^{a}\)\(N = 60\)

\(^{b}\)Ten subjects in each group.
Table 7
Measures and Standard Deviations of Preexperimental Scores on the Profile of Adaptation to Life, Form H

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\(^a\)N = 60

\(^b\)Ten subjects in each group.
Appendix 0

Table 8

Summary of Fs for Preexperimental Measures of Psychosocial Functioning

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The degrees of freedom are (5,54) for all Fs.

c $p > .05$ for all Fs.
Appendix P

Table 9

Correlation between Initial and 1-Year Follow-up for Daily Alcohol Consumption

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*p < .05
Appendix Q

Table 10

Correlation between Initial and 1-Year Follow-up Data for the Profile of Adaptation to Life, Form H

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*p < .05

**p < .01
Appendix R

Table 11

Correlation between Preexperimental and 1-Year Follow-up Data for the Profile of Adaptation to Life, Form H

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<th>Scale</th>
<th>3 week N = 8</th>
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<th>12 week N = 7</th>
<th>15 week N = 7</th>
<th>18 week N = 6</th>
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*p < .05

**p < .01
References


Costello, R. M., Bechtel, J. E., & Giffen, M. B. A community's efforts to attack the problem of alcoholism; II. Base rate data for future program evaluation. *International Journal of the Addictions, 1974, 8*, 875-888.


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