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The Ohio State University Ph.D. 1986

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ELICITING HELP-SEEKING IN HOSPITALIZED ALCOHOLICS

DISSertation

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

By

Susan Joan Stockman, M.A.

* * * *

The Ohio State University
1986

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To My Parents
I acknowledge with gratitude the many ways in which Dr. Theodore Kaul has guided and supported my professional career, particularly this research. I also thank Drs. Lyle D. Schmidt and Don M. Dell for their helpful suggestions. I am indebted to Drs. Joel J. Silverman and Ronald O. Forbes for their assistance and encouragement while this research was in progress. The technical assistance of Laurel Purchase, Robert Hamer and Linda Felch is gratefully acknowledged. Sincere thanks go to Dr. Mary E. Mc Caul for her support during the final stages of this project. I am deeply grateful to my friends, Micki, Helen and Pauline, whose faith in me never wavered. My family, especially my parents, Joan and Robert Stockman, have been a constant source of support and they share in this achievement in a special way.
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CHAPTER I
INTRODUCTION

Many of the settings and clientele with whom counseling psychologists are associated require the professional to intervene with individuals or groups prior to a request for help and, often, prior to the client's own recognition of need. There usually exists an identified problem (e.g. criminal behavior, occupational dysfunction or physical dysfunction) but the psychological or mental health aspects of this problem may not be evident to the client. Research into the determinants and course of major medical and social problems with psychological and behavioral components (e.g. sexual abuse, domestic violence, substance abuse) has highlighted the importance of prevention efforts, especially among "populations at risk" and encouraged aggressive case-finding in an effort to ameliorate, if not prevent, the effects of these problems.

These situations present the practicing psychologist with the additional task of inducing help-acceptance. The process of counseling thus may begin before the traditional intake interview and may be initiated by the helper rather than the client. Although there are descriptive data on patterns of help-seeking in the general population (Verhoff, Kulka & Douvan, 1981), attitudes toward mental
health professionals (Aronson & Overall, 1961; Nunnally, 1961; Tinsley and Bloxom, 1983) and program evaluations of efforts to educate the general public regarding mental health problems (e.g. Kinder, 1975) little experimental data exists on the psychological determinants of help-seeking for mental health problems. The general purpose of this study was to evaluate an intervention designed to encourage help-seeking in alcoholics who had not previously sought treatment.

Alcoholics hospitalized for trauma provided an appropriate target population for a help-seeking intervention. Studies of general hospital populations have shown that alcoholics comprise a substantial minority of hospitalized patients (Jarman & Kellet, 1979; Runde et al., 1981) but only a small percentage of these alcoholics are identified and referred for treatment (e.g. Beresford, Low & Adduci, 1982). Alcoholics treated on surgical services are healthier and less likely to be physically, psychologically and socially disabled than those on medical services. They are therefore, least likely to be identified but are believed to be most likely to benefit from intervention. Finally, similar studies of programs to increase help-seeking in alcoholics hospitalized for detoxification have demonstrated some success in engaging alcoholics in treatment (Craigie & Ross, 1980; Johnson, 1977; Panepinto, Galanter, Bender & Strochlic, 1980).

A review of studies designed to engage alcoholics in treatment showed that common elements of successful strategies included information about alcoholism, modeling of behaviors and attitudes by
real or actor alcoholics and information about treatment modalities (Craigie and Ross, 1980; Johnson, 1978; Gallant, Bishop, Stay, Faulkner & Paternostro, 1966; Koumans & Miller, 1965; Panepinto et. al., 1980). A role-induction study (Strupp & Bloxom, 1973) demonstrated that similar persuasive material could be effectively communicated in a film but no studies had demonstrated that such a format would be effective with persons who had not sought or been referred for professional help. This study tested two videotaped programs against typical clinical intervention (a physician consultation) and a control group.

Previous studies of help-seeking in alcoholics also lacked data to support explanations of observed changes in behavior. Although several mechanisms of change could have been explored, this study drew on recent research linking beliefs about the consequences of alcohol with alcohol consumption. Some studies have shown that behavior following alcohol use is influenced by consumers expectancies (Marlatt & Rohsenaw, 1980) and that alcohol abusers have different expectancies regarding the effects of alcohol use than social drinkers (Brown, 1981). A series of studies applying the Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) to alcohol and drug use has demonstrated that substance use can be predicted from subjects' beliefs, attitudes and intentions regarding past and future use (Bearden & Woodside, 1978; Cook, 1980; Oliver & Bearden, 1985; Schlegel, Crawford & Stanborn, 1977) and that beliefs about using alcohol and drugs differ among those who do or do not use. Although
one study (Bearden and Woodside, 1978) provided evidence that cognitive variables predicting use may differ for social users and addicted users, no previous research had applied the Theory of Reasoned Action to known alcoholics. The current study applied Fishbein and Ajzen's (1975; 1980) Theory of Reasoned Action to the prediction of help-seeking behavior in diagnosed alcoholics.

Since the majority of investigations on help-seeking had been descriptive surveys using retrospective designs, recent representative studies were reviewed for subject variables likely to moderate response to the persuasive intervention. Subjective distress has been repeatedly identified as the single most important predictor of voluntary help-seeking (Mechanic, 1975; Veroff et. al., 1981). Further, distress related to psychological status and major role dysfunction have been more frequently associated with help-seeking than medical or financial problems. Therefore, multiple measures tapping general distress, psychological distress related to alcohol use and marital dysfunction related to alcohol use were investigated as possible moderating variables.

To summarize, this study was based on research from three lines of investigation to ask related questions about eliciting help-seeking in alcoholics. These questions are briefly stated here and will be elaborated in the literature review and description of methodology:

1. Can a videotaped program including information about alcoholism, treatment and recovery elicit help-seeking in alcoholics who have never sought treatment?
(2) Can help-seeking behavior be predicted from beliefs, attitudes and intentions, as would be predicted from the Theory of Reasoned Action? and

(3) Does self-reported distress moderate response to an intervention designed to increase help-seeking?
CHAPTER 2
LITERATURE REVIEW

This literature review will present three areas: (a) studies of intervention studies designed to encourage alcoholics to accept treatment, (b) the Theory of Reasoned Behavior and the empirical evidence for its usefulness in predicting and understanding behavior and (c) evidence for the role of subjective distress in help-seeking behavior.

Increasing Help-Seeking in Alcoholics

Recent advances in the treatment of alcoholism have included development and evaluation of specific treatment methods (Marlatt, 1982; Miller, 1980; Neubuerger, Hasha, Matarazzo, Schmidt & Pratt, 1981), identification of patient characteristics related to prognosis (McLellan, Luborsky, Woody, O'Brien & Druley, 1983) and controlled studies of patient-treatment matching (McLellan, Woody, Luborsky, O'Brien & Druley, 1983). Further, recent reviews of the literature (Emrick and Hansen, 1983; McLellan, Luborsky & O'Brien, 1982; Moos, Finney & Chan, 1981) have concluded that alcoholics seeking treatment benefit from it. However, estimates suggest that less than 10% of alcoholics ever receive treatment (Brandsma, Maultsby & Welsh, 1980) and little research exists on interventions to engage the untreated
alcoholic voluntarily in treatment.

Studies of job-based interventions (Trice & Beyer, 1984) and evaluations of court-referred DWI (Driving While Intoxicated) offenders (Mc Carty, Argeiou & Blacker, 1986) have successfully used legal or employment consequences (incarceration; job loss) to maintain alcoholics in treatment. Social-system based interventions have been used by alcoholism professionals but no empirical evaluations of their effectiveness could be identified in the literature as of this writing. However, hospital or clinic-based interventions have been successfully implemented to increase the percentages of alcoholics who voluntarily enter long-term treatment after medical emergencies.

Gallanter, Karasu and Wilder (1976) described a systems approach to the problems of managing and referring alcoholics hospitalized for medical problems. Their program focused on identification, management and facilitation of the initiation of formal treatment through staff training and consultation services provided by four full-time alcoholism professionals. Of 876 consultations requested over a period of 15 months, 596 (68%) were referred for treatment before discharge and 449 (75%) of those referred appeared for treatment within a week of discharge from the hospital. The authors did not provide comparison data gathered before the initiation of the alcoholism team but the percentages reported indicate a high rate of success for this intensive approach.

Less personnel-intensive approaches also have shown increased treatment acceptance over comparison groups. Koumans and Miller
(1965) wanted to increase the likelihood that chronic alcoholics receiving treatment at an outpatient facility would return for follow-up after being briefly hospitalized for detoxification. They sent a follow-up letter expressing concern and an invitation to further consultation to 50 of 100 patients and found that subjects in the letter group reappeared for treatment at a rate of 50% compared with 31% of those receiving no letter. Subjects in the letter group came sooner (76% within one day of discharge from the hospital) and were more likely to be sober upon arrival than control subjects. However, subjects in this study already had a personal experience with treatment at the agency. A minimal intervention may not be effective with alcoholics who have never sought treatment.

Panepinto, Galanter, Bender, and Strochlic (1980) found that 15 hours of orientation to outpatient aftercare (including education about alcohol, discussion of treatment modalities and two hours of experience in group therapy), when given to alcoholics hospitalized for detoxification, increased aftercare attendance to 71% over 53% in the year before orientation was begun. This program was especially successful with first admissions and men between 30 and 44 years of age. Active outpatients who were re-hospitalized had a higher rate of return than first admission during the no-orientation phase, suggesting to the authors that affiliation with treatment staff and other patients was the mechanism of change.

Gallent, Bishop, Stay, Faulkner and Paternostro (1966) substituted a group intake procedure for the traditional telephone
screening and intake interview in order to reduce the delay between initial request for treatment and the first clinic visit. The two hour intake session included information regarding treatment services available and brief history-taking with each patient. The patient with the most "typical" history (described as having blackouts, delirium tremens, etc.) was encouraged to relate his early symptoms and progression to the more serious signs of addiction. Other patients (groups were limited to four or five) were then encouraged to identify with one of the stages of alcoholism. Interaction among group members was encouraged, especially questioning and confrontation. The staff members described the long-term consequences of alcohol abuse and discussed psychological processes associated with treatment, e.g. denial. Of 49 patients who attended a group intake, 31 (63%) returned for a second visit while 28 of 61 (46%) returned after an individual intake session with the same staff member. These percentages represented a trend (p = .10) for fewer dropouts from the group intake condition. The absence of strong statistical support for the efficacy of the group intake was not discussed by the authors but it suggests that a brief group orientation may not be as successful as a lengthier procedure.

Johnson (1977) emphasized peer modeling of positive patient behaviors in a brief intervention to motivate alcoholics to seek further treatment. He showed five short (3 to 5 minutes) videotapes to 35 VA patients hospitalized for detoxification. The videotapes showed alcoholic patient models engaging in behaviors ranging from
denial to coping. All five films presented two treatments, 30-day inpatient and antabuse, as successful. The films were viewed in a group setting and discussed by patients with staff guidance. An equal number of randomly assigned patients saw no tapes but participated in group discussions typically used in this setting to motivate treatment-seeking. Two motivational measures, the Bell Alcoholism Scale of Adjectives and Lierly Motivation for Alcoholism Scale, were given before and after the research treatment. In the experimental, videotape, group, 80% of the subjects requested antabuse and 71% requested 30-day inpatient treatment compared with 20% and 51%, respectively in the discussion-only group. However, behavioral decisions were not predicted by the motivational measures.

In a similar study, Craigie and Ross (1980) used a videotaped pre-therapy training program to encourage treatment-seeking among 31 male detoxification patients. The experimenter met with each patient individually for three sessions of 35-40 minutes each. Sessions with experimental patients consisted of viewing a short videotape in which an actor modeled specific positive behaviors, e.g. problem disclosure, willingness to try treatment and was said to have favorably resolved his problems, while a second actor modeled negative behaviors (e.g. problem denial) and was said to be headed for trouble. These films also showed specific treatment interventions used in alcoholism treatment. Discussion following the videotape focused on additional efforts by the experimenter to encourage problem disclosure and counteract denial, give additional information regarding treatments
and inform subjects how they could get into treatment. The relationship of psychological problems to alcohol abuse and the importance of working them out in order to resolve problems with alcohol was emphasized. Control subjects saw brief educational films containing general exhortations to abstain from alcohol. Discussions with control subjects consisted of the experimenter emphasizing the need to stop drinking, encouraging the subject to enter treatment and informing subjects how they could get into treatment. Requests for treatment from all subjects were handled through routine channels of the ward staff. Three behavioral measures were used as dependent variables. They were: (a) patients leave detox unit with other than a regular discharge, (b) patient leaves with a treatment referral, and (c) patient makes an initial treatment contact within two weeks of discharge. Experimental subjects left more frequently with a treatment referral (9 of 14 compared with 3 of 17 controls) and made more initial treatment contacts (7 of 14 compared with 3 of 17 controls). A follow-up of the treatment course of experimentals and controls entering treatment showed a higher percentage (66%) of experimental subjects successfully completing treatment than controls (33%). The authors concluded that therapeutic involvement may be facilitated by modeling relevant behaviors and describing the nature and benefits of treatment.

Four of these five studies used similar approaches to engaging the hospitalized alcoholic in long-term treatment. They included some education regarding alcoholism, treatment modalities and treatment
processes. They also included some exposure to "model" alcoholics, either self-identified or experimenter-designed. Koumans and Muller's (1965) letter-stimulus constituted the most minimal intervention but subjects in their study already had been exposed to treatment processes and personnel and may have only needed a reminder of treatment benefits. Three studies (Gallent et. al., 1966; Johnson, 1977; Panepinto et. al., 1980) reported 18-20% increases in numbers of subjects seeking treatment while one (Craigie & Ross, 1980) found a 33% improvement over a control group. Uncontrolled variations in treatment of subjects, potential investigator bias and the lack of systematic variation of experimental treatment components precludes identification of the effective aspects of these interventions. Investigators have speculated about the mechanisms of change but have not measured or controlled for alternative components. Finally, all studies were conducted with alcoholics hospitalized for detoxification, i.e. an alcohol-related medical emergency and results with this population may not generalize to other alcoholic groups.

The current study extended this literature by testing the effectiveness of a help-seeking intervention with hospitalized alcoholics who have never received professional help and who were not hospitalized for detoxification. Information about treatment processes was given to some subjects but not to others, to determine if subjects exposed to this information would be more likely to seek professional help than those exposed only to stimuli about drinking and the benefits of sobriety.
Two studies (Craigie and Ross, 1980; Johnson, 1977) found videotaped models to be effective in increasing treatment acceptance within the context of a group or individual discussion that could be individually tailored to the needs of the patient. However, it is possible that all of the components described in the studies above could be effectively communicated via a videotape format. Strupp and Bloxom (1973) designed a 16mm film to prepare low-socioeconomic patients for group psychotherapy and compared it with a two-hour orientation session led by a senior therapist. The film illustrated, in story format, the marital, job and drinking problems of a working-class male in his thirties. It portrayed his resistance to seeking professional help, his experiences in group therapy and the benefits he received. One hundred twenty-two subjects were randomly assigned to view the role-induction film, a film about marital problems or participate in a two-hour therapist-led orientation. Subjects were multiproblem, low-prognosis clients referred from social service agencies but with little motivation for psychiatric treatment. All subjects completed measures of distress and motivation for treatment before and after the orientation session. Subjects in both the role-induction (film and therapist-led group) were less distressed and more motivated to begin treatment than subjects in the comparison film condition. Subjects in the film condition were more satisfied with the therapeutic experience and exhibited more appropriate behavior in therapy sessions than subjects in the therapist-led group. These results suggest that a videotaped orientation may be effective
in engaging alcoholics in treatment. Use of a videotape intervention presented the methodological advantage of ensuring that some subjects received information about professional help and others did not. Such an intervention, if effective, would have the added advantage of being cost-effective and convenient to use in a hospital setting.

This study investigated the effectiveness of a videotape stimulus in increasing treatment-seeking among hospitalized alcoholics who had never received professional help. Two videotaped orientations, one with information about treatment and one without, were compared with the ordinary clinical intervention in a hospital setting, a consultation with a physician in the Substance Abuse Medicine Division. Since alcoholics in this study were not admitted for alcohol-related medical emergencies, they were identified through a diagnostic screening interview, and may never have considered their alcohol use a problem, a fourth condition was added to control for effects of telling subjects that they met research criteria for a diagnosis of alcohol abuse or alcohol dependence.

Studies described above have indicated that orientation programs can increase the likelihood that an alcoholic patient will continue in treatment, but they do not clarify the mechanisms of change. Strupp and Bloxom (1973) showed that a videotape role-induction changed patients' expectancies regarding their behavior in therapy and that these cognitive changes paralleled changes in motivation and actual behavior. Experimental (Marlatt & Rohsenaw, 1980) and descriptive (Brown, Goldman, Inn & Anderson, 1980) research on the perceived
consequences of alcohol use has identified reliable relationships among cognitive factors and alcohol-related behavior. These include the role of cognition in mediating behavioral responses to alcohol ingestion (e.g., Marlatt et. al., 1973) and differences in perceived effects of alcohol use before and after treatment (Brown, 1981).

The current study was designed to provide some information on cognitive changes that might occur following the experimental treatments and to determine whether these changes predicted or explained changes in help-seeking behavior. If cognitions related to help-seeking could be identified, interventions could be made more effective by focusing on those cognitive changes associated with help-seeking. The Theory of Reasoned Action (Fishbein and Ajzen, 1975; 1980) was used as a conceptual framework for identifying cognitive factors related to help-seeking in the alcoholic, addressing those factors in the experimental (videotape) treatments, observing changes in those cognitions and evaluating the usefulness of cognitive factors in predicting and understanding help-seeking in the alcoholic. This theory provides explicit and testable hypotheses regarding the relationships of cognitions to behavior, provides a rationale and methodology for shaping persuasive messages and has been useful in predicting and explaining a variety of behaviors, including alcohol use and help-seeking.

Theory of Reasoned Action

The Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen &
Fishbein, 1980) provides a conceptual framework for predicting and explaining behavior from relationships among attitudes, subjective norms and behavioral intentions. The initial formulation of the theory was based on a critique of attitude research in social psychology (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1975) and integrates much of the currently accepted knowledge about these variables into a theory that is explicit, testable and generalizable (Fredricks & Dossett, 1983). This review will present the conceptual framework, theoretical assumptions and methodological requirements of the theory as presented by Ajzen and Fishbein (1980). A summary of the empirical literature investigating the theory and its applicability to various behavior domains will follow with special attention to applications of the theory in predicting and explaining drug use, recently developed extensions of the theory (Bentler & Speckart, 1979; 1981) and conceptual issues and methodological points relating to the current study.

According to the Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980), an individual's behavior (B) is determined by his/her intention (I) to perform the behavior. Intention is a function of the individual's attitude (A) toward performing the behavior and his/her subjective norm (SN) with respect to the behavior. Attitude is defined as the person's positive or negative feeling about performing the behavior and subjective norm represents the person's belief that important others, as a group, think that he/she should or should not perform the behavior. The
relative importance or weights, of the attitude and normative factors may vary from person to person and behavior to behavior.

Attitude is a function of the person's total set of salient or modal beliefs about performing the behavior, i.e., the person's subjective probability that a set of particular outcomes are a consequence of performing the behavior. The probability assigned to a particular belief (e.g., .70 on a 0 to 1.0 scale) is a measure of belief strength. If a person believes that performing a given behavior will lead to mostly positive outcomes, the person will hold a positive attitude toward performing the behavior. Similarly, subjective norm is predicted by a person's set of beliefs about referents' proscriptions regarding the behavior, modified by the person's motivation to comply with these referents. Relationships among these constructs may be represented mathematically by the equations:

\[
BI = (A_{act})w_1 + (SN) \\
A_{act} = \sum_{i=1}^{b} e_i \\
SN = \sum_{i=1}^{m} b_i
\]

Within the context of this theory, behavior change is brought about, in the final analysis, by changing currently held beliefs functionally related to the behavior, i.e. salient beliefs, or by inducing previously non-salient, novel beliefs. Other factors, such
as demographic or personality variables, past behavior and environment influence behavior through the impact they have on the person's beliefs or on the relative weights of attitude and subjective norm components.

Ajzen and Fishbein (1980) recommend that specific measurement procedures be followed when applying the model. Primary among these is that predictor (beliefs, attitude, subjective norm, behavioral intention) variables correspond to the predicted behavior on their target and action elements. Correspondence between predictor and target variables on all four dimensions of target, action, context and time is desirable but high correlations between attitude and behavior measures have been found when at least target and action elements correspond (Ajzen & Fishbein, 1977).

Attitude toward a behavior is measured by three or more Likert-type responses to the action. Seven-point scales are anchored by word-pairs drawn from Osgood, Suci and Tannenbaum's (1957) evaluative dimension. Responses are averaged to obtain an attitude measure. Subjective norm is operationalized by a single, Likert-type scale measuring the subject's perceptions that significant others would or would not want him to perform the behavior, e.g.:

"Most people who are important to me think that I should/should not smoke marijuana when I go to small, informal parties of friends."

Salient beliefs are conceptualized as beliefs about the consequences of performing the behavior and operationalized as probability ratings. The subject rates each of a number of statements
linking the behavior with an outcome on a Likert-type scale anchored by likely-unlikely or by giving a probability rating, e.g. .40, that the behavior will result in the consequence. The result is considered a measure of belief strength.

Likert-type scales with good-bad or other highly evaluative word-pairs as anchors provide a measure of each outcome evaluation. Belief Products, obtained by multiplying each measure of belief strength by its corresponding outcome evaluation, are summed to obtain a single measure of "beliefs" about performing the behavior.

Normative beliefs are operationalized by having subjects indicate on separate, Likert-type scales whether or not significant others (e.g. parents, spouse, friends, physician) think that the subject should or should not perform the behavior. Motivation to comply with each of these referent persons is tapped by asking subjects whether they, in general, want to or don't want to do what each referent think they should do. Normative beliefs are multiplied by measures of the individual's motivation to comply with each referent; these normative products are summed to provide a measure of normative beliefs.

Ajzen and Fishbein (1980) also provide guidelines for identification of salient beliefs or modal beliefs. They recommend that statements about the consequences of performing or not performing the behavior be elicited during a structured interview or thought-listing task from a pilot sample drawn from the target population. Individual consequences may then be categorized and representative statements chosen for inclusion in the study. They
suggest that selected statements represent at least 70% of all the statements given by the pilot sample.

Beliefs targeted for influence must be salient beliefs, that is, beliefs known to be empirically related to the behavior or intention of interest. If, for example, an alcoholic believes that excessive ingestion of alcohol is dangerous to his health but that belief is not related to his intention to seek treatment, increasing that person's belief about the physical damage done by alcohol will not increase the probability of his seeking treatment. The relative weights contributed by personal attitude and subjective norm for a particular population and behavior also must be empirically determined.

The theory specifies three possible effects of a persuasive message. "Acceptance," "yielding," and "impact" are the essential cognitive processes that mediate persuasion according to Ajzen and Fishbein (1980). The level of acceptance of a belief by a person is the strength with which the person holds the belief prior to any exposure to a persuasive argument. Yielding is a measure of change in belief strength from pre-message to post-message. A person who accepts a particular belief at .40 and, after a persuasion attempt, holds the belief at .70 is said to have exhibited "yielding" of thirty percentage points on that belief. When exposure to a belief or a persuasive message produces changes in beliefs not addressed in the message, "impact" effects are said to have occurred. For example, a person exposed to the message that "excessive drinking ruins one's health" may infer that he has already ruined his health and that
future abstinence cannot improve his health. This inference, which itself is a belief, may contribute to his intention not to seek treatment for problems with alcohol. Impact effects may lead to belief, attitude and intentional changes unintended by the communicator.

Empirical investigations. Fishbein and Ajzen's Theory of Reasoned Action (1975; 1980) has been found to be useful in predicting and understanding a variety of behaviors, including weight loss (Fishbein, 1975; 1980), women's career choices (Fishbein, 1975; 1980), family planning decisions (Loken & Fishbein, 1980), consumer behavior (Oliver & Bearden, 1985; Ryan, 1982), voting patterns (Davidson, Yantis, Norwood & Montano, 1985; Fishbein & Coombs, 1974), smoking behavior (Fishbein, 1982), choice of infant feeding methods (Manstead, Plevin & Smart, 1984; Manstead, Proffit & Smart, 1983), the use of seat belts (Budd, North & Spencer, 1983), sentence recommendations made by probation officers (Katz, 1984), university class attendance (Fredricks & Dossett, 1983), childbirth options (Lowe & Frey, 1983), educational plans (Harrison, Thompson & Rogers, 1985), alcohol and drug use (Bearden & Woodside, 1978; Bentler & Speckart, 1979; Cook, Lounsberry & Fontenelle, 1980) and acceptance of treatment for alcoholism (McArdle, 1972).

Further, predicted relationships have remained robust under conditions considered by Ajzen and Fishbein (1980) to weaken the model's utility, such as varying time lapse between measures of predictor variables and measures of targeted behavior (Harrison et.
al., 1985; Manstead et al., 1983), constructing predictor variables from previously gathered, available data (Harrison et al., 1985), predicting a behavioral outcome that is the result of a joint decision (Lowe & Frey, 1983), using self-report, rather than observed behavior, as a measure of behavior (Katz, 1984; Oliver & Bearden, 1985), with novel as well as familiar behavior (Budd & Spencer, 1985; Manstead et al., 1984), and predicting behavior for populations differing in age and education (Davidson et al., 1985; Manstead et al., 1984). However, some investigators have identified "exogenous" variables that exert direct influence on intentions or behavior and have questioned the theorized relationships among the endogenous variables (beliefs, attitude, subjective norm, intention and behavior).

Bentler and Speckart (1979) questioned the degree to which behavior was subject to regulation of conscious intentions and hypothesized that measuring subjects' knowledge of their own past behavior would improve prediction of future behavior over that of behavioral intention alone. They identified cognitive and normative belief items from previous research on drug use among adolescents and collected predictive and self-report data on the alcohol and drug use of 228 university students. Type of substance (alcohol, marijuana, narcotics) and social setting (e.g. informal parties of friends) was varied and confirmatory factor analysis was used to test the efficiency of three different models in replicating the data. Model one represented Ajzen and Fishbein's (1980) theory; model two added a
direct path of influence from attitude to behavior to the original (Ajzen & Fishbein, 1980) theory. Model three added to model two the exogenous variable of reported past behavior. Analyses showed that only models two and three faithfully replicated substance use in the month following collection of predictor variables. These results provide evidence contradicting Fishbein and Ajzen's (1975; 1980) assertion that behavioral intentions mediate attitudes and behavior and that exogenous variables (in this case, perceived past behavior) influence behavior only through influence on attitudes or subjective norms. Bentler and Speckart's (1979) proposed extension of the Theory of Reasoned Behavior thus received empirical support for the behavior domain of drug use.

Past behavior has also been found to add explanatory power to prediction of behaviors other than substance use. Manstead, Proffitt and Smart (1983) also included past behavior as a variable in their study of mothers' intentions regarding infant-feeding practices by comparing mothers expecting a first child with those expecting a second or third child. The addition of past behavior (type of infant-feeding method used with previous children) to a multiple regression analysis explained a statistically significant amount of additional variance in behavioral intentions. Attitude measures also made an independent and statistically significant contribution to prediction of infant-feeding behavior. These results suggested that the relationships predicted by Ajzen and Fishbein (1980) may be inadequate in predicting or explaining behavior that is highly
Fredricks and Dossett (1983) observed that the Bentler and Speckart (1979) study varied from Fishbein and Ajzen's (1980) recommended measurement specifications and that they had measured behavior by self-report of socially censured and potentially illegal acts. They compared Bentler and Speckart's (1979) model with the original model using university class attendance as the target behavior. An analysis of linear structural relationships showed that the elimination of prior behavior from the model resulted in a significantly less efficient fit of the data. However, the model including attitude as an independent predictor of behavior was not significantly more efficient than that using past behavior alone. Self-perceived past behavior, then, has provided additional explanatory variance in future behavior for high-involvement and low-involvement behaviors. But the independent effects of attitude upon behavior may be limited to behaviors associated with high affective involvement.

Budd et. al. (1983) tested the contribution of a number of factual and demographic variables which previous research had suggested were related to the target behavior, seat-belt use on long or short journeys, as well as personal beliefs related to general safety, accidents, habitual use of seat-belts. A number of these variables were highly correlated with seat-belt use. However, when variables were entered into step-wise regression equations with behavioral intention as the dependent variable, only past behavior
added statistically significant (9%) increments in variance explained over the predictor variables in Fishbein and Ajzen's (1975; 1980) model. This was observed for both long and short journey use of seat belts. The belief that people should be encouraged to use seat-belts accounted for an additional 2% of variance in behavioral intentions to wear seat-belts on long journeys but not on short journeys.

The independent effect of reported past behavior has been replicated under different measurement conditions and different target behaviors. However, the studies reviewed here examined past behaviors with a wider range than that under investigation in the current study. Subjects in the current study were restricted to those with excessive use of alcohol, a more restricted definition than recent use. This study investigated the usefulness of the model when the range of previous behavior is restricted.

The relationship of subjective norm to other variables in the model has prompted criticism on conceptual and empirical grounds (Miniard and Cohen, 1979; 1981; 1983; Ryan, 1978). A repeated finding in research based on the Theory of Reasoned Action is that the influence of attitude upon behavioral intention is greater than that of subjective norm. Farley, Lehman and Ryan (1981), in a meta-analysis of 26 studies, found that the attitude coefficient dominated the subjective norm coefficient by a factor of 1.5 and that the effect was observed, to varying degrees, regardless of sample type, design, research discipline and nature of measurement.

Manstead et. al. (1983) compared the relative weights of attitude
and subjective norm on behavioral intention in women with and without past experience with the target behavior (infant-feeding practices) and found that past behavior increased the relative contribution of attitude over subjective norm to prediction of behavioral intention.

Four studies (Oliver & Bearden, 1985; Ryan, 1978; Ryan, 1982; Shimp & Kavas, 1984;) have provided evidence of the direct or indirect influence of subjective norm upon attitude. These "crossover" effects are said to be operative when substantial correlations are observed between subjective norm and attitude, which have been conceptualized as independent influences on behavioral intention. Crossover effects also exist when beliefs about consequences of the target behavior are correlated with subjective norms or when beliefs about the opinions of significant others correlate with attitude measures. Oliver and Bearden (1985), in the most recent and extensive study of crossover effects, made nine separate predictions based on persuasion and false consensus literature, including the existence of moderating influences on crossover effects. Moderating influences studied included self-esteem, familiarity, innovativeness, involvement with the behavior, age and gender. The target behavior was use of a non-prescription appetite suppressant recently introduced on the market. The target population was persons concerned about losing or maintaining weight. Fourteen product attributes and three referent categories comprised items for measurement of cognitive and normative beliefs. Attitude, subjective norm and behavioral intention were assessed in the way recommended by Ajzen and Fishbein (1980) and
self-reported drug use was gathered via phone interviews after a four-seek consumption period.

A model incorporating crossover paths identified in previous research was compared with Fishbein and Ajzen's model using equation estimation procedures. Oliver and Bearden (1985) found that Fishbein and Ajzen's (1975; 1980) model explained a substantial proportion of variance in the data. Adding the crossover paths improved the fit of the model primarily through the effect of normative structure on attitude. Cognitive structure components did not affect subjective norm. Moderating variables exerted little influence on crossover effects or on prediction of behavior but did exert some influence on other paths in the model. For example, attitude was a stronger predictor of intention for those subjects high in involvement (measured by worry, concern and thinking about weight problems).

Oliver and Bearden (1985) suggested that crossover effects account for the repeated finding that attitude coefficients dominated subjective norm coefficients in prediction of behavioral intentions (Farley et. al., 1981) and provide evidence that attitude and subjective norm are not independent. Subjective norm was not measured independently of attitude in the current study. Previous research reviewed above indicated that attitude measures "carry" a portion of influence measured by subjective norm and that attitude exerts a stronger influence on behavioral intention than subjective norm, especially when subjects have previous experience with the behavior (Manstead et. al., 1983) and when subjects are highly involved with
the behavioral choice (Oliver & Bearden, 1985) both of which apply to the current subject population and target behaviors. Also, preliminary data collection in the current subject population showed that subjects identified the influence of referents when responding to questions about cognitive structure (i.e., questions regarding the consequences of drinking, quitting, and help-seeking) and gave few spontaneous responses to questions regarding normative structure (i.e., who would or would not want them to drink, quit, or seek help).

Three studies have investigated the utility of the Theory in predicting future alcohol or drug use. Bearden and Woodside (1978) assessed predictive variables and self-reported past behavior related to marijuana use in 251 university students reporting recent consumption or recent exposure to marijuana. Beliefs elicited from an initial sample of students included (a) leads to a good time, (b) leads to personal harm, (c) leads to legal consequences, and (d) is an expensive item. Referent groups included close friends, immediate family, and members of the older generation. All predictor variables were operationalized following Ajzen and Fishbein's (1980) recommendations. The investigators tested the usefulness of components by observing the decrease in the multiple correlation coefficient when each variable was dropped from the regression equation. Attitude and subjective norm predicted behavioral intention, as the theory predicts, but they also exerted influence directly on behavior. Bearden and Woodside (1978) also found that a measure of the attitude toward the situation of consumption (informal
parties) influenced behavioral intention and behavior through its impact on attitude and subjective norm, as the theory would predict.

Bentler and Speckart (1981) replicated earlier findings (Bentler & Speckart, 1979) when they tested for the independent influence of previous behavior on alcohol, marijuana and hard drug use in three social situations. Cognitive and normative belief items for measurement were drawn from previous research on drug use among adolescents. Chi-square tests for goodness-of-fit showed that Ajzen and Fishbein's (1980) model was adequate to explain relationships among variables for alcohol use but not drug use. The addition of independent paths of influence from attitude and past behavior to behavior significantly increased the "fit" for all categories of drugs considered. The past behavior-behavior influence was positive for alcohol and marijuana but negative for hard drugs, suggesting to the investigator that changes in the conative processes underlying substance abuse occur as college students progress toward harder drugs. However, it is also possible that these changes take place in alcohol and marijuana users if they progress toward addiction or dependence on these drugs.

Cook, Lounsbury and Fontenelle (1980) factor analyzed responses of 349 university students to items taping attitude toward use of drugs, outcome of drug use and subjective norms with peers and parents as referents. They found attitudes toward use to be the best predictor of marijuana and beer use, with subjective norms contributing a smaller but significant increase in variance explained. Subjective
norm, however, contributed most to explanation of behavioral intentions regarding use of amphetamines and minor tranquilizers. Attitude toward outcomes (legal, physical and psychological safety) did not provide explanatory value in addition to that of attitudes toward use, as the Theory would predict.

The few applications of Ajzen and Fishbein's (1980) theory to the domain of alcohol or drug use suggested that beliefs, attitudes and intentions are useful in predicting and explaining behavior but that the paths of influence among those variables frequently are not those predicted by the theory. Three studies found that attitude exerted direct influence upon behavior and one (Bearden & Woodside, 1978) found that subjective norm exerted direct influence on behavior. Bentler and Speckert (1981) found that the model was less accurate for predicting hard drug use and that the effect of past behavior on future behavior was different for "soft" and "hard" drugs. Similarly, Cook et al. (1980) found that attitude predicted alcohol and marijuana use but subjective norm was the best predictor of a behavioral intention to use amphetamines or minor tranquilizers. The current study provided information regarding relationships among these variables in a population of alcohol users whose past behavior could be described as abusive or dependent. Regression analyses were used in the current study to permit determination of the contribution of several variables to the prediction of beliefs, attitudes, intentions and behavior.

Only one study has applied Fishbein's model to help-seeking in
alcoholics. Mc Ardle (1972) exposed hospitalized alcoholics to one of three persuasive messages to determine which would be most effective in encouraging them to sign up for the Alcoholism Treatment Unit (ATU). Each message linked a behavior (signing up for the ATU, not signing up for the ATU or continued drinking) with identical outcomes. The "traditional" message linked drinking with negative outcomes, e.g. poor health, the "positive" message linked signing up for the ATU with positive outcomes, e.g. better health, and the "negative" message linked not signing up for the ATU with negative outcomes, e.g. poor health. All messages concluded with an exhortation to sign up for the ATU.

Patients were randomly assigned to an experimental condition or no-message group after an initial measure of intention to sign up for the ATU had been taken. Following exposure to one of the messages, 160 subjects' acceptance of all 30 arguments (20 of which they had not heard) was assessed and compared to acceptance of the arguments by the control group.

The three messages had different direct and indirect effects on receivers' beliefs and behavior. Although subjects who were initially willing to sign up for the ATU were significantly more likely to accept any of the three messages than those who were initially unwilling to sign up, unwilling subjects in the traditional appeal showed moderately strong acceptance ($X = 7.10$ on a scale of -20 to +20) of beliefs that drinking led to negative consequences. In contrast to acceptance, yielding was not significantly different for
initially willing or unwilling but showed differences among the three messages. The negative appeal produced the most change in beliefs regarding signing up or not signing up for the ATU, followed by the positive message. However, patients exposed to the traditional message were less likely to believe that signing up would lead to positive consequences or not signing up would lead to negative consequences than patients who heard no message. This last result represents impact effects of the traditional message about the negative effects of drinking upon signing up for treatment. Attitude, behavioral intention and behavioral changes corresponded to changes in beliefs about signing up and not signing up. As might be expected, patients initially willing to sign up were more likely to do so than patients initially unwilling (82.5% of the initially willing patients with 13.7% of initially unwilling patients). However, considering only the initially unwilling, the messages produced different behavioral effects. The negative and positive appeals produced statistically significant increases (30% and 20% respectively) in signing behavior while the traditional group had minimal increases (5%). Perhaps more importantly, the traditional message had a “boomerang” effect on patients initially willing to sign up for the ATU. While 5% of subjects in the control group, 5% in the positive group and none in the negative message group changed their minds and did not sign up for the ATU, 50% of the initially willing subjects in the traditional group did not sign up. The Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) then, has been useful
in predicting and understanding the responses of alcoholics to a help-seeking intervention. This study (McArdle, 1972) also elicited help-seeking behavior following a brief, automated intervention designed to influence subjects' beliefs. Furthermore, it suggests that addressing beliefs about the consequences of accepting or not accepting treatment may be more effective in producing treatment-acceptance than addressing beliefs about excessive or abusive drinking.

McArdle (1972) did not discuss possible reasons for the "boomerang" effect of the traditional appeal. One possibility is that, since subjects had previous personal experience with drinking and none with treatment, they had formed salient beliefs about the positive consequences of drinking that were not addressed in the traditional appeal. Recent research in alcohol expectancies (Brown et. al., 1980) supports this hypothesis. Inducing novel beliefs may constitute a persuasive message when the subject has little personal experience against which to evaluate the message, e.g. seeking professional help. When the subject does have personal experience, it may be more important to try to change already formed salient beliefs known to be related to the target behavior. However, McArdle (1972) could not assess this possibility since all beliefs in this study were "novel" in the sense that they were not known to be held by the subjects prior to the influence attempt. In the current investigation, messages were constructed to address salient beliefs already held by the subjects. Although McArdle's (1972) study
demonstrated the effectiveness of directing a persuasive message toward beliefs about help-acceptance, it does not provide understanding of the impact of arguments about drinking or the effects of messages containing both types of arguments. These effects are important to understand from an applied point of view since clinical practice typically demands both. Therefore, persuasive messages in the current study approximated clinical intervention more closely by combining arguments about drinking with arguments about treatment and measured changes in beliefs about drinking, participating in treatment and completing treatment for subjects in all conditions.

Subjective Distress and Help-Seeking

The third general question addressed in this study was the role of self-reported distress in predicting response to the persuasive interventions. This question was suggested by inconsistencies in the literature on help-seeking. Recent surveys have identified self-reported distress as a primary factor in predicting voluntary help-seeking in the general population.

Veroff, Kulka and Douvan (1981) analyzed help-seeking patterns from a national sample of 2267 adults interviewed in a 1976 household survey. Help-seeking was defined on a 5-point continuum of readiness for self-referral. Subjects described themselves as (a) having used professional help for a personal problem, (b) having seen that they could have used professional help at some time in the past, (c) being able to imagine having a problem for which professional help would be
appropriate, (d) not being able to imagine having a personal problem requiring professional help or (e) strongly endorsing self-help.

Groups d and e were meant to distinguish between those who saw themselves as capable of managing their own lives and those who endorsed self-help as a principle. Operationally, placement of respondents in one group or the other was a judgement of emphasis.

Professional help included physicians, ministers and lawyers as well as mental health professionals or agencies. General distress was defined by multiple measures including ratings of unhappiness, low self-esteem, worrying, lack of zest, having a nervous breakdown and dissatisfaction with major life roles (parenthood, marriage, work). Veroff et al. (1981) found that people experiencing high levels of general distress (unhappiness, worrying, nervous breakdown, lack of zest) were especially predisposed to make use of help and had more often actually gone for help. People expressing distress over relationships--marriage, family or friends--were more accepting of professional help while those expressing distress over financial or health problems were less likely to consider or seek help. Those with low ratings of self-worth were least open to using professional help. Symptom factors (psychological anxiety, immobilization and ill health, use of alcohol, drugs or medication to reduce tension or alcohol-related family problems) were strongly and positively related to readiness for self-referral. This finding was consistent across age, gender and educational subgroups.

However, the readiness for referral continuum was divided into
two stages: (a) defining a problem as relevant for professional help and (b) deciding whether or not to go for help. Subjective distress was consistently related only to the first stage, defining a problem as a mental health concern and not to the translation of this into help-seeking. Almost one-third of those who said they could have used professional help chose self-help as an alternative course of action.

In another analysis based on the same national sample data Veroff (1981) hypothesized, based on Frank’s conceptualization of the help-seeking client as “demoralized,” that people feeling overwhelmed by their problems rather than those experiencing symptoms would be more likely to seek help. Demoralization was defined as a positive response to items asking about going crazy, having a nervous breakdown, finding problems hard to handle (with resulting depression, trouble sleeping, isolation and feelings of helplessness) and/or feeling that life problems are too big. She also took into consideration subject ratings of adequacy in parenthood, marriage and work. Help-seeking was related to reports of nervous breakdown, finding problems hard to handle and being unable to run one’s life. Help-seeking was not related to felt inadequacy on the job or level of self-esteem.

Hingson, Mangione, Meyers and Scotch (1982) reported reasons alcoholics gave when asked why they did or did not seek help for a past or current problem with alcohol. They interviewed 271 Boston area residents who reported having drinking problems at some point in their lives. Subjects were asked what made them believe they had a
drinking problem, whether they had sought help or not and why they did or didn't seek professional help. Over half (57%) reported that volume of alcohol consumed was related to recognizing a drinking problem. Other subjects recognized drinking as a problem when they needed alcohol to function (17%), had to deal with negative physical or social consequences (15%) or experienced social pressure (3%). Of the 85% of subjects who did not seek help, 96% said they could handle the problem on their own or thought the problem was not that serious. Of the 15% who did seek help, 51% reported that the negative social and personal consequences of drinking prompted help-seeking. This study suggests that alcoholics consider different aspects of their drinking and its consequences when considering whether they have a problem and, secondly, if that problem requires someone else's help. It also suggests that the perceived consequences of drinking play a major role in deciding whether or not to seek help. However, all of these studies reported retrospective perceptions, which may be influenced by whether or not the person did seek help.

Scheff (1966) asked users and non-users of a student psychological services clinic to complete a student-derived problem checklist and found that increased numbers of problems were related positively to help-seeking. However, numbers of problems were the only measure of severity used.

Greenly and Mechanic (1975) used a wide variety of distress indicators that took level of severity into account. They found level of distress to be the single most important factor affecting the use
of psychological or counseling services. Although they identified significant sociocultural selection, they found that this factor operated independently of distress levels and tended to be strongest among those least impaired. The only sociodemographic factor significantly related to reporting distress and use of helping services was gender.

One limitation of these survey studies is that they rely on retrospective data, which may or may not fully represent the relationship between distress and help-seeking. Indeed, Veroff et al. (1981) reported that 10% of those who reported that they had a problem appropriate for help but didn't seek it, said that they did not realize at the time that they had a problem. A similar limitation exists in the study of those who actually sought help. People who have sought help may infer from their help-seeking behavior that they were distressed or were more distressed about life problems than peers who did not seek help. This study included measures of distress taken prior to but close in time to an offer of help to determine if, for this sample, distress (a) predicted help-seeking across type of intervention or (b) modified subject response to a recommendation to seek help or (c) if distress provided explanatory power of the decision to seek help additional to that provided by subjects beliefs about the consequences of drinking, quitting and help-seeking.

Several measures of distress were used, corresponding to the types of distress identified by Veroff et al. (1981) as those associated with help-seeking. A measure of general, psychological
distress, a measure of distress related to alcohol use and a measure of perceived disruption of a major social role, marriage, were administered to subjects prior to the experimental intervention.

Recent national survey data (Greenly & Mechanic, 1975; Veroff et al., 1981) showed that self-reported distress was a primary factor in predicting voluntary help-seeking. High levels of general distress, distress related to relationships or alcohol and drug use were more highly associated with readiness to seek help and actual help-seeking than employment, financial or health concerns. However, analyses showed that distress predicted help-seeking by influencing definition of the problem as a mental health concern and did not inevitably lead to help-seeking behavior. Other research focusing specifically on alcoholics (Hingson et al., 1982) found that alcoholics considered different aspects of drinking when defining their problem and deciding whether or not to seek help. All studies of the distress and help-seeking relationship rely on retrospective reports which may be influenced by help-seeking behavior or treatment experiences. The current study examined the relationship between self-reported distress and help-seeking after diagnostic feedback and a persuasion attempt to elicit help-seeking.
CHAPTER 3
METHODOLOGY

This study was designed to test the effectiveness of a persuasive communication designed to elicit help-seeking in diagnosed but untreated alcoholics by influencing beliefs about drinking, quitting and, in one condition, help-seeking. Secondly, this study investigated the usefulness of Ajzen and Fishbein's (1980) Theory of Reasoned Action in predicting and explaining the behavior of alcoholics. Self-reported distress was investigated as a predictor of help-seeking and as a variable modifying response to the persuasion attempt.

The design consisted of one manipulated variable with four conditions and two sets of subject variables. Measures of beliefs, attitudes and intentions comprised one set of measured variables and will be referred to collectively as cognitive variables. These were measured twice, initially after the diagnostic interview but before the persuasion attempt and secondly after the experimental treatment.

Participants

Participants were drawn from the trauma-surgery population of a large, metropolitan hospital. Patients admitted for trauma to any of five surgical services (general/trauma, vascular, plastic, oral or
cardiothoracic) served as the population. Patients admitted to neurosurgical services were excluded due to the typical inability of these patients to participate in lengthy interviews.

Participation was further restricted to males aged 21 years or older. Only adults who could give informed consent without parental approval were entered. Female alcoholics were excluded for a number of reasons. Previous research had shown a very low prevalence rate of alcoholism among women admitted for trauma to the hospital and a high rate of incomplete protocols for those who were identified (Silverman et. al., 1985), which would have necessitated an inordinately longer study period to enter an equal number of women. Statistical power would have been lowered by the necessity of conducting separate analyses for men and women. Finally, data suggested that male and female alcoholics differ on alcohol expectancies (Brown et. al., 1980) and, therefore, may differ in their beliefs about drinking, quitting and seeking help. These differences would have required development of separate measures for men and women.

Preliminary Data Collection

Belief, outcome evaluation measures, and stimuli for two of the four experimental conditions (videotape conditions) were based on salient beliefs elicited from a separate sample of the trauma-alcoholic population. The procedures followed in conducting the interviews and identifying salient beliefs are based on Ajzen and Fishbein's (1980) recommendations and are described here. Utilization
of interview results in designing the videotape and constructing measures will be described separately below.

Twenty-one adult male trauma patients admitted to surgical services during August and September of 1984 served as the interview sample. Subjects were identified using procedures identical to those used in the intervention study and described in detail below. Briefly, names of trauma patients were identified via hospital admissions lists and patients were contacted when they were medically stable. Patients who agreed to participate signed a consent form (Appendix A) and completed several demographic and trauma information questions (Appendix B) as well as a diagnostic interview designed to identify alcohol abuse and dependence in research surveys (Appendix C).

Subjects not meeting research criteria for alcohol abuse or dependence were excluded from further participation at this point. Subjects who did meet diagnostic criteria were told that they met criteria for a research diagnosis of alcohol abuse or alcohol dependence and were asked if they would continue to participate by answering questions about their beliefs related to alcohol use. All twenty-one patients approached agreed to participate and responded to the questions in Appendix D, which are based on Ajzen and Fishbein's (1980) suggestions for eliciting salient beliefs. Topics (drinking, quitting and seeking help) were rotated systematically but the order of questions (e.g., consequences of drinking, consequences of not drinking, other thoughts) remained constant within topics. After the
subject responded to each group of questions, or if a subject had difficulty understanding the wording of the questions, alternate language was used, e.g. "What good would it do you to stop drinking?"

Interviews ranged from 20 to 60 minutes and took place in the patient's room when no other patients or staff were present to ensure confidentiality and to reduce the likelihood that responses were influenced by the presence of other people. An attempt was made to record these interviews but subjects consistently objected. Therefore, interview results are based on the investigator's verbatim written notes. At the end of each interview, the subject again was told that he had a research diagnosis of alcohol abuse or dependence and advised to seek help. A consultation interview with a Substance Abuse Medicine Division physician, described as a "doctor specializing in alcohol problems" was offered to meet ethical requirements that treatment be offered for any medical problem identified during the course of hospitalization. If the patient agreed, a consultation request was made to the Division of Substance Abuse Medicine. If the patient refused the consultation, he was given the professional card of the Substance Abuse Medicine Unit admissions nurse and told to contact her if, in the future, he wanted to talk with someone about his drinking.

Development of the Cognitive Measures

The interviews described above elicited a total of 56 statements or phrases regarding the consequences of drinking, 30 statements
regarding the consequences of quitting and 28 statements regarding the consequences of seeking help (see Appendix E). The number of statements offered by each patient for any one behavior ranged from one to six and averaged 2.5. The highest number of spontaneous responses were given to questions regarding the disadvantages of drinking and the advantages of quitting. Categories most often requiring alternative questions and eliciting the lowest number of spontaneous responses were the disadvantages of quitting and both advantages and disadvantages of seeking help.

These 114 statements were typed on 3 x 5 cards which were then sorted by six staff members of the Substance Abuse Medicine Unit according to similarity of outcomes (see Appendix F for task instructions). Results of this sorting were analyzed by the investigator using the following guidelines. Statements judged by at least four of six counselors to be similar outcomes were considered to be variations of the same belief. One exception was made to this rule of thumb. Counselors grouped phrases about "relaxing," "calms me," etc., with those about "forgetting problems" and "takes worries away." However, several pilot subjects mentioned both types of statements which suggest that subjects considered them to be separate outcomes. Therefore, following Ajzen and Fishbein (1980), these two statements were considered to be separate beliefs.

The counselor card-sort reduced 56 statements regarding the consequences of drinking to seven categories and three miscellaneous items (see Appendix E). Each category was represented by a single
item chosen by the investigator. If one statement in a category, e.g.
"relaxes me" in the "positive emotional/psychological consequences of
drinking" category, was used by subjects more frequently than others,
that wording was selected to represent the category. If alternative
phrases were more equally represented, the item selected by counselor
card sorters as representative of the category was used.

Thirty statements about quitting were reduced to four categories.
One category, labeled "positive emotional, social and financial
consequences" by the sorters, contained 12 of 16 positive consequences
of quitting. Since this appeared, in the judgment of the
investigator, to be an overly inclusive group, subject interviews were
re-examined to see if pilot subjects mentioned these items as separate
responses. Although four subjects mentioned consequences in only one
of these categories (e.g., one subject gave "need something for my
nerves," "would smoke more," and "would be hyperactive" as
disadvantages of quitting), 17 subjects mentioned consequences in
three or four categories Therefore, in final item selection the
"positive consequences" category was represented by separate items
reflecting social, emotional, legal and financial consequences.

The sorting task reduced 28 statements about seeking help to
seven categories and one miscellaneous item (see Appendix E).
Counselors originally sorted several statements into three categories
with two items each, all labeled "motivation." However, examination
of pilot subject responses showed that only three of 21 subjects
mentioned items in two or three categories when interviewed.
Therefore, these items were considered to reflect the single belief that professionals would try to persuade patients to stop drinking.

The final step in preparation of the Beliefs About Consequences (BAC) measure was selection of the most appropriate format for presentations of the items. To determine this, sample statements from each set were presented to twelve alcoholics on an inpatient substance abuse treatment unit to select the format most likely to be understood by study subjects. Representative belief statements were presented in both 5-point and 7-point Likert-type format with two types of word anchors (see Appendix G). Alternate formats for outcome evaluation items were also presented. The format questionnaire was given by the investigator to small groups (3 to 5) of participants in a lounge area with tables and enough room for participants to complete the items in privacy. The investigator was present to answer questions and observe reactions to completing the items. After the participant completed the format questionnaire, he was questioned by the investigator about the ease of understanding directions and responding to the statements in the different formats. Specifically, participants were asked, "Which type of questions did you like best?" or "What seems to be the best way to ask this question?" and "Were the directions clear?" Questionnaires were also examined by the investigator for response patterns. Post-administration interviews indicated that preferences were divided equally between the 5-point and 7-point formats but examination of the questionnaires indicated that no respondent had used all seven places in the course of filling out the questionnaire.
Therefore, a 5-point Likert-type scale was used for all item construction. The majority of respondents preferred agree-disagree as linguistic anchors for belief items and bad-good as anchors for outcome evaluation items. Ajzen and Fishbein (1980) recommended that an attitude toward a behavior be measured by taking the mean of three Likert-type items using evaluative word pairs as anchors. The three word pairs used in this study, good-bad, weak-strong and passive-active, were selected by the investigator from Osgood, Suci and Tannenbaum's (1957) evaluative dimension.

"Definitely," "probably" and "am unsure" were used to denote choices on the 5-point, Likert-type intention items.

The final set of items represented 95% of statements made about drinking, 100% of the statements about quitting and 75% of the statements made about seeking professional help.

Pilot questions regarding significant persons who would want the patient to drink, quit or seek help elicited few responses. Many participants responded "no-one." However, in the listing of consequences of drinking and quitting, the same subjects frequently mentioned the effects of drinking or quitting on "my family," "socializing with friends," or "getting together with women." Some studies testing the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) have found that the normative structure influenced behavioral intentions through attitude toward the behavior and have questioned the independent contribution of normative beliefs to the prediction of behavioral intentions (Bentler & Speckert, 1979;
Minard & Cohen, 1981, 1983). Also, previous investigations regarding alcohol intake (Cook et. al., 1980; Oliver & Bearden, 1985) and accepting treatment for alcoholism (Mc Ardle, 1972) have found that attitudes contributed the most explanatory variance to the prediction of behavioral intentions and behavior. Therefore, normative belief structures were not measured in this sample.

Measures of beliefs, outcome evaluations, attitudes and intentions were constructed to test the utility of of the Theory of Reasoned Action (Ajzen & Fishbein, 1980) in predicting and understanding help-seeking behavior. Initial belief items were constructed by taking the 10 consequences of drinking, 8 consequences of quitting and 7 consequences of seeking help resulting from the counselor card sort and formulating statements linking the behavior with the consequences, e.g. "If I continue to drink, my drinking will help me to relax." Outcome evaluation items were simply stated in phrase form, e.g. "feeling better physically." Attitude items were constructed by listing the behavior and following it with three bipolar word pairs (good-bad, passive-active and weak-strong), each pair arranged on a 5-point Likert-type scale. Intentions were measured by single items requesting the subject to indicate whether he would or would not perform the behavior. Items were numbered and presented to each subject in the same order: beliefs, outcome evaluations, attitudes and intentions.
Diagnostic Criteria

A research diagnosis of alcohol abuse or alcohol dependence was made by administration of the Diagnostic Interview Schedule (DIS) questions about alcohol use (Robins, Helzer, Croughan & Ratcliff, 1981) (Appendix C). The DIS was selected over other instruments such as the Michigan Alcoholism Screening Test (MAST) (Selzer, 1971), the National Council on Alcoholism's Criteria for the Diagnosis of Alcoholism (CRIT) (Criteria Committee, 1972), the Mac Andrew Alcoholism Scale (MAC) (Mac Andrew, 1965) and the Addiction Severity Index (ASI) (McLellan, Luborsky, Woody & O'Brien, 1980) for several reasons. The study required a valid and reliable measure that could be administered orally by a research assistant in a brief period of time. It was especially important that the instrument have a low false-positive rate to make it unlikely that non-alcoholic subjects would be entered into the study through measurement error. A low false negative rate also was desirable to prevent selection bias toward subjects with more severe symptoms of alcoholism. The DIS met the above criteria while other measures failed in one or two areas.

While the entire DIS takes 40 to 90 minutes to complete, the questions on alcohol use take 5 to 10 minutes to complete. This set of questions were designed to identify alcoholics from a normal population, has low false-positive and false-negative rates and scoring is based on criteria of the Diagnostic and Statistical Manual, Third Edition, of the American Psychiatric Association (DSM-III) for alcohol abuse and dependence, the same criteria used and taught by the
faculty and staff conducting interventions with subjects in the consultation condition. Use of identical criteria reduced the possibility of differential intervention based on systematically different diagnoses. Finally, recent national data using the DIS criteria (Spitzer, 1984) is available for comparison. The disadvantages of using the DIS in this study were unknown effects of administering alcohol items separately from the entire instrument and the relatively limited training in DIS interviewing available for the research assistant. A more detailed description of the DIS follows.

The DIS is a completely structured interview measure developed by the National Institutes of Mental Health for use in the Epidemiological Catchment area (ECA) program, a comprehensive survey of mental disorders currently being conducted in New Haven, Baltimore and St. Louis. It was designed to be administered by trained, non-professionals in door-to-door surveys and all questions and probes are totally scripted; diagnoses are determined by pre-determined formulas that can be computerized. Tests of validity for DIS diagnoses were made by comparing results obtained by trained lay interviewers with those made by psychiatrists using only DIS-derived information and the same psychiatrists using DIS information plus any additional information obtained from clinical interviewing of the patient (Robins et. al., 1981). The 217 subjects in the validity studies included psychiatric inpatients, outpatients, non-patients with no known psychiatric history and members of Gamblers Anonymous. Of these 217, 72 (33%) met DIS criteria for alcohol abuse or alcohol
Validity measures were chosen to evaluate lay interviewers' ability to provide correct psychiatric diagnoses. Results are given here only for the diagnosis of alcohol abuse/dependence. The McNemar test for bias showed that lay interviewers tended to underdiagnose alcohol dependence. Measures of concordance between lay interviewers and psychiatric diagnoses were $K = .88$ for alcohol abuse/dependence. Sensitivity (the number of cases correctly identified by lay administrators when psychiatric diagnosis was the criterion) was $K = .86$ and specificity (the proportion of non-cases correctly identified) was $K = .98$. Lay interviewer credibility (the proportion of positive cases confirmed by psychiatrists) was 97% when diagnoses of alcohol abuse and alcohol dependence were combined. The authors comment that the diagnoses in which symptoms are determined by questions usually considered "sensitive," e.g., problem drinking, gambling, antisocial behavior, show the best results. These validity data indicate that the DIS in the hands of a lay interviewer produces an excellent false-positive rate (1 in 50) and an acceptable false-negative rate (7 in 50). These rates compare favorably with other instruments intended to screen or diagnose alcoholics in a normal population (e.g., the Michigan Alcoholism Screening Test).

The DIS questions concerning alcohol (Appendix C) are designed to gather information concerning the amount used, the frequency of use and social, psychological and physical disability associated with use. The patient may be diagnosed as demonstrating alcohol abuse, alcohol
dependence or no diagnosis. The DSM-III diagnostic criteria for alcohol abuse are: (a) a pattern of pathological use, (b) impairment in social or occupational functioning and (c) duration of disturbance for at least one month. The criteria for alcohol dependence are: (a) either a pattern of pathological use or impairment in social or occupational functioning due to alcohol use and (b) either alcohol tolerance (the need for markedly increased amounts to achieve the desired effect or markedly diminished effect with regular use of the same amount) or withdrawal (the occurrence of such symptoms as morning "shakes" or malaise when drinking is stopped or significantly reduced).

The information elicited by these questions can be used to determine diagnoses under three diagnostic systems: the American Psychiatric Association's DSM-III criteria (APA, 1980), the Feighner Criteria (Feighner, Robins & Guze, 1972) and the Research Diagnostic Criteria (Spitzer, Endicott & Robins, 1978). DSM-III criteria were used in this study since they are the criteria taught and used by the Substance Abuse Medicine Division faculty and students, who conducted the consultations with subjects in the comparison condition. Use of the same criteria in subject selection was planned to reduce any differential treatment of subjects based upon different definitions of alcoholism.

DIS questions which contribute to diagnostic decisions are indicated in Appendix C by marginal notations of pathological use (P), social or occupational functioning (S) or tolerance/withdrawal (T).
For example, if a subject responded positively to questions 4 and 14 but not to questions 5, 11 or 20, he would meet criteria for alcohol abuse but not alcohol dependence. If a subject answered positively only to questions 16 and 11 he would meet criteria for alcohol dependence. If a subject responded positively only to question 10 or only to question 5 he would meet criteria for "no diagnosis" of alcohol abuse or alcohol dependence.

Distress Measures

Distress variables were included in the study design as variables moderating the relationship of condition to help-seeking. It was hypothesized that (a) distress would account for significant variance in the prediction of behavior in addition to that of behavioral intentions and (b) subjects would respond differentially to any intervention on the basis of self-reported distress. Three types of self-reported distress were hypothesized to have this effect: general psychiatric distress, psychological distress related to alcohol use and marital difficulties related to alcohol use. The measures selected to quantify these variables are described here.

General psychiatric distress was measured by the Hopkins Symptom Checklist-90 (SCL-90) (Derogotis, 1977). The SCL-90 (Appendix H) is a self-report measure of somatic and psychological distress which yields nine multi-item factor scores labeled Somatization, Obsessive-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism. In
addition, three global indices of psychopathological status are obtained: Global Severity Index, Positive Symptom Distress Index and Positive Symptom Total. The respondent rates each of the 90 items (e.g., "worrying too much about things") on a Likert-type 5-point scale (0 to 4) ranging from "not at all" to "extremely." Original instructions direct the respondent to rate how much discomfort the problem has caused him during the past seven days. These instructions were altered in this study to "how much discomfort the problem caused you during the two weeks prior to your injury" to minimize symptom reporting directly related to the trauma event, e.g. injuries sustained, surgical procedures, medications. Reliability coefficients for the SCL-90 range from .80 to .90. Norms are available for non-patient populations as well as psychiatric inpatients and psychiatric outpatients; separate norms exist for males and females. This instrument has been used frequently in medical and surgical populations and, while no normative data based on large groups of hospitalized, non-psychiatric patients have been reported, data on small comparison groups (N's ranging from 6 to 174) are available.

Self-reported distress related to alcohol use was hypothesized to be an important variable in predicting help-seeking behavior and response to the persuasion attempt. Specifically, it was hypothesized that subjective distress would add explanatory variance over that contributed by cognitive variables to pre-intervention intentions to seek help and that distress by condition interaction variables would contribute significant, explanatory power to variance in
post-intervention help-seeking behavior. Two aspects of alcohol-related distress were selected based on variables known to be related to help-seeking in the general population (Veroff et al., 1981), psychological distress and marital dysfunction. Three scales of the Alcohol Use Inventory (AUI) (Wanberg, Horn & Foster, 1977) were selected as measures of these variables (Appendix I). The general characteristics of the Alcohol Use Inventory will be reviewed as well as the particular characteristics of the scales used in this study.

While most diagnostic measures of alcoholism include items about marital and psychological distress related to alcohol use, only two—the Alcohol Use Inventory and Addiction Severity Index—were designed to assess differences among alcoholics and developed conceptually distinct distress scales with acceptable statistical independence. The Addiction Severity Index includes ratings of severity on family/social problems and psychological problems showing high inter-rater reliability (.85 for family/social and .89 for psychological) and validity measures (correlation coefficients with comparison items in the mid-range (.43 to .52 for family/social and .58 to .64 for psychological). However, administration of the Addiction Severity Index requires specialized training of the interviewer, familiarizing the respondent to the patient rating scale and integration of objective data and patient rating by the interviewer. Therefore, use of the Addiction Severity Index scales would lengthen an already extensive interview and introduce interviewer judgment into the rating. While interviewer judgment may
result in a more valid rating overall, the intent in this study was to measure only the self-perceived distress of the patient-subject.

The Alcohol Use Inventory (AUI) is a 147-item self-report instrument yielding 16 primary factors, four secondary factors and a general factor. It was designed to assess the multiple manifestations of problems with alcohol, styles of alcohol use, disruptive consequences of drinking, beneficial consequences of drinking and concerns about alcohol use. This measure was developed on 5,000 alcoholics admitted to a community mental health alcoholism treatment program over a 15 year period. Studies using the Alcohol Use Inventory report evidence for distinct construct validity among the factors. The authors provide empirical evidence that different background, current situation and personality variables predict different primary scale scores, even when Alcohol Use Inventory scales are correlated and subsumed in the same, second-order, factor. Additionally, different treatment outcomes, e.g. sobriety at six months post-treatment, are predicted by different scales (Wanberg & Horn, 1983).

The Worry/Fear Scale of the Alcohol Use Inventory contains nine items and taps fears associated with drinking (see Appendix I). A respondent attaining a high score on this scale is saying that drinking has caused him noticeable fear, depression, anxiety, worry, remorse and resentment. Internal consistency measures taken from four samples ranged from .72 to .77 and test-retest reliability was .80.

The Marital Problems Scale and Marital Coping Scale of the
Alcohol Use Inventory (also in Appendix I) were treated as a separate domain of variables in development of the inventory due to reduced numbers of married subjects. The correlation between the scales is .35, indicating the need to measure both factors to assess the relationship of perceived marital stress to alcohol use.

The Marital Problems Scale consists of six items tapping the belief that marital problems result from excessive drinking. Internal consistency ranged from .50 to .68 and test-retest reliability was .54 in four samples. The authors comment that the test-retest reliability may have been higher in subjects who were not in treatment for their alcohol problems since married subjects tended to have higher scores on the Marital Problems Scale after treatment than on admission, indicating some change in their perception of the effect of drinking on marital problem, an effect probably attributable to treatment activities.

The Marital Coping Scale measures the respondent's perception that his drinking problem is a result of marital stress. Internal consistency ranged from .68 to .72 and test-retest reliability averaged .73.

The usefulness of the Alcohol Use Inventory in this study was limited by possible motivational distortion and off-scale administration. The validity of the Alcohol Use Inventory is dependent of the respondent's willingness and ability to give accurate answers to the self-report items. While people seeking help for problems with alcohol (the population on whom the inventory was
developed) are usually motivated not to conceal their problems, this
cannot be assumed for the subjects in this study who have not sought
help for problems with alcohol and may not recognize any
alcohol-related problems. However, it is reasonable to assume that
alcoholics in the trauma population who were extreme in their denial
of alcohol-related problems would not endorse DIS symptoms of alcohol
abuse/dependence and would not be entered into the study or would
prematurely terminate their participation. Also, no data are
available on the validity of off-scale administration of the scales
used in this study.

Behavioral Measures

The study design called for behavioral measures of help-seeking
to determine the effect of the interventions upon behavior and the
relationship of behavior to cognitive and distress variables.
Help-seeking was measured by (a) phone calls to the Substance Abuse
Medicine Unit admissions nurse, whose professional card was given to
all subjects after administration of the post-measures, (b) documented
admissions to the Substance Abuse Medicine Unit or another treatment
program or (c) self-report of treatment-seeking by subjects contacted
in the follow-up study. These last two measures were included to
determine if subjects who did not call the Substance Abuse Medicine
Unit before discharge from the hospital sought treatment elsewhere.

The admissions nurse routinely documented the names of persons
seeking treatment and for whom an intake interview was scheduled. She
did not routinely document calls which resulted in a referral to another treatment agency or refusal to accept an intake appointment. However, she agreed to review, on a weekly basis, the list of recently discharged subjects to determine whether any of them had called. Admissions to the Substance Abuse Medicine Unit were determined by the investigator in a review of medical records conducted in October of 1985. Subjects had been discharged between one and five months at that time. Follow-up study measures (Appendix J), described in more detail below, asked if the subject had sought help and whether he had done so on his own or if someone had arranged it for him.

**Experimental Stimuli**

The experimental conditions included three persuasion attempts and a control group. Subjects in two conditions viewed one of two versions of the videotape described below (see Appendix K for transcript). Subjects in the consultation condition were interviewed by a physician about their alcoholism and subjects in the control group completed pre- and post-intervention measures but were not exposed to any of the three planned persuasive communications.

The videotape "You Have A Chance" (Appendix K) was based on the salient beliefs elicited from the preliminary interviews and reduced by means of the counselor card sort described above. The tape was designed to address beliefs about drinking, quitting and seeking help in separate but contiguous segments of approximately equal length. Subjects in the long videotape condition saw the entire tape (22
minutes) while subjects in the short videotape condition saw a version (15 minutes) with the segments on seeking help deleted. This section describes the production of the videotape.

Several approaches to designing the videotape stimulus were considered in consultation with Medical College of Virginia Media Productions personnel. Among the possibilities considered were (a) vignettes of semi-professional actors depicting the consequences of drinking, quitting and seeking help, (b) a lecture format with a medical expert on alcoholism, (c) a combination of spontaneous scenes (e.g., alcoholic seeking emergency medical treatment, scenes from an alcoholism treatment program, interviews with family members of a recovering alcoholic) and (d) an unscripted discussion among recovering alcoholics. Consideration of financial costs, length of production time and confidentiality resulted in selection of the unscripted discussion approach. By using recovering alcoholics as discussants, credibility of the message would be enhanced without incurring the cost of taping spontaneous events. Control over the final message could be retained by the investigator through guidelines for discussion topics and editing the material elicited.

Potential videotape participants were identified by treatment personnel at the Medical College of Virginia Hospitals Substance Abuse Medicine Unit and Rubicon, a city-sponsored alcoholism treatment program. These volunteers were then interviewed by the investigator to evaluate their ability to verbalize their experiences and their willingness to have those disclosures made public in the videotape.
Participants were also selected for ethnic, age and gender representativeness. The resulting "cast" included: Diane, a 37 year old mother with a professional background; Steve, a 20 year old white male, single and employed by a printing company; Bill, a 50 year old black male, separated from his second wife and currently employed as a short-order cook; Ricardo, a 32 year old Chicano male, divorced father, currently living with a girlfriend and working as a manual laborer; and Tommy, a 50 year old white male, divorced, recently fired and, at the time of the taping, in treatment for alcoholism. Length of sobriety ranged from two weeks to three years. Length of sobriety was deliberately restricted to include participants relatively close to their drinking and treatment experiences. By self-report, all participants were abstinent from alcohol and drugs at the time of the taping. The four men had all received treatment as inpatients in one of three hospital-based programs. Diane had participated first in self-help groups (Alanon and Alcoholics Anonymous) and was currently receiving outpatient counseling. Three participants were active AA members and also had histories of drug abuse. All participants were told that the taped materials would be edited for use in several possible productions and that copies might be used in hospitals and other treatment facilities within and outside the local community. Participants signed a consent form (see Appendix L) based on those used routinely for videotaping of medical procedures. Ronald O. Forbes, M. D., Associate Director of the Substance Abuse Medicine Division, served as moderator of the taping session and provided
commentary throughout the final version of the tape.

Videotape materials were obtained during one three-hour taping session in the fall of 1984. Taping was conducted in a conference room located in the Department of Psychiatry administrative offices. Participants met the evening before taping for an informal supper in this room. This meeting was held to facilitate introductions among participants and familiarize the group with the environment in which the taping would take place. It was anticipated that this would minimize warm-up time and self-consciousness on the day of the taping. At this preliminary meeting, participants signed the videotape consent form (Appendix L) and were given recommendations about appropriate clothing to wear.

Two professional broadcast cameras were used in the taping session. One was focused on a fixed long shot of the entire panel. The other was moveable and was used by the cameraman for close-ups. The audio specialist placed a moveable microphone on the conference table and monitored the audio quality throughout the taping. After preliminary testing of video and audio reception, taping proceeded.

Participants were first asked by the moderator to "tell their story" including how their problems with alcohol developed, how they came to realize they had a problem with alcohol, how they came into treatment and what life had been like since they had gained control over their alcohol problems. Each participant responded, in turn, with minimal prompting from Dr. Forbes, for 15 to 25 minutes. After a brief intermission for change of camera tape, a second session was
In this second phase of the taping, additional questions were asked by Dr. Forbes of the whole group to elicit material on issues not yet discussed. This session was more discussion-like in format, with Dr. Forbes and participants speaking spontaneously for another 90 minutes. At the end of this session, a few close-up shots of each participant were taken for use in the editing process and the taping ended. Participants were told that they would be contacted by the investigator when the tape was completed so they could view the finished product. A transcript of the entire three hours is available upon request from the investigator.

The audio portion of the taping session was transcribed and the resulting manuscript served as the basis for initial editing. The following criteria were used in initial selection of material for inclusion in the tape: (a) statements were selected to represent salient beliefs elicited from preliminary interviews or novel beliefs frequently mentioned by the panel participants, e.g. the idea that just "not drinking" does not solve problems with alcohol; (b) all five panel participants should be equally represented in each of the three segments of the tape and (c) statements should, whenever possible, reflect only one of the three topics—drinking, quitting or help-seeking.

Using these guidelines, the investigator selected portions of the text and organized them to reflect three separate segments and to flow smoothly from one segment to the next. In the second phase of editing, seven brief statements (one to three sentences) were written
by the investigator to introduce related remarks by panel
participants. These introductory remarks were intended to focus
viewer attention on the main point of each segment and provide visual
variety. These statements were delivered by Dr. Forbes in a separate
taping session and used in the final phase of editing.

The third phase of editing was done by the investigator and the
editing specialist of the University Media Services, who had also
served as audio monitor in the taping session. Electronic editing
equipment and several TV monitors were used to view visual portions of
segments selected for inclusion, lay them down in sequence and examine
them for visual continuity and impact. In this phase, visual and
overall impact of segment sequencing and restriction of each segment
to seven minutes were added as criteria for inclusion or exclusion of
material. The title, "You Have A Chance," was a paraphrase of a
comment made by Ricardo and included in the final moments of the tape.
The final product, a 22 minute, 3/4" color tape of broadcast quality,
is available for viewing from the investigator.

By previous arrangement, the completed videotapes (short and long
versions) were placed in the hospital Patient Library. The Patient
Library consisted of a set of patient education tapes and closed
circuit equipment connected to TV monitors in every patient room of
the hospital. A staff of three library aides played scheduled tapes
on a daily basis and other tapes by special request of the medical
staff. "You Have a Chance" was played by special request of the
investigator or research assistant and was not available for use by
other staff. The patient library was in operation from 7 a.m. to 7 p.m. daily. Playing of the tape was restricted to these times.

The intervention in the consultation condition consisted of a typical clinical consultation conducted by a faculty member, resident or fellow from the Division of Substance Abuse Medicine. No special constraints were put on the content of the consultations since the purpose of including this condition was to compare the videotape intervention with current and usual clinical protocol for alcoholic patients. The four consulting physicians included a male faculty member with specializations in internal medicine and substance abuse, a male, post-graduate fellow with background primarily in internal medicine, a female resident with training in internal medicine and a faculty member with specializations in psychiatry and substance abuse. All consultants knew that a study was being conducted and that the focus of this study was to persuade identified alcoholics to enter treatment. However, three of the four physicians had no knowledge of the content of the videotape or the specific hypotheses that were being tested. The fourth consultant, the substance abuse psychiatrist, had served as moderator of the taped discussion and was familiar with its content. He conducted study consultations (n = 3) only when no other consultant would be available before the patient was discharged from the hospital. The majority of the consultations were conducted by the post-graduate fellow.

Consultations generally followed a format that included examination of the patient's medical record, one or more personal
Interviews and, when the consultant was a resident or fellow, consultation with one of the faculty members. The personal interviews focused on confirming the suspected diagnosis and recommending a specific level and type of treatment, e.g. immediate transfer to the substance abuse service, referral to an outpatient program, a recommendation to moderate alcohol use or to contact the consultant should similar problems arise in the future.

Subjects in condition four completed all measures but did not receive a persuasive intervention. Differences in treatment of these subjects are described below under study protocol.

**Procedures**

**Personnel.** The research assistant in this study screened trauma patients for potential subjects, conducted the diagnostic interview, administered pre- and post-intervention measures and administered study interventions for conditions one and two. This section describes her qualifications and training.

The research assistant was a 31 year old woman with a Master's Degree in Social Work and 3 years of experience in a hospital setting. She had previous experience in conducting clinical research and was familiar with the restrictions of study protocols. She was, at the time of the study, a staff member in the Substance Abuse Medicine Unit's Partial Hospitalization Program and had provided individual and group counseling in that program for 18 months. By special agreement with her supervisors, she was allowed to use personal time during the
work day to conduct the study; this made it possible for her to reach subjects at varying times during the day as well as in the evenings and on weekends. She received $8.00 per hour reimbursement.

Preparation of this research assistant for conducting the study included familiarizing her with the protocol and study measures, having her observe administration of the measures by the investigator, and inter-rater reliability checks on Diagnostic Interview Schedule (DIS). In addition, the research assistant met daily with the investigator to discuss problems and ask questions. During this time, the investigator reviewed measures for missing or inaccurate data, identified signs of incorrect administration and discussed these with the assistant.

Since validity of the DIS diagnosis depended upon standardized administration of the questions, the research assistant's training with this measure will be described. The research assistant participated in a focused training session conducted by another Department of Psychiatry research assistant who had received DIS training and had been conducting interviews with the DIS on a daily basis for three years. A brief three-hour training session had been arranged prior to and independently of the current study to prepare clinical staff members to administer the DIS in clinical studies being planned by Substance Abuse Medicine Unit faculty. The training session focused on the diagnoses of alcohol abuse/dependence and drug abuse/dependence. It included demonstration interviews and a question and answer period.
Tests of inter-rater reliability in administration of the DIS took place in the context of the initial phases of the study. Since the research assistant worked in the Substance Abuse Medicine Unit and was familiar with the patient population, it was not possible to use this population, the available pool of known alcoholics, in a typical inter-rater reliability check. Also, it was desirable to test the assistant's administration in the trauma study population since it was possible that trauma patients would present a different set of administration problems than patients seeking help or in treatment. Alcoholics seeking treatment or in treatment may be more likely to endorse DIS symptoms and, since alcoholics in residential treatment exhibit longer histories of problem drinking and report more symptoms than alcoholics identified in a normal population and not seeking treatment, these subjects would not provide the best test of the research assistant's skill in administering the DIS. Therefore, the research assistant began entering subjects into the study and the investigator re-administered the DIS to each of the first ten trauma patients identified by the research assistant as alcoholic. This "check" was completed without the research assistant's knowledge. It was decided in advance that any subject for whom the research assistant's diagnosis was not confirmed would be excluded from the study. A limitation of this procedure is that it provided a reliability check only for false-positive diagnoses, not false-negative determinations. However, it was more important to ensure that all patients entered into the study were alcoholic than to
ensure that all patients not entered into the study were not alcoholic.

One patient of the first ten entered into the study by the research assistant was found not to have a diagnosis of alcohol abuse/dependence upon readministration of the DIS by the investigator. The change in diagnosis of alcohol dependence to no diagnosis was the result of a reversal in response to DIS question #11, "Did you ever need a drink just after you had gotten up?" When the prospective subject was questioned by the investigator about his reversal from "yes" to "no," he explained that he thought the research assistant had asked him if he ever "had" a drink after he had gotten up. Results of this interview were discussed with the research assistant and the importance of using the exact wording of the DIS was emphasized. This inter-rater reliability check resulted in a false-positive rate of 10%, higher than that reported for trained lay administrators of the DIS but low in comparison to the false-positive rates of alternative self-report detection measures, e.g. the MAST.

**Study protocol.** Procedures followed by the investigator and the research assistant in conducting the study are presented here and summarized in Appendix M. Names of adult male trauma patients admitted to one of the five participating surgical services through the Emergency Room were identified via a daily, computer-generated list of hospital admissions by either the investigator or the research assistant. Surgical service location was identified, admission diagnosis of trauma confirmed and the medical status of each patient
was monitored daily by examination of the medical record and contact with nursing staff. Patients who were admitted to intensive care units were monitored but not contacted until they were transferred to non-critical surgical services. When the patient was medically stable he was asked to participate and signed a consent form (Appendix A). The initial interview (Appendix B and C) obtained demographic and medical information and included administration of the Alcohol Abuse/Dependence portion of the DIS by the research assistant. If the patient met criteria for a current research diagnosis of alcohol abuse/dependence, he was given this information by the research assistant and asked if he would take part in another phase of the study. If he consented (all subjects who completed the initial interview consented), the research assistant then administered the items tapping beliefs, attitudes, intentions and outcome evaluations (Appendices N and O), the SCL-90 and AUI scales. All items were read to the patient since this reduced potential for invalid responses from illiterate patients and did not exclude patients with visual problems due to medication or those unable to write due to injury. Previous experience with the trauma population also indicated that most patients preferred this interview format, reporting that they found it least tiring. During the administration of the Beliefs About Consequences (BAC) Questionnaire, each subject was handed a 5 x 8 card with all possible responses for each set of items and numbers corresponding to each response. The subject was asked to report the number corresponding to his belief. The research assistant introduced
each question by handing the subject the response card and reading the choices while pointing to the words and corresponding numbers. A test item was used and the subject's response discussed to ensure that the subject had used the correct number to identify his opinion. Cards were not used with the HSCL-90 and AUI items since most of these items required a yes or no response. When a more elaborated response was needed, the choices were read to the subject. Completion of the pre-intervention measures took between one and three visits.

Upon completion of the pre-measures, subjects in the videotape conditions were asked if they would watch a videotape made at MCV Hospitals about alcohol problems. Then, or at an agreed-upon time within 48 hours of the interview, those who agreed (all subjects) viewed the tape on the hospital TV in the patient's room. The research assistant was always present during the viewing to monitor the subjects' attention to the tape, prevent unnecessary interruptions, identify and solve equipment problems. Whenever possible, the tape was played when other patients were not present to ensure confidentiality. When interruptions could not be prevented due to unexpected hospital procedures or failure of the closed-circuit television system, the research assistant set a new appointment with the patient for viewing the tape. At the end of the tape, the research assistant asked the subject to think about what he had heard and said she would be back in a day or two to ask a few, final questions.

When the research assistant returned (within 48 hours of the
intervention or, for condition four, within 48 hours of the interview), she again administered measures of belief, attitude and intention regarding drinking, quitting and seeking help. The subject was told a second time that he met criteria for a (research) diagnosis of alcohol abuse or alcohol dependence and that professional help was recommended and available. The research assistant gave the subject a professional card with the name and phone number of the admissions nurse for the Substance Abuse Medicine Unit and advised him to call her before he left the hospital. Subjects were told that this person could help them decide what type of help they needed (e.g. inpatient, outpatient, AA) and where they could get that help in their neighborhood, if they did not live in Richmond. Finally, the subject was thanked for his participation in the study and not contacted again until the follow-up study was conducted.

This protocol differed for subjects in the consultation and control conditions in the following ways. After a subject in the consultation condition was told he had a research diagnosis of alcohol abuse or alcohol dependence, he was asked if he would speak with a physician who had a special interest and expertise in alcohol problems and who would talk with him further about his alcohol use. If the patient agreed (all agreed to the consultation but one subject left the hospital "against medical advice" before he was seen) a consultation request was submitted to the Substance Abuse Medicine Unit physicians with the information that the patient met research criteria for alcohol abuse or alcohol dependence and was enrolled in
the study. The research assistant checked the subject's medical record or with the consulting physicians to determine when the consultation was completed.

Difficulty was encountered in ensuring that consultations were conducted prior to discharge of the patient from the hospital. Consultations were documented with a note in the patient's medical record and a completed consultation form, which was filed in Substance Abuse Medicine records. A review of subject medical records conducted by the investigator after data collection was completed produced documentation for only 13 of 23 subjects in condition three. Three additional subjects were seen briefly for an initial visit but were discharged before the evaluation was completed or a recommendation given.

When the research assistant confirmed that a consultation was completed, she administered the post-intervention measures and gave the subject a professional card in the same manner as in the videotape conditions. Although consultants usually provided referrals when they judged them to be necessary, it was decided to give subjects in condition three the professional card to make it less likely that differences in help-seeking behavior could be attributed to differences in information about available resources.

Subjects in the control condition received no motivational intervention. The research assistant simply told them she would be back in a day or two to ask a few, final questions. She returned to administer the post-intervention measures, repeat the diagnostic
finding and give the subject the professional card.

Hypotheses and Statistical Analyses

This section will describe preparation of collected data for computer entry and analysis, hypotheses drawn from theory and previous research and the statistical techniques used to test these hypotheses.

Data Preparation. Table 1 displays the observed and manipulated variables and their operational definitions in this study.

Following Ajzen and Fishbein (1980), summary scores representing beliefs about each target behavior (drinking, quitting and seeking help), were calculated using the following transformations of data. Belief strength for each item in a category was represented by the number given by the subject as his answer or the number corresponding to the subject’s verbal response. The range of responses was transformed via computer program from 1, 2, 3, 4, 5 to -2, -1, 0, +1, +2. This transformation resulted in negative, positive and neutral responses being represented. Each belief item score was multiplied by the subject’s evaluation of the importance of this outcome (1, 2, 3, 4 or 5) producing a belief x outcome evaluation product. Products were summed within behavioral categories and this score represented the subjects “beliefs” on the behavior. The equation can be summarized as:

\[
\text{Belief Product} = \text{Sum(Belief Item x Outcome Evaluation)}
\]

Belief products for drinking items could range from -100 to +100; for quitting items, -80 to +80; for help-seeking, -70 to +70. Scores at
<table>
<thead>
<tr>
<th>Variable</th>
<th>Operational Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Observed</strong></td>
<td></td>
</tr>
<tr>
<td>Beliefs</td>
<td>Sum of belief by outcome evaluation products for each target behavior.</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Mean of three bipolar evaluative word-pairs (good-bad; active-passive; weak-strong)</td>
</tr>
<tr>
<td>Intentions</td>
<td>Single Likert-type item, 5-point scale</td>
</tr>
<tr>
<td>General distress</td>
<td>General Severity Index T-score of the Hopkins Symptom Checklist-90</td>
</tr>
<tr>
<td>Alcohol-related distress</td>
<td>Alcohol Use Inventory Subscales: Worry/Fear, Marital Coping and Marital Problems</td>
</tr>
<tr>
<td><strong>Manipulated</strong></td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Videotape (22 minutes)</td>
</tr>
<tr>
<td></td>
<td>Videotape (15 minutes)</td>
</tr>
<tr>
<td></td>
<td>Physician Consultation</td>
</tr>
<tr>
<td></td>
<td>Measures-only control group</td>
</tr>
</tbody>
</table>
the negative pole would indicate that, generally, the subject considered the outcomes measured to be "very bad" for him and that he disagreed strongly that drinking led to those outcomes. Scores at the positive pole of the scale would indicate that the subject considered outcomes to be "very good" and that he agreed strongly that drinking led to these outcomes. Scores around zero would indicate that, generally, the subject felt neutral about the outcomes measured and was undecided whether or not his drinking would lead or not lead to these outcomes or that he considered some to be very good and others to be very bad.

An attitude score for each behavior was obtained by calculating the mean of three attitude measures given. Behavioral Intention scores were represented by the single measure, elicited in the interview.

The General Severity Index (GSI) of the Hopkins Symptom Checklist-90 was calculated by (a) summarizing distress scores (0 to 3) for each of the 90 items, (b) totaling symptom distress scores for each scale and (c) dividing by 90. A Positive Symptom Total score was calculated by counting the number of items in which a subject scored 1 or above. A raw symptom score can be calculated for each of the nine clinical scales by dividing the summed distress scores for that scale by the number of items in the scale. The calculations described above were completed by the investigator. HSCL-90 raw score data entered for each subject included a General Severity Index score, a Positive Symptom Total score and a symptom score for each of the nine clinical
scales. Raw scores are usually transformed to standard (T-scores) by using the table provided in the manual. For this study, the standard norm transformations appropriate for male, non-psychiatric patients, were entered into the computer so that T-scores were computer-generated equivalencies.

Alcohol Use Inventory raw scores are determined by placing a scoring template over the Alcohol Use Inventory answer sheet and adding item scores indicated for each scale. Raw scores were determined for each subject on scales 6, 15 and 16 by the investigator and for all Alcohol Use Inventory scales for the last 46 subjects. Alcohol Use Inventory Manual directions for transforming raw scores to standard scores require that each raw score be entered on a AUI profile sheet in which raw scores are distributed systematically in a column above the scale title. The decile score is found by placing a mark in the estimated best location to represent the obtained raw score. To eliminate variation in the determination of decile scores, decile equivalents for each possible raw scale score were determined to the nearest .5 once and entered into the computer. Decile scores used in analyses were then computer-generated.

Decile scores compare a respondent's score to average scores of the reference group. The reference group consisted of 1200 persons admitted to the inpatient Alcoholism Division of the State Hospital serving the Denver metropolitan area (the Fort Logan Mental Health Center) during 1975 and 1976. Each decile score represents the percentage of respondents in the reference group who had a raw score
as large as the corresponding raw score or smaller. For example, a raw score of 7 on Scale 6 (Fear, Worry) corresponds to a decile score of 7.5 which means that approximately 75% of the respondents in the reference group had a raw score of 7 or less. It would also mean that 25% of respondents had a raw score higher than 7 on Scale 6.

**Hypotheses.** The statistical software package SPSS-X, release 2.1, (Statistical Package for the Social Sciences) was used to analyze the data. All analyses were performed on an IBM 4341 CMS system.

The general questions investigated in this study were: (a) will a persuasive intervention designed to change subjects salient beliefs regarding drinking, quitting and help-seeking correspond to changes in help-seeking behavior, (b) Is the Theory of Reasoned Action useful in predicting and explaining the help-seeking behavior of alcoholics, and (c) does self-reported distress moderate a subject's response to a persuasive intervention. The first two general questions will be elaborated separately.

The Theory of Reasoned Action (Fishbein and Ajzen, 1975; 1980) predicts that the following relationships will exist among beliefs, attitudes, intentions and behavior:

(a) help-seeking behavior will be predicted by post-intervention intention to seek help.

(b) behavioral intentions (pre- and post-intervention) will be predicted by attitudes (pre- and post-intervention) toward each of the three target behaviors of drinking, quitting and seeking help.

(c) attitudes (pre- and post-intervention) toward behaviors will be
predicted by salient beliefs regarding each target behavior.

Data from studies of voluntary help-seeking suggested that persons in psychological distress would respond more positively to interventions describing professional help than subjects not in psychological distress. Therefore, it was hypothesized that

(d) distress by condition interactions would be observed in (a) help-seeking behavior and, (b) for subjects in the follow-up interview, post-intervention quitting behavior.

The Theory of Reasoned Action also predicts that behavior change is brought about by changing beliefs about the consequences of performing that behavior. Since only one of the experimental conditions was designed to change beliefs about help-seeking, it was hypothesized that:

(e) the proportion of subjects in the long tape condition exhibiting post-intervention help-seeking behavior would be significantly greater than the (pooled) proportion of subjects in the short videotape, consultation and control conditions exhibiting post-intervention, help-seeking behavior.

Conditions one and two contained material designed to change the previously identified beliefs about drinking and quitting. Therefore, it was hypothesized that, for those subjects for whom post-intervention quitting behavior was available:

(f) the proportion of subjects in both videotape conditions (combined) who reported post-intervention quitting behavior would be significantly higher than the proportion of subjects in consultation
and control conditions (combined) who reported post-intervention quitting behavior.

Multiple regression analyses were used to test hypotheses one through six since this method made it possible to (a) determine the amount of variance in any dependent variable explained by the variable predicted by the Theory to be the antecedent variable, (b) determine the amount of additional variance in any dependent variable explained by a variable predicted by the Theory not to have a direct effect and test for the statistical significance of the additional explanation of variance; and (3) allow for analysis of continuous variables (e.g. distress) discrete variables (e.g. experimental condition) and interactions among variables (e.g. distress by condition) in the same analysis. Multiple regression also allows for analysis of variables individually or as sets; in the current study, distress variables (general psychological distress, psychological distress related to alcohol use and marital dysfunction related to alcohol use) were entered individually and as a set of variables.

Hierarchical regression, a particular variation of multiple regression which provides more explanatory power than simultaneous or stepwise regression, was used since the conditions for its use were met by this study. Hierarchical regression is most useful when the order of entering variables or sets of variables is based upon predictions drawn from theory or previous research. Since hypotheses testing the relationships of cognitive, behavioral and distress variables were drawn from theory or previous research, hierarchical
regression was the most powerful variant of multiple regression for testing these hypotheses (Cohen and Cohen, 1975). The requirement of ten subjects per independent variable (McCallum, personal communication, 1980) was also met, suggesting stable results.

**Follow-Up Interviews**

A follow-up study was designed after data collection was in progress in response to observations made by the physicians providing consultations to subjects in condition three. In the opinion of the consultants, the study subjects met criteria for current alcohol abuse or dependence but had related problems less severe than patients usually referred for consultation. As a result, consultants reported that they were less frequently recommending formal treatment and were more frequently recommending "cutting down" or calling "if a problem arises again." Since the behavioral measures were designed to measure only formal treatment seeking, subjects in condition three who were given other types of recommendations would not be included as having responded positively to the intervention although they may have complied with the recommendation. It was decided to collect data on reduced drinking and informal help seeking via a combination of phone interview and letter follow-up.

The study was conducted by a second research assistant who was a staff member of the Substance Abuse Medicine Unit and had experience in conducting surveys by telephone. Although she was familiar with the general purpose of the study, she had not taken part in data
collection and would not know the subjects unless they had been admitted to the Substance Abuse Medicine Unit inpatient program. Study questions (see Appendix M) were constructed to be completed easily by phone in five minutes or less. Subjects who could not be reached by phone were sent the questionnaire with a cover letter and a stamped envelope addressed to the research assistant. Twenty-seven subjects were contacted by phone and completed the interview. Seven subjects responded to the mailed questionnaire and answered all questions, giving an overall response rate of 34% of the study sample. A review of subject medical records indicated that some subjects gave neither a phone number or an address; others had moved or could not be contacted despite repeated attempts.
Descriptive data on demographic, trauma event, diagnostic, distress and behavioral variables will be presented first. Hierarchical regression analyses testing hypotheses regarding relationships among behavioral, cognitive, distress and experimental variables will follow.

Descriptive Data

Demographic and trauma incident data. Tables 2 and 3 present descriptive statistics on demographic and trauma incident variables gathered from the 96 subjects. Subjects were predominately early middle-aged ($X = 32.7$ years), black males with 12 or fewer years of formal education. Over half were single and held full-time jobs. Motor vehicle accidents and assaults accounted for over two-thirds of injuries and most accidents took place between 5 p.m. and 7 a.m. Seventy percent of the subjects reported using alcohol or drugs prior to the trauma, over half had surgery and most were admitted to general/trauma or orthopedic surgical services.

Analyses of variance showed that subject groups did not differ on mean age, $F(3, 91) = .49, p = .69$, or educational level, $F(3, 91) = .99, p = .40$. A Chi square test for differences among conditions on
Table 2

Demographic Data for Alcoholics Hospitalized for Trauma

<table>
<thead>
<tr>
<th>Marital status</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>36</td>
<td>42.4</td>
</tr>
<tr>
<td>Single</td>
<td>49</td>
<td>57.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage-Earner, Full-time</td>
<td>53</td>
<td>57.0</td>
</tr>
<tr>
<td>Wage-Earner, Part-time</td>
<td>7</td>
<td>7.5</td>
</tr>
<tr>
<td>Student</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Unemployed</td>
<td>20</td>
<td>21.5</td>
</tr>
<tr>
<td>Retired/Disabled</td>
<td>10</td>
<td>10.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-graduate training</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Completed college/trade</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Attended college/trade</td>
<td>13</td>
<td>13.7</td>
</tr>
<tr>
<td>Completed high school</td>
<td>21</td>
<td>22.1</td>
</tr>
<tr>
<td>Attended high school</td>
<td>35</td>
<td>36.8</td>
</tr>
<tr>
<td>Completed grade school</td>
<td>13</td>
<td>13.7</td>
</tr>
<tr>
<td>Attended grade school</td>
<td>9</td>
<td>9.5</td>
</tr>
<tr>
<td>Time of Injury</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>7 a.m. - 5 p.m.</td>
<td>36</td>
<td>37.5</td>
</tr>
<tr>
<td>5 p.m. - 11 p.m.</td>
<td>25</td>
<td>26.0</td>
</tr>
<tr>
<td>11 p.m. - 7 a.m.</td>
<td>35</td>
<td>36.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incident Cause</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVA Driver</td>
<td>16</td>
<td>16.8</td>
</tr>
<tr>
<td>MVA Occupant</td>
<td>11</td>
<td>11.6</td>
</tr>
<tr>
<td>MVA Pedestrian</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Industrial</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Gunshot Wound</td>
<td>7</td>
<td>7.4</td>
</tr>
<tr>
<td>Shotgun Wound</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>Stabbing</td>
<td>13</td>
<td>13.7</td>
</tr>
<tr>
<td>Explosion/Fire</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Other (e.g., fall)</td>
<td>30</td>
<td>31.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgical Service</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>General/Trauma</td>
<td>30</td>
<td>30.9</td>
</tr>
<tr>
<td>Vascular</td>
<td>8</td>
<td>8.2</td>
</tr>
<tr>
<td>Orthopedic</td>
<td>30</td>
<td>30.9</td>
</tr>
<tr>
<td>Oral</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Cardiothoracic</td>
<td>7</td>
<td>7.2</td>
</tr>
<tr>
<td>Plastic</td>
<td>17</td>
<td>17.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgery Required</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>54</td>
<td>56.8</td>
</tr>
<tr>
<td>No</td>
<td>41</td>
<td>43.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol/Drug Use</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>63</td>
<td>70.0</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>28.9</td>
</tr>
</tbody>
</table>
occupational level, (12, N = 94) = 7.94, p = .79, was also nonsignificant.

Diagnostic Data. Results of diagnostic interview (DIS) questions on alcohol use and alcohol-related symptoms are presented in Table 4. Almost three-fourths of the subjects met criteria for a research diagnosis of alcohol dependence; the remaining subjects had a research diagnosis of alcohol abuse. One-third reported one or more alcohol-related medical problems. Subjects reported on the average, about 12 years of problem drinking and reported between 6 and 7 symptoms of a possible 17.

Effects of Experimental Conditions on Help-Seeking Behavior

The primary purpose of this study was to compare the effectiveness of two videotape interventions with a physician consultation and a no-treatment control condition in eliciting help-seeking behavior from diagnosed but untreated alcoholics. Combined sources used to measure help-seeking behavior (phone calls to the Substance Abuse Medicine Unit, documented intake at a treatment agency and follow-up study self-report of professional help) showed that six subjects sought professional help after discharge from the hospital. Two were in the long videotape condition, three in the short videotape condition, one in the consultation condition and none in the control condition. One of the subjects in the short videotape condition was seen several times by a consulting physician after participating in the study, since his alcohol abuse was evident to his
Table 4

Diagnostic Interview Schedule (DIS) Item Endorsement

<table>
<thead>
<tr>
<th>Category</th>
<th>X</th>
<th>SE</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Criteria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathological Use</td>
<td>2.5</td>
<td>.17</td>
<td>0-7</td>
</tr>
<tr>
<td>Social/Occupational Dysfunction</td>
<td>2.8</td>
<td>.19</td>
<td>0-7</td>
</tr>
<tr>
<td>Tolerance/Dependence</td>
<td>1.3</td>
<td>.11</td>
<td>0-3</td>
</tr>
<tr>
<td>Total Symptoms</td>
<td>6.6</td>
<td>.40</td>
<td>2-15</td>
</tr>
<tr>
<td>Years of Problem Drinking</td>
<td>11.8</td>
<td>1.70</td>
<td>1-35</td>
</tr>
</tbody>
</table>

Standard error of the mean
attending psychiatrist who was treating him for head trauma. This patient was later transferred to the Substance Abuse Medicine Service without leaving the hospital. This subject was considered, on the basis of this sequence of intervention attempts, to be in the consultation condition. Four of the help-seekers in the study, then, were in the experimental (videotape) conditions and two were in the comparison (consultation) condition.

Phone calls and letters to 34 subjects elicited post-intervention data on an additional 30 subjects (four of the follow-up subjects were already represented in the above six who sought professional help). Six of these additional 30 subjects reported abstinence from alcohol, 20 reported drinking less and four reported drinking about the same. None reported drinking more. These data are presented by condition in Table 5.

Table 6 displays numbers of subjects in each condition reporting improvement at follow-up. If the videotape conditions are pooled as a videotape group, 19% of videotape subjects interviewed after discharge reported quitting and 29% of the physician consultation condition. Also, using pooled conditions, 71% of the videotape group reported reducing alcohol intake compared with 57% of the physician condition. Combining the quitting and reduced drinking categories into an "improved" category shows that, overall, 87% of the follow-up subjects reported improvement: 83% of the subjects in the long videotape condition, 100% of the subjects in the short videotape condition, 86% of the subjects in the consultation condition and 50% of the subjects
Table 5
Self-Report Ratings of Post-Intervention Drinking Behavior for 30 Alcoholics Who Did Not Seek Help

<table>
<thead>
<tr>
<th>Experimental Condition</th>
<th>None</th>
<th>Less</th>
<th>Same</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Video A</td>
<td>12</td>
<td>3</td>
<td>25</td>
<td>(19)</td>
</tr>
<tr>
<td>Video B</td>
<td>9</td>
<td>1</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Consult</td>
<td>7</td>
<td>2</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>6</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Note. Values in parentheses are percentages for videotape conditions combined.
Table 6

Numbers and Percentages of Subjects Improved for Randomly Assigned Conditions and Revised Conditions

<table>
<thead>
<tr>
<th>Experimental Condition</th>
<th>n</th>
<th>n Improved</th>
<th>% Improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video A</td>
<td>36</td>
<td>10</td>
<td>28 (31)</td>
</tr>
<tr>
<td>Video B</td>
<td>26</td>
<td>9</td>
<td>37</td>
</tr>
<tr>
<td>Consult</td>
<td>23</td>
<td>6</td>
<td>26</td>
</tr>
<tr>
<td>Consult (Revised)</td>
<td>13</td>
<td>6</td>
<td>46</td>
</tr>
<tr>
<td>Control</td>
<td>11</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Control (Revised)</td>
<td>21</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
in the control condition. If videotape conditions are pooled, 91% of the subjects in the videotape group reported improvement and 86% of subjects in the consultation condition reported improvement.

If subjects in the consultation condition who were not seen by the physician are considered to be control condition (no persuasive intervention) subjects and all subjects not contacted are assumed to be unimproved or unknown, improvement rates for conditions are: 28% for the long videotape condition, 37% for the short videotape condition, 46% for the consultation condition and 5% for the control condition (Table 6). If subjects are retained in their assigned conditions, improvement rates are: 28% for the long videotape condition, 37% for the short videotape condition, 26% for the consultation condition and 9% for the control condition. If videotape conditions are combined, improvement rates are 31% for videotape subjects and 26% for consultation subjects (Table 6).

If subjects who sought professional help and reported improvement (N = 3) are combined with those who reported improvement without professional help (N = 26) the overall improvement rate for all subjects entered into the study was 30%.

Relationships Predicted by the Theory of Reasoned Action

The second purpose of this investigation was to evaluate the usefulness of Ajzen and Fishbein's (1980) Theory of Reasoned Action in predicting and understanding help-seeking behavior in diagnosed but
untreated alcoholics. Descriptive data on beliefs, outcome evaluations, attitudes and intentions will be presented first, followed by results of regression analyses.

**Cognitive Items.** Pre-intervention response frequencies, pre-and post-intervention means and pre to post-intervention differences in belief item means for all subjects are presented in Table 7. Pre-intervention means represent average belief strength for each item. Pre-post intervention differences indicate measures of yielding for the entire group. Outcome evaluation response frequencies and means are presented in Table 8.

Examination of the pre-intervention frequencies shows that the response choices of "strongly disagree," "strongly agree" and "undecided" were used infrequently by subjects. Mean difference scores indicate average changes in response to each item. Negative difference scores represent average changes in the direction of disagreement and positive means indicate average changes in the direction of agreement. Pre-intervention means for each item are measures of the sample's acceptance of that belief. Belief items regarding drinking endorsed most strongly by this subject group were that continued drinking would lead to ruined health, accidents, bad effects on family and trouble with the police. Beliefs about drinking most strongly disagreed with were that continued drinking would relieve pressures at home, take worries away and keep one from solving other problems.

Beliefs about quitting most strongly endorsed were that quitting
Table 7

Response Frequencies and Mean Belief Strength for Beliefs about Consequences (BAC) Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequencies*</th>
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</tr>
<tr>
<td>Drinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. cost too much</td>
<td>4</td>
<td>35</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>2. bad for family</td>
<td>2</td>
<td>29</td>
<td>3</td>
<td>53</td>
</tr>
<tr>
<td>3. help me to relax</td>
<td>1</td>
<td>40</td>
<td>4</td>
<td>47</td>
</tr>
<tr>
<td>4. help me to socialize</td>
<td>0</td>
<td>44</td>
<td>3</td>
<td>43</td>
</tr>
<tr>
<td>5. ruin health</td>
<td>1</td>
<td>19</td>
<td>2</td>
<td>65</td>
</tr>
<tr>
<td>6. trouble with police</td>
<td>2</td>
<td>31</td>
<td>2</td>
<td>54</td>
</tr>
<tr>
<td>7. lead to accidents</td>
<td>1</td>
<td>22</td>
<td>3</td>
<td>62</td>
</tr>
<tr>
<td>8. relieve pressures at home</td>
<td>4</td>
<td>63</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>9. keep from solving problems</td>
<td>0</td>
<td>48</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>10. take worries away</td>
<td>3</td>
<td>49</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>Stop drinking</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1. not behind on bills</td>
<td>1</td>
<td>36</td>
<td>5</td>
<td>45</td>
</tr>
<tr>
<td>2. tense all the time</td>
<td>1</td>
<td>63</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>3. better for family</td>
<td>1</td>
<td>23</td>
<td>9</td>
<td>56</td>
</tr>
<tr>
<td>4. bored more often</td>
<td>1</td>
<td>42</td>
<td>4</td>
<td>43</td>
</tr>
<tr>
<td>5. less police trouble</td>
<td>0</td>
<td>31</td>
<td>6</td>
<td>51</td>
</tr>
<tr>
<td>6. hard to have fun</td>
<td>2</td>
<td>57</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>7. feel better about self</td>
<td>1</td>
<td>22</td>
<td>5</td>
<td>59</td>
</tr>
<tr>
<td>8. solve other problems</td>
<td>0</td>
<td>25</td>
<td>5</td>
<td>59</td>
</tr>
<tr>
<td>9. feel better physically</td>
<td>0</td>
<td>13</td>
<td>2</td>
<td>73</td>
</tr>
<tr>
<td>Seeking Help</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. help to lead better life</td>
<td>0</td>
<td>18</td>
<td>7</td>
<td>65</td>
</tr>
<tr>
<td>2. tell things I don't know</td>
<td>0</td>
<td>28</td>
<td>2</td>
<td>61</td>
</tr>
<tr>
<td>3. make me stay in hospital</td>
<td>1</td>
<td>64</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>4. people would listen</td>
<td>6</td>
<td>6</td>
<td>3</td>
<td>81</td>
</tr>
<tr>
<td>5. get me away from alcohol</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>6. help me with problems</td>
<td>0</td>
<td>24</td>
<td>2</td>
<td>64</td>
</tr>
<tr>
<td>7. say I'm alcoholic</td>
<td>2</td>
<td>27</td>
<td>3</td>
<td>58</td>
</tr>
<tr>
<td>8. control me and my drinking</td>
<td>0</td>
<td>45</td>
<td>4</td>
<td>42</td>
</tr>
</tbody>
</table>

* Response ratings correspond to the following:

<p>| | | | | | |</p>
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<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>strongly disagree</td>
<td>disagree</td>
<td>undecided</td>
<td>agree</td>
<td>strongly agree</td>
<td></td>
</tr>
</tbody>
</table>
Table 8
Response Frequencies to Outcome Evaluation Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequencies*</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2</td>
<td>-1</td>
</tr>
<tr>
<td>1. having accidents</td>
<td>23</td>
<td>65</td>
</tr>
<tr>
<td>2. people listening</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. feeling bored</td>
<td>11</td>
<td>67</td>
</tr>
<tr>
<td>4. less pressure, home/work</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>5. money on hand</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6. away from alcohol</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>7. well with family</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8. controlling me</td>
<td>29</td>
<td>48</td>
</tr>
<tr>
<td>9. solving problems</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. saying I'm alcoholic</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>11. trouble with police</td>
<td>31</td>
<td>56</td>
</tr>
<tr>
<td>12. professionals caring</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. staying in a hospital</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td>14. help to live better</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>15. feeling good physically</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>16. learning alcohol/drinking</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>17. worries off mind</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18. good time with others</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19. feeling good about self</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>20. nervous and tense</td>
<td>14</td>
<td>65</td>
</tr>
</tbody>
</table>

* Response ratings correspond to the following:

-1 very bad   -2 bad       0 neither      1 good       2 very good
would lead to feeling better physically, feeling better about oneself and solving other problems and that quitting would not lead to being bored more often, being tense all the time or making it hard to have fun with others.

Acceptance of beliefs about seeking professional help were strongest regarding help-seeking leading to people listening, people helping one to lead a better life and getting away from alcohol. This sample also believed that help-seeking would not lead to being made to stay in the hospital or people controlling their drinking.

Table 8 reports means and frequencies for 20 outcome evaluations measured prior to the persuasive intervention. Overall, subjects rated having money on hand, feeling good physically and feeling good about oneself as the best of the consequences and having accidents, people controlling me and staying in a hospital as the worst outcomes of the twenty presented. The item receiving the most neutral responses was "getting away from alcohol."

Attitude scores for each subject were calculated by averaging three evaluative attitude scores (good-bad, weak-strong, passive-active). Intention was measured by a single, Likert-type item. Mean attitude and intention scores for all subjects combined are presented in Table 9. Mean pre- and post-intervention intention scores are presented in Table 7.

Relationships among beliefs, attitudes, intentions and behavior were examined by means of hierarchical regression. The specific hypotheses drawn from the theory were: (a) behavior will be predicted
Table 9

Attitude and Intention Scores regarding Drinking, Quitting and Seeking Help

<table>
<thead>
<tr>
<th>Target behavior</th>
<th>Mean intention</th>
<th>Mean attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pre-tx</td>
<td>post-tx</td>
</tr>
<tr>
<td>Drinking</td>
<td>3.48</td>
<td>3.37</td>
</tr>
<tr>
<td>Quitting</td>
<td>3.36</td>
<td>3.03</td>
</tr>
<tr>
<td>Seeking Help</td>
<td>3.08</td>
<td>3.15</td>
</tr>
</tbody>
</table>
by behavioral intention, (b) behavioral intention will be predicted by attitude toward the behavior, (c) attitude toward the behavior will be predicted by belief product, and (d) distress variables (general psychiatric distress, alcohol-related worry and alcohol-related marital dysfunction) will influence behavior only through influence on belief product.

**Predicting behavior.** Since measures of help-seeking behavior showed that only 6 subjects sought professional help after discharge from the hospital, the prediction of behavior from behavioral intention was not tested statistically. These data indicate that intention to seek help did not predict help-seeking behavior. Relationships among cognitive and distress variables are presented in Tables 10 and 11. Variables are listed in the order of entry into the regression equation. The first column, $R$, represents the portion of variance in the dependent variable accounted for by a linear relationship with the independent variable(s). $R_d$ indicates the increment in variance accounted for when the next independent variable is entered. A positive number indicates that additional variance was explained by including the last variable in the equation while a negative number indicates that inclusion of the variable resulted in less explanatory power of the group of variables. The third column gives the F-score (for the initial independent variable) or the t-score (for additional variables) for significance tests. T-scores represent tests for significance of the increment in variance explained by including the last variable entered.
Predicting behavioral intentions. Nineteen percent of the variance in pre-intervention behavioral intentions to continue drinking (see Table 10) was predicted by beliefs about drinking, the second variable entered into the equation, and not by attitude toward drinking as the theory of reasoned action would predict. Post-intervention attitudes toward drinking accounted for a statistically significant amount of variance in post-interventions drinking intentions (16%). Distress variables did not contribute additional explanation of the variance in drinking intentions at either pre- or post-intervention measurement times.

Pre-intervention attitudes toward quitting contributed a small (7%) but significant amount of explained variance to pre-intervention intentions to quit (Table 10). However, beliefs about quitting contributed an additional, significant, 8% of variance. Post-intervention intentions to quit were not predicted by post-intervention attitudes nor by belief or distress variables.

Pre-intervention intentions to seek help (Table 10) were predicted by pre-intervention attitudes (16% of variance) and no other variables added explanatory power. Post-intervention intentions to seek help were also predicted by attitudes toward seeking help (15% variance).

Predicting attitudes toward behaviors. Regression analyses testing the prediction of attitudes from belief products are presented in Table 11. Pre-intervention attitude toward drinking was predicted by beliefs (10% variance) but post-intervention attitude toward
Table 10

Regression Analyses predicting Behavioral Intentions from Attitudes, Beliefs and Distress

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>R</th>
<th>Rd</th>
<th>F(t)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(in order of entry)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-intervention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention to Drink</td>
<td>Attitude toward drinking</td>
<td>-.01</td>
<td>-.61</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beliefs about drinking</td>
<td>.19</td>
<td>.20</td>
<td>3.64*</td>
</tr>
<tr>
<td></td>
<td>Worry/Fear Scale</td>
<td>.22</td>
<td>.03</td>
<td>-1.31</td>
</tr>
<tr>
<td></td>
<td>General Severity Index</td>
<td>.29</td>
<td>.07</td>
<td>-1.68</td>
</tr>
<tr>
<td>Intention to Quit</td>
<td>Attitude toward Quitting</td>
<td>.07</td>
<td>-6.45**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beliefs about Quitting</td>
<td>.15</td>
<td>.08</td>
<td>2.58**</td>
</tr>
<tr>
<td></td>
<td>Worry/Fear Scale</td>
<td>.13</td>
<td>.02</td>
<td>-.61</td>
</tr>
<tr>
<td></td>
<td>General Severity Index</td>
<td>.12</td>
<td>-.01</td>
<td>-.69</td>
</tr>
<tr>
<td>Intention to Seek</td>
<td>Attitude toward Seeking Help</td>
<td>.16</td>
<td>14.09**</td>
<td></td>
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<tr>
<td>Help</td>
<td>Beliefs about Seeking Help</td>
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<td>-.01</td>
<td>-.70</td>
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<tr>
<td></td>
<td>Worry/Fear Scale</td>
<td>.15</td>
<td>.00</td>
<td>1.10</td>
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<tr>
<td></td>
<td>General Severity Index</td>
<td>.15</td>
<td>.00</td>
<td>.79</td>
</tr>
<tr>
<td>Post-intervention</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention to Drink</td>
<td>Attitude toward Drinking</td>
<td>.16</td>
<td>7.32**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beliefs about Drinking</td>
<td>.17</td>
<td>.01</td>
<td>-1.22</td>
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<tr>
<td></td>
<td>Worry/Fear Scale</td>
<td>.14</td>
<td>-.03</td>
<td>-.30</td>
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<tr>
<td></td>
<td>General Severity Index</td>
<td>.12</td>
<td>-.02</td>
<td>-.34</td>
</tr>
<tr>
<td>Intention to Quit</td>
<td>Attitude toward Quitting</td>
<td>-.01</td>
<td>.79</td>
<td></td>
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<td></td>
<td>Beliefs about Quitting</td>
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<td>.00</td>
<td>.90</td>
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<td>Worry/Fear Scale</td>
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<td>-.02</td>
<td>.39</td>
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<td></td>
<td>General Severity Index</td>
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<td>.00</td>
<td>1.30</td>
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<tr>
<td>Intention to Seek</td>
<td>Attitude toward Seeking Help</td>
<td>.15</td>
<td>7.62**</td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>Beliefs about Seeking Help</td>
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<td>-.02</td>
<td>.41</td>
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<tr>
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<td>Worry/Fear Scale</td>
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<td>-.01</td>
<td>.65</td>
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<td></td>
<td>General Severity Index</td>
<td>.08</td>
<td>-.03</td>
<td>.53</td>
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*p .05  **p .01
<table>
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<tr>
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<th>Independent Variables</th>
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<th>Rd</th>
<th>F((t))</th>
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<td>Beliefs about drinking</td>
<td>.10</td>
<td>-</td>
<td>3.62*</td>
</tr>
<tr>
<td>Drinking</td>
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<td>-.04</td>
<td>-.01</td>
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<td>General Severity Index</td>
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<td>-.87</td>
</tr>
<tr>
<td>Attitude toward</td>
<td>Beliefs about quitting</td>
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<td>-</td>
<td>6.27*</td>
</tr>
<tr>
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<td>Worry/Fear Scale</td>
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<td>.01</td>
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<td>General Severity Index</td>
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<td>-1.47</td>
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<tr>
<td>Attitude toward</td>
<td>Beliefs about</td>
<td>.18</td>
<td>-</td>
<td>16.61**</td>
</tr>
<tr>
<td>Seeking Help</td>
<td>Seeking Help</td>
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<tr>
<td></td>
<td>Worry/Fear Scale</td>
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<td>.01</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td>General Severity Index</td>
<td>.20</td>
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<td>1.34</td>
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<tr>
<td><strong>Post-intervention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward</td>
<td>Beliefs about drinking</td>
<td>-.02</td>
<td>-</td>
<td>.26</td>
</tr>
<tr>
<td>Drinking</td>
<td>Worry/Fear Scale</td>
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<td>-.03</td>
<td>-.31</td>
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<tr>
<td></td>
<td>General Severity Index</td>
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<td>.00</td>
<td>-.95</td>
</tr>
<tr>
<td>Attitude toward</td>
<td>Beliefs about quitting</td>
<td>.02</td>
<td>-</td>
<td>1.60</td>
</tr>
<tr>
<td>Quitting</td>
<td>Worry/Fear Scale</td>
<td>-.01</td>
<td>-.03</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>General Severity Index</td>
<td>-.04</td>
<td>-.03</td>
<td>-.41</td>
</tr>
<tr>
<td>Attitude toward</td>
<td>Beliefs about</td>
<td>.18</td>
<td>-</td>
<td>9.36*</td>
</tr>
<tr>
<td>Seeking Help</td>
<td>Seeking Help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Worry/Fear Scale</td>
<td>.19</td>
<td>.01</td>
<td>1.26</td>
</tr>
<tr>
<td></td>
<td>General Severity Scale</td>
<td>.18</td>
<td>-.01</td>
<td>.84</td>
</tr>
</tbody>
</table>

*p .01 **p .001
drinking was not predicted by beliefs. Distress variables (Worry/Fear Scale and General Severity Index) did not contribute to explanation of variance in attitudes toward drinking.

Pre-intervention, but not post-intervention, attitudes toward quitting were predicted by beliefs about quitting (7%) (see Table 11). Distress variables did not add additional explanatory power to either pre- or post-intervention attitudes toward quitting.

Attitudes toward help-seeking (Table 11) were predicted by both pre-intervention and post-intervention beliefs about professional help, which accounted for 18% of the variance at both measurement times. Distress measures did not contribute additional explanatory power.

**Predicting beliefs.** Pre- and post-intervention beliefs regarding all three target behaviors were used as dependent variables with distress and past behavior variables entered as independent variables. The only significant prediction was for pre-intervention beliefs about drinking. A measure of alcohol-related distress, Alcohol Use Inventory Worry/Fear Scale, accounted for 24% of the variance in pre-intervention beliefs about drinking.

**Self-reported Distress and Help-seeking**

The relationship of distress to help-seeking in the alcoholic-trauma population comprised the third area of investigation in this study. Specifically, it was hypothesized that (a) self-reported distress would predict help-seeking behavior across
conditions and (b) self-reported distress would modify subject
response to a persuasion attempt, producing distress by treatment
interactions, with higher rates of help-seeking in the videotape and
consultation conditions over the control condition. Descriptive data
on distress measures will be presented first, followed by regression
analyses.

Severity of distress. Mean T-scores for all nine SCL-90 clinical
scales and three global indices (Table 12) were within one standard
deviation of the mean for a non-patient normative sample. Analysis of
variance showed that mean Global Severity Index T-scores did not
differ significantly across experimental conditions, $F(3, 89) = 1.47$,
$p = .23$.

Mean decile scores for three Alcohol Use Inventory scales are
found in Table 13. Worry/Fear Scale was administered to all subjects;
married subjects ($N = 36$) completed Marital Coping and Marital
Problems scales. The remaining Alcohol Use Inventory scales were
administered only to the last 48 subjects entered into the study (see
Table 14). Analyses of variance showed that subject groups did not
differ significantly on mean decile scores for Alcohol Use Inventory
Worry/Fear scale, $F(3, 81) = 1.59$, $p = .20$.

Subjects who completed the entire Alcohol Use Inventory were
compared with those who only completed Worry/Fear, Marital coping and
Marital Problems Scales to determine if decile scores for this
subgroup (subjects 48-96) could be considered representative of the
entire sample. The subject groups (subjects 1-47 and 48-96) were not
Table 12

T-score Means for Hopkins Symptom Checklist-90 Clinical and Summary

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Mean T-score</th>
<th>SE</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical subscale</strong></td>
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<td></td>
</tr>
<tr>
<td>Somatization</td>
<td>49.12</td>
<td>1.2</td>
<td>37-76</td>
</tr>
<tr>
<td>Obsession-Compulsion</td>
<td>51.63</td>
<td>1.1</td>
<td>39-77</td>
</tr>
<tr>
<td>Interpersonal Sensitivity</td>
<td>51.14</td>
<td>1.5</td>
<td>41-81</td>
</tr>
<tr>
<td>Depression</td>
<td>55.74</td>
<td>1.3</td>
<td>38-81</td>
</tr>
<tr>
<td>Anxiety</td>
<td>55.27</td>
<td>1.3</td>
<td>40-81</td>
</tr>
<tr>
<td>Hostility</td>
<td>51.89</td>
<td>1.1</td>
<td>41-79</td>
</tr>
<tr>
<td>Phobic Anxiety</td>
<td>56.58</td>
<td>1.1</td>
<td>47-81</td>
</tr>
<tr>
<td>Paranoia</td>
<td>58.09</td>
<td>1.2</td>
<td>41-81</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>58.29</td>
<td>1.1</td>
<td>44-79</td>
</tr>
<tr>
<td><strong>Summary subscale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Severity Index</td>
<td>56.28</td>
<td>1.2</td>
<td>34-81</td>
</tr>
<tr>
<td>Positive Symptom Total</td>
<td>52.94</td>
<td>1.0</td>
<td>38-75</td>
</tr>
<tr>
<td>Positive Symptom Distress Index</td>
<td>60.47</td>
<td>1.3</td>
<td>2-74</td>
</tr>
</tbody>
</table>

Standard error of the mean
Table 13

Decile Scores on Alcohol Use Inventory Subscales Worry/Guilt, Marital Coping and Marital Problems

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean Decile Score</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worry, Guilt</td>
<td>3.67</td>
<td>.33</td>
</tr>
<tr>
<td>Marital Coping</td>
<td>4.58</td>
<td>.41</td>
</tr>
<tr>
<td>Marital Problems</td>
<td>5.40</td>
<td>.51</td>
</tr>
</tbody>
</table>

Standard error of the mean
Table 14

Decile Scores on Alcohol Use Inventory Subscales for 48 Alcoholics Hospitalized for Trauma

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean Decile Score</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Scales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Benefits</td>
<td>3.56</td>
<td>.37</td>
</tr>
<tr>
<td>Mental Benefits</td>
<td>6.76</td>
<td>.31</td>
</tr>
<tr>
<td>Gregarious Drinking</td>
<td>6.30</td>
<td>.41</td>
</tr>
<tr>
<td>Obsessive-Compulsive Drinking</td>
<td>5.30</td>
<td>.37</td>
</tr>
<tr>
<td>Sustained vs Periodic</td>
<td>5.32</td>
<td>.43</td>
</tr>
<tr>
<td>Mood Change</td>
<td>4.03</td>
<td>.44</td>
</tr>
<tr>
<td>Prior help</td>
<td>4.84</td>
<td>.41</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>3.80</td>
<td>.42</td>
</tr>
<tr>
<td>Social Role Maladaptation</td>
<td>4.63</td>
<td>.44</td>
</tr>
<tr>
<td>Psychoperceptual Withdrawal</td>
<td>4.64</td>
<td>.40</td>
</tr>
<tr>
<td>Psychophysical Withdrawal</td>
<td>4.09</td>
<td>.40</td>
</tr>
<tr>
<td>Non-alcohol Drug Use</td>
<td>7.69</td>
<td>.26</td>
</tr>
<tr>
<td>Daily Quantity</td>
<td>6.30</td>
<td>.35</td>
</tr>
<tr>
<td><strong>Secondary Scales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-enhancing Drinking</td>
<td>5.41</td>
<td>.39</td>
</tr>
<tr>
<td>Obsessive-Sustained Drinking</td>
<td>4.02</td>
<td>.33</td>
</tr>
<tr>
<td>Anxiety related to Drinking</td>
<td>2.59</td>
<td>.29</td>
</tr>
<tr>
<td>Alcoholic Deterioration-1</td>
<td>4.23</td>
<td>.72</td>
</tr>
<tr>
<td>Alcoholic Deterioration-2</td>
<td>3.47</td>
<td>.34</td>
</tr>
<tr>
<td><strong>General Alcoholism</strong></td>
<td>3.09</td>
<td>.26</td>
</tr>
</tbody>
</table>

Standard error of the mean
significantly different on mean age, education or total number of DIS symptoms but did differ significantly on Worry/Fear scale, $F(1, 81) = 8.43, p = .004$, with subjects 48 through 96 expressing more alcohol-related worry, fear and guilt than subjects 1 through 47. The early group (subjects 1-47) had a mean decile score of 2.8 on the Worry/Fear scale compared with 4.7 for the late (subjects 48-96) group.

Differences approached statistical significance on General Severity Index T-scores, $F(1, 91) = 3.59, p = .06$, with the late group (subjects 48-96) again reporting higher levels of distress than the early group (subjects 1-47). Mean T-scores for both groups (59 for the late group and 54 for the early group) were within one standard deviation of the mean for the non-patient normative sample. A chi square analysis showed no significant differences on occupational roles between early and late-entry subjects.

**Predicting help-seeking from distress.** The small number of subjects ($N = 6$) for whom help-seeking could be documented precluded statistical analysis of the relationship between distress and help-seeking. However, regression analyses were performed using behavioral intentions to drink, quit and seek help as the predicted variable. Distress variables explained small (2%) but statistically significant amount of variance in intentions to drink and quit but not in intentions to seek help. Distress related to alcohol (Worry/Fear Scale) explained 2% of the variance in intentions to continue drinking before, $F(1, 99) = 3.40, p = .06$, but not after, $F(1, 99) = .01$,.
General psychiatric distress (General Severity Index) provided no additional explanation of intentions to continue drinking. However, General Severity Index scores did explain 5% of the variance in intentions to quit drinking before, $F(2, 98) = 3.52$, $p = .03$, but not after, $F(2, 98) = 1.96$, $p = .15$, the intervention.

Distress by condition interactions. Contrast coding was used to enter experimental condition into regression equations predicting intentions. Planned contrasts compared persuasive interventions (videotape and consultation conditions) with the control condition, videotape conditions with consultation and control conditions and the long videotape condition with the short videotape condition. Separate regression equations were completed for married subjects ($N = 34$) and included two measures of marital dysfunction related to alcohol (Marital Coping and Marital Problems). Interaction variables were also constructed, with each variable representing a single condition by distress interaction, and entered as set.

Experimental condition and interaction variables did not contribute additional explanatory variance to intentions to drink, quit or seek help over that contributed by distress variables alone.

Summary of Results.

Hierarchical regression analyses were used to test hypotheses regarding (a) the effectiveness of videotape and physician persuasion attempts in eliciting help-seeking behavior, (b) relationships among
observed variables predicted by the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), and (c) the relationship of distress to help-seeking.

Help-seeking was documented in 6 of 96 subjects (2 subjects each in the long videotape, short videotape and consultation conditions). No subjects who sought help were in the control condition. Self-reported estimates of post-discharge drinking elicited from 34 subjects who could be located indicated that 87% of the 34 subjects (30% of the entire sample), had improved (reported abstinence or reduced consumption). Persuasion attempt conditions (two videotape and one consultation condition) showed proportions of improved subjects (28%, 37% and 46%) higher than that of the control group (5%).

Conformity of the observed data to predictions of the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) was found for help-seeking intentions, attitudes and beliefs but not for relationships among intentions, attitudes and beliefs regarding drinking or quitting. Further, relationships among drinking and quitting variables changed from pre-intervention to post-intervention measurement times. Contrary to Ajzen and Fishbein's (1980) theses, beliefs regarding drinking and quitting contributed significant explanation of variance in initial intentions. At the post-intervention time, however, attitudes toward drinking predicted intention to drink but neither attitude nor beliefs regarding quitting predicted intention to quit. Attitudes toward drinking and quitting
were, as Ajzen and Fishbein (1980) hypothesized, predicted by beliefs about drinking and quitting at the initial (pre-intervention) measurement. However, at the post-intervention measurement, attitudes toward drinking and quitting were not predicted by beliefs about drinking and quitting.

Relationships of distress to intentions, attitudes and beliefs conformed to the predictions of Ajzen and Fishbein (1980) regarding exogenous variables. Distress variables (Worry/Fear Scale and General Severity Index) did not add explanatory variance to the prediction of intentions or attitudes over variance explained by, respectively, attitudes and belief products. A measure of alcohol-related distress, Alcohol Use Inventory Worry/Fear Scale, contributed significant explanatory variance to the prediction of beliefs about drinking but not to beliefs about quitting or help-seeking.

Self-reported distress measures (Alcohol Use Inventory Worry/Fear Scale and Hopkins Symptom Checklist-90 General Severity Index) did not predict help-seeking, intentions to seek help or response to any persuasion attempt. Distress measures explained small but statistically significant amounts of variance in intentions to continue drinking or to quit drinking. Higher distress predicted a more positive intention to continue drinking before, but not after, the intervention. General psychiatric distress predicted initial but not post-intervention intentions to quit. Alcohol-related distress explained a small (2%) amount of variance in post-intervention intentions to quit.
CHAPTER 5
DISCUSSION

Validity of the diagnostic screening will be considered first followed by discussion of the three areas of investigation: (a) effects of the experimental interventions on help-seeking, (b) the usefulness of the Theory of Reasoned Action in predicting and understanding help-seeking in alcoholics and, (c) the role of self-reported distress in subjects' response to the experimental conditions.

Diagnostic Data

Most subjects (75%) met research criteria for a diagnosis of alcohol dependence, while the remaining one-fourth met criteria for alcohol abuse. About 40% had one or more medical problems related to alcohol abuse (liver disease, pancreatitis, memory troubles, numbness in extremeties, gastrointestinal distress).

It is possible that some patients were entered into the study who would not have met clinical criteria for alcohol abuse or dependence. This was a particular concern in this study since the research assistant administering the Diagnostic Interview Schedule (DIS) did not receive the standardized and rigorous training that the authors advise (Robins et. al., 1981). However, other data suggest that the number of false-positives in this study was very low. All but one subject receiving a research diagnosis of alcohol abuse/dependence,
and subsequently receiving a physician consultation, were judged to be alcoholics or alcohol abusers. One subject was described as a "borderline" alcoholic and advised to cut down on his alcohol intake.

Also, comparison of mean Alcohol Use Inventory (AUI) scale decile scores available for 48 subjects suggests that, as a group, these subjects reported alcohol-related behaviors and problems comparable to alcoholics seeking inpatient treatment. On most Alcohol Use Inventory scales, this subgroup of the study sample achieved decile scores at the .5 level or less. This indicates that, except for scales on non-alcohol drug use, gregarious drinking and mental benefits (which were higher than .5) inpatient alcoholics in the normative sample reported an equal number or more symptoms than the study sample. Alternatively, the study sample reported the same or more symptoms than 50% of the inpatient sample. It seems unlikely, then, that the study sample included a large proportion of non-alcoholics. The number of subjects meeting criteria for alcohol abuse or dependence but not reporting medical symptoms (60%) also suggests that the number of false negatives was also low. Diagnostic Interview Schedule results in this study did not appear to be biased in the direction of the more severe or chronic alcoholic.

Medical symptoms endorsed by this subject sample are similar to those identified in other studies of alcoholics on surgical services. Beresford et. al. (1982) found that alcoholics on an orthopedic service were relatively healthy compared with alcoholics on a medical service; only 27% of their sample had alcohol-related medical
problems. The same investigators found that only 10% of the alcoholics studied had been identified and diagnosed by medical staff. The rate of medical staff diagnosis in the current study was very low (2%). Only two of the 96 patients identified were referred for a substance abuse consultation. However, recognition among medical staff may have been higher than the referral rate. Physicians may not seek consultation for alcoholic trauma patients for a variety of reasons including pessimism about treatment for alcoholism, legal concerns or refusal of past consultations by the patient.

**Help-Seeking Behavior**

Measures of help-seeking behavior identified only six subjects who sought professional help. This small number does not permit statistical analysis of different rates in each of the experimental conditions. It is possible that additional subjects also sought help since three of the six subjects were identified in the follow-up study and not through documentation of treatment.

This 6% rate of help-seeking can be compared with recent national data on the utilization of mental health services by persons with a research diagnosis (Diagnostic Interview Schedule) of substance abuse (alcohol and drug combined) during a six-month period. Shapiro et al. (1984) report that the proportion of adults with a recent Diagnostic Interview Schedule diagnosis of alcohol abuse or dependence who sought help within a six-month period ranged from 7.9% to 18.4% in the three catchment areas (New Haven, Baltimore and St. Louis). If
visits to mental health specialists are considered, the proportion ranges from 6.6% to 13.1%. Comparison of these national data with the current help-seeking rate suggests that study subjects did not seek help for their problems with alcohol at rates higher than those reported for a national sample in a similar time period.

Self-Reported Drinking after Discharge

Thirty-four of the 96 subjects (35%) in the study were contacted by phone or mail 12 to 41 weeks ($X = 31$) after discharge from the hospital and asked about their recovery from injuries, drinking and help-seeking. Twenty-six of the thirty subjects (87%) who had not sought help reported either abstinence from alcohol ($N=6$) or "drinking less" ($N=20$) while four reported drinking "about the same" and none reported drinking more.

It might be argued that these data are not valid representations of actual behavior for one, or both, of the following reasons: (1) subjects might have been responding to demand characteristics in the study since the interventions focused on the negative consequences of drinking and the positive consequences of quitting and seeking help, or (2) subjects may only perceive that they are drinking less but actually are drinking the same or more; this argument is less likely to be valid for subjects who report abstinence. These questions will be considered separately.

Although the possibility of demand characteristics cannot be ruled out with certainty, several factors lessen its probability. The
research assistant and the investigator, who made the follow-up phone
calls or sent the letters, were not known to the subjects and had not
issued the study recommendation to seek help. Also, follow-up study
response to questions about the recommendation given, including a
manipulation check, indicated that less than half of the 34 subjects
contacted recalled any recommendation being given. Five of the 9
subjects in the consultation condition recalled the doctor's visit but
only three recalled any recommendation. Only eight of the 25 subjects
in the videotape and control conditions could recall any
recommendation and only five of those eight reported, on specific
questioning, that the recommendation had been to call the MCVH
Substance Abuse Medicine Unit. Three of the eight who recalled a
recommendation stated that it was to "stop drinking," or "go to
meetings." Combining all conditions, and assuming that the physicians
gave some recommendation, 13 of 34 subjects recalled a recommendation.
Finally, only two of these 13 reported following the recommendation,
suggesting that study subjects were, generally, not compliant with
study recommendations. It could be argued that the subjects who
remembered a recommendation, reported not following it and reported
drinking less (N=7) did so to justify their failure to follow
professional advice but this would not account for the reduced
drinking of the 19 subjects who remembered no recommendation being
given. It is unlikely, then, that self-reported reduction in alcohol
consumption can be attributed to demand characteristics.

The accuracy of alcoholics' self-reported consumption has been
the focus of several recent investigations (Maisto, Sobell, Cooper & Sobell, 1982; Sobell, Maisto, Cooper & Sobell, 1979; Sobell, Cellucef, Nirenberg & Sobell, 1982). These reports indicate that the reliability and validity of subjects retrospective self-reports have been high and consistent across different types of questions. While some patterns of consumption, e.g. short periods of high daily intake with extended periods of abstinence (binge drinking) can be masked when subjects are asked to estimate "average" daily intake, various assessment instruments elicit similar average data. The studies cited above, however, asked subjects to specify amounts of alcohol consumed daily rather than, as in this study, to estimate whether they were drinking more, the same or less. Accuracy on more specific questions may not be generalizable to more global estimations. Nevertheless, the studies cited above suggested that, in general, alcoholics do report on alcohol consumption reliably and validly. This provides some support for accepting the self-report data obtained in the current study as useful estimates of changes in alcohol consumption.

The overall improvement rate, calculated by counting all subjects who sought help or reported drinking less on follow-up as "improved" and, conservatively, assuming all subjects not contacted to be "unimproved," was 30% for this sample. This rate can be compared with estimates of "spontaneous remission" for alcoholics, i.e. the proportion of alcoholics who improve without treatment. Estimates range from 10% to 20% (Imber et al., 1976; Miller, 1980) but these are based on rates of people seeking treatment who are then assigned
to minimal-treatment or waiting-list groups and may not be representative of alcoholics who have not sought treatment. Rates of improvement without treatment may be higher than 20% in specific subgroups. Hyman (1976) reported that many young male alcoholics "mature out of" serious problem drinking. However, it is unlikely that the improvement rates observed in the current study would have occurred spontaneously within the brief time period from diagnosis to follow-up. Apparently, the study group showed higher rates of improvement than would be expected from estimated rates of spontaneous remission.

Subject selection in this study was restricted to trauma victims and any improvement in drinking behavior observed after discharge might be attributed to the effects of the trauma incident or recovery process. The majority of subjects (70%) had been drinking prior to the injury, 65% reported "having accidents" as a likely consequence of continued drinking and all subjects evaluated "accidents" negatively. Reduction in drinking might be a natural consequence of being in an accident after drinking. However, one might expect that this type of response to be modified by the objective or perceived severity of the injury and recovery process. Compared with data on the general trauma population at MCV hospitals, the level of injury sustained by the study sample was relatively low. (This estimate was made by the chairman of general/trauma surgery based on the proportion of surgical procedures and number of days spent in the hospital). Perceived severity data were obtained by two questions on the follow-up study
asking for recovery ratings. The follow-up study mean for "current condition" was 2.56 on a scale of 1 to 4, with 2 being "almost as good as before" and 3 representing "only half-way back to normal." On the expected recovery question, the group attained a mean of 2.5 on a 1 to 5 scale, with 2 standing for recovering "better than I thought I would" and 3 "about as I thought I would." Follow-up study subjects, then, reported that they were still feeling some effects of the injury but were recovering somewhat better than they expected. Only one subject sustained any disabling injury and was transferred to a Rehabilitation service where he did not have access to alcohol but his responses were not included in the follow-up study data reported here.

Further, results of studies on trauma and alcohol use suggest that single, or even multiple, trauma incidents do not lead to reduced alcohol intake in the alcoholic population. Alcoholic patients admitted to treatment centers give histories of trauma as well as medical problems (Ashley, Olin & le Riche, 1981) and old fractures on routine x-rays have been used as indicators of possible alcoholism in the general hospital setting (Israel, Orego & Holt, 1980). Skinner (1984) recently showed that 5 brief questions about trauma identified 7 of 10 persons with excessively high daily alcohol intake in general hospital and clinic samples. The evidence suggests that trauma, in itself, does not effect changes in alcohol use by alcoholics, although directing attention to alcohol-related injuries at this time may have an effect on subsequent alcohol use.

Non-statistical comparison of self-reported improvement rates
across conditions result in a impact ranking of short videotape (37%),
long videotape (28%), physician consultation (26%) and control
condition (9%). However, the impact of the physician consultation
requires elaboration. The 26% includes subjects who were randomly
assigned to condition three but were not seen by the physician (N=10).
If only subjects who were actually contacted are included, the impact
ing rating for condition 3 is 46%. Physicians were more effective than
videotape interventions in eliciting a positive response but they
reached only 57% of their "assigned" subjects. This low percentage
was obtained in spite of the fact that a post-graduate fellow was
assigned to the study early in his training and conducted the
consultations with enthusiasm and interest.

Improvement rates for the control group were lowest of the three
(9%) but caution should be exercised in interpreting this as
demonstrating the superiority of the persuasion conditions (videotape
and consultation) since the 9% of control condition subjects reporting
improvement represents only two subjects.

If follow-up reports of reduced drinking are accepted as valid,
more subjects reduced their drinking after this study than would be
expected on the basis of changes occurring in the absence of
professional intervention. However, subjects were not responding to
the study recommendation, which was to seek professional help for
their problems. Subjects may have been responding to the assessment
and feedback aspects of the study rather than the explicit
recommendations. In the course of the study, subjects were asked to
report on behaviors and problems related to alcohol use (Diagnostic Interview Schedule, Alcohol Use Inventory), state their beliefs about the consequences of drinking, quitting and seeking help, evaluate those consequences (Outcome Evaluation Questionnaire), and report their attitudes and intentions regarding continued drinking, quitting and seeking help. Also, beliefs, attitudes and intentions were requested twice. Subjects were told they met criteria for a research diagnosis of alcoholism and given a clear recommendation to seek help. It is feasible that these processes comprised an effective intervention in themselves. Some studies have found that minimal interventions including assessment and feedback produce improvement in problem drinkers and alcoholics (Edwards et. al., 1977; Miller and Taylor, 1980; Miller, Grilskov and Mortell, 1981).

Edwards et. al. (1977) compared male alcoholics randomly assigned to "advice" or traditional treatment modalities. Both groups participated in a thorough assessment and history-taking session with their spouses. After assessment, each couple met with the assessment team who gave them a clear statement of the diagnosis of alcoholism, recommendations for abstinence, return to work and working on improving the marital relationship. The advice subjects were then told that the responsibility for attaining these goals was their responsibility. They were told that a social worker would check in with the wife periodically to collect news of progress but that no further appointments would be scheduled. This message was given in a supportive atmosphere and meant to be a persuasive intervention. The
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treatment group received full outpatient services for both husband and wife, including medication, AA meetings, problem-solving psychotherapy and marital counseling, and inpatient treatment if indicated. At twelve month follow-up there were no significant difference between groups on drinking behavior, wife or patient improvement ratings, social adjustment indices (e.g. time off work) or marital situation. Both subject groups ranked the single feedback session over formal and informal treatment (AA, medical care, medication, hospitalization) as aids to improvement. Treatment seeking in the advice condition did not result in equivalent experiences.

Miller and his colleagues (Miller and Taylor, 1980; Miller, et al., 1981) studied the effects of a minimal "bibliotherapy" intervention similar to Edwards et. al.'s (1977) advice treatment and found that self-directed assessment and behavior change using a manual was as effective in reducing drinking in self-referred problem drinkers as therapist-directed assessment and treatment following the same manual. However, Buck and Miller (1984) found that a control group practising self-monitoring but not given information on how to modify drinking behavior did not improve any more than a waiting-list control group. This suggests that the long-term outcome for subjects in the current study, who received assessment and feedback but not self-management information, may be poor. However, subjects in previous advice and bibliotherapy studies have been alcoholics or problem drinkers seeking help for their problems. Subjects in the current study were not help-seekers. It is possible that subjects in
this study who reported decreased drinking on follow-up had self-help skills that they could apply to drinking behavior. Self-reports of strategies used by follow-up subjects to reduce or eliminate alcohol consumption included "staying home more often," "going to church," "changing friends," "starting to exercise," and "going back to school."

It is possible that some problem drinkers have the self-help skills to reduce or eliminate drinking when they have recognized that it is a problem and that feedback about their drinking is sufficient to produce change, while others need specific directives or professional treatment to modify drinking behavior. Future studies, which assess alcoholics on self-management skills as well as alcohol-related problems may be able to identify such a sub-group. Assessment of self-help skills would also be a useful addition to the clinical evaluation of alcoholics in the hospital setting. Alcoholics with such skills could be provided a minimal intervention (videotape or manual) preceded by a clear statement of the diagnosis and prognosis if drinking continues. Professionals could direct more intensive efforts toward the more seriously addicted or disabled.

Theory of Reasoned Action

The second goal of the current study was to investigate the usefulness of the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) in predicting and understanding help-seeking behaviors in diagnosed but untreated alcoholics. Descriptive data on
subjects' beliefs and evaluations of outcomes will be discussed first, followed by results of regression analyses performed to examine relationships among beliefs, attitudes, intentions and behaviors.

**Subjects' beliefs.** Pre- and post-intervention response frequencies and mean belief strength for beliefs about the consequences of drinking, quitting and help-seeking have been reported in Table 3. In this discussion, individual items will be referred to by number preceded the letter indicating one of the three categories—drinking, quitting or treatment. Most subjects used agree and disagree categories, avoiding both neutral and more extreme response choices. Subjects thus tended to respond in a dichotomous fashion to belief statements. However, except for items regarding drinking ruining health (d5), quitting resulting in feeling better physically (q7) and increased tension (q2), beliefs about drinking and quitting were not extremely skewed toward agreement or disagreement in this sample. Beliefs about the consequences of help-seeking, however, elicited more consensus. The majority of subjects believed that, if they sought professional help for their problems with alcohol, professionals would listen to them (t4), help them to lead a better life (t1), tell them things they didn't know (t2) and make them say they are alcoholics (t7). They disagreed that they would be made to stay in the hospital (t3) and were evenly divided on whether or not professionals would attempt to control them and their drinking (t8). Generally, then, these subjects believed that professionals would try to help them in several ways.
Subjects' evaluations of the 20 outcomes linked to one of the three target behaviors were reported in Table 4. Of the consequences linked to drinking or quitting, subjects evaluated accidents, feeling bored or tense, getting into trouble with the law as negative and having less pressure at home or on the job, having more money on hand, solving their problems, feeling good about themselves and having a good time with others as positive. However, there was more diversity in the evaluation of consequences linked with help-seeking. Although subjects evaluated people listening to them, caring about them, helping them to live better and staying away from alcohol as positive, they felt very negative about staying in a hospital and people controlling them and were equally divided about whether saying they were alcoholic was good or bad.

Relationships among beliefs, attitudes, intentions and behavior.
First, it was hypothesized that post-intervention intention to seek help would predict help-seeking behavior. The small number of subjects for whom help-seeking could be documented (N = 6) severely restricted the range of the dependent variable, precluding statistical analyses of this relationship. However, it is possible that, for the small number of subjects who did seek help, there was correspondence between their intentions and behavior. Examination of post-intervention intentions for these six subjects showed that five of the six did report an intention to seek help and one reported that he would not seek help. The one subject who did not intend to seek help reported in the follow-up interview that someone else had
arranged for him to see a professional. Of the 90 subjects for whom no documentation of help-seeking was found, 32 reported an intention not to seek help, 14 were unsure and 23 reported a post-intervention intention to seek help. Therefore, descriptive examination of intention and behavior correspondence indicates that post-intervention intentions did not correspond to help-seeking behaviors.

A number of explanations can be considered for this failure of intention-behavior correspondence. The measurement of intention and behavior may not have corresponded in level of specificity. Intention was measured by a response regarding "seeking professional help for problems with alcohol" while behaviors measured were a phone call to one agency (Substance Abuse Medicine Unit) and documented treatment at the same agency or at another agency, if such was documented, e.g. in the physician consultation recommendation. Subjects who intended to seek help may have sought that help from another source. However, consideration of follow-up data suggested that this lack of measurement correspondence did not account for the failure of intention to predict behavior. Five subjects in the follow-up study who intended to seek help but did not seek it from the sources documented also did not seek help from any other agency or professional.

Another explanation for the lack of intention-behavior correspondence may have been demand characteristics of the study. That is, subjects may have stated an intention to seek help because that was the recommendation given to them and not because they
actually intended to seek help. However, only 23 of 96 subjects reported an intention to seek help. If demand characteristics were operative, they did not affect a majority of the subjects. Also, the discovery in the follow-up study that of 34 subjects could not recall a specific recommendation by the research assistant or physician, makes it unlikely that the recommended action was salient for all subjects.

Another possible explanation for lack of intention-behavior correspondence was that the target behavior, seeking professional help for a behavioral problem, was a novel one for this group of subjects and, therefore, had a low probability of being emitted. Alcohol Use Inventory data for 48 subjects on use of Prior Help (see Table 13) indicate that subjects in this subsample had attempted to alter their drinking behavior as often or more often than 48% of the alcoholic patients in the normative sample. However, Prior Help Scale items (antabuse, religion, tranquilizers, medical help, AA, received help) showed that only one of the seven items refers clearly to professional help and that item may be interpreted to mean medical detoxification or emergency room treatment, not programmatic therapy. In addition, a Prior Help decile score of 4.0 is attained by endorsing only one item, due to the generally low rate of prior attempts to get help in the normative group. Therefore, attempting to get help for problems with alcohol was a novel behavior for a subsample of 48 subjects.

It is also possible that help-seeking for any problem was rare for these subjects. The study sample is similar in some respects to
subjects identified by Veroff et al. (1981) as "loners (p. 80)."
Veroff and her colleagues found that 7% of a national sample of
Americans endorsed self-help and refused formal and informal help even
when they were distressed. They found that these subjects were aware
of mental health resources but were skeptical about the helpfulness of
professional treatment. They were also unwilling to talk with their
problems with anyone else. This group was predominantly older men
with minimal (grade school) education. Although the current study
sample was not particularly negative about professional treatment (see
Table 4), they may have been unwilling to discuss any problems with a
professional.

Predicting quitting and drinking behavior. Although prediction
of post-intervention drinking and quitting behavior was not an
original purpose of this study, it is discussed here briefly since
some data was gathered from the 34 follow-up subjects. Separate
regression analyses, with drinking or quitting intentions as
independent variables and follow-up drinking level item (see Appendix
M) as dependent variable showed that neither intention to drink nor
intention to quit predicted self-reported drinking behavior after
discharge from the hospital. Time lapse ($X = 31$ weeks) between
measurement of intention and measurement of behavior may account for
this failure to predict since events taking place during the weeks
between discharge and follow-up could influence intentions. This
failure may also be due to lack of correspondence on action elements
of intention and behavior measures. Subjects were asked to state their
intention to continue drinking and to quit drinking but behavior was measured by a three-point scale tapping "more," "less" or "same" amounts of drinking.

Since behavioral intentions did not predict help-seeking behavior nor self-reported drinking behavior in the follow-up sample, examination of beliefs, attitudes and change patterns from pre- to post-intervention cannot clarify cognitive changes corresponding to behavioral choices. However, relationships among beliefs, attitudes and intentions will be discussed in terms of their conformity to the patterns predicted by the Theory of Reasoned Action.

Predicting intentions and attitudes. Attitudes toward help-seeking predicted intentions to seek help at both pre- and post-intervention measurement times and neither belief nor distress variables added any significant variance to this prediction. Similarly, beliefs regarding help-seeking predicted attitudes toward help-seeking at both measurement times. Therefore, relationships among beliefs, attitudes and intentions regarding help-seeking conformed to those predicted by Fishbein and Ajzen (1975; 1980). However, the patterns were less consistent for drinking and quitting intentions. Attitudes regarding continued drinking did not predict intention to drink at pre-intervention but did predict intention at post-intervention. Beliefs, however, accounted for a significant amount of variance (19%) in intentions to drink prior to the intervention.

At time 1 (pre-intervention), beliefs predicted both attitude and
intention but attitude did not predict intention. At time 2 (post-intervention), attitude predicted intention but beliefs failed to predict either attitude or intention. Beliefs, the conative aspect of the subject's cognition regarding drinking predicted intention to drink before the persuasion attempt but attitude, the affective component predicted intention after the experimental treatment. This suggested that one effect of the intervention was to bring intentions more in line with attitude (affect) than beliefs (cognition).

Relationships among beliefs, attitude and intentions regarding quitting at time 1 were those hypothesized by Ajzen and Fishbein (1980) with one exception. Beliefs added significant increments (8%) to intention over that accounted for by attitude toward quitting. However, at time 2, the relationships among beliefs, attitude and intentions were non-significant. The pattern of relationships among beliefs, attitude and intention changed for both drinking and quitting but in different ways. For cognitions regarding drinking, the variable predicting intention changed from beliefs to attitude. For quitting, no predicted relationships were observed. This suggested that the effect of the persuasive communication may have been to 'disrupt' relationships by producing changes in one or more cognitive measures but without corresponding changes in other measures.

This study failed to find data supporting the usefulness of the Theory of Reasoned Action (Ajzen & Fishbein, 1980) for predicting help-seeking among alcoholics. Further, relationships among measures of belief, attitude and intention regarding drinking and quitting were
more consistent with the theory's predictions before rather than after the persuasive communication. Design factors, e.g. lack of correspondence between intention and behavioral measures, omission of reduced drinking as a potential behavioral response to the intervention and the low probability of help-seeking in the subject population may have contributed to this failure.

Mc Ardle (1972) investigated a similar behavior, signing up for an alcoholic treatment program, and found that changes in beliefs, attitudes and intentions corresponded to behavior changes. However, the content of the 10 belief statements used in Mc Ardle's (1972) study combined typical and eventual consequences of alcohol abuse (poor health, family dysfunction) with more immediate consequences such as staff friendliness, good medical care and help with other problems. The second set of consequences could have been perceived by subjects as contingencies that would be put into effect immediately by the staff upon acceptance or rejection of the transfer to the alcoholism unit. Mc Ardle (1972) does not report separately the effects of these two sets of consequences and their influence on behavioral choice and change of intentions. If the staff-controlled consequences contributed more to the observed changes, this would be consistent with research on maintaining alcoholics in treatment via employment and legal consequences (Mc Carty et. al., 1985; Trice and Beyer, 1984). The current finding that post-intervention beliefs, attitudes and intentions regarding drinking and quitting did not predict post-discharge drinking behavior and that, generally,
relationships among them were nonsignificant, contradicts general findings of three previous studies applying the Theory of Reasoned Action (Ajzen & Fishbein, 1980) to alcohol/drug use (Bearden and Woodside, 1978; Bentler and Speckert, 1979; Cook et. al., 1980). These investigators found that beliefs, attitudes and intentions predicted alcohol and drug use in college students and adolescents. However, Bentler and Speckert (1983) found that intentions were poor predictors of narcotic use in college students. Attitudes and past behavior accounted for a significant degree of variance in behavior for all three drug groups. The data on prediction of hard drug use are particularly relevant to the current results since, of the behaviors studied using Fishbein's model, this one is most similar to future drinking by alcoholics.

The influence of previous behavior on intention was also different for marijuana/alcohol versus hard drug use. Bentler and Speckart (1983) found a direct path of influence from previous behavior to intention for all three drug groups but for alcohol and marijuana this influence was positive and for narcotics, the influence was negative. The investigators hypothesized that changes in conative processes underlying substance use occur as college students progress to harder drugs.

Further investigation of beliefs, attitude, intentions and behavior with subject groups more explicitly defined with respect to alcohol/drug use may provide a description of these suspected conative changes and a basis for prevention, intervention and treatment
Bentler and Speckart (1979) found that attitude and past behavior were the best predictors of drug/alcohol use but they did not attempt to change any of these variables. In the current study, an attempt to change behavior by influencing beliefs produced both behavior change and changes in belief, attitude and intention but these changes did not correspond. The experimental treatment disrupted the consistency among these variables, perhaps by adding new information (e.g. the diagnostic feedback) or by inducing fear (of eventual consequences of continuing to drink).

**Distress and Help-seeking**

Subjective distress was investigated as a variable moderating subject response to the persuasive intervention. Distress levels in the study sample will be discussed first, followed by relationship of distress to cognitive variables and to help-seeking.

**Severity of distress.** Hopkins Symptom Checklist-90 (SCL-90) T-scores on nine clinical scales and three general scales of self-reported psychological distress were within one standard deviation of the mean for a non-patient, normative sample. It is possible that the administration instructions used in this study resulted in artificially reduced reporting of pre-trauma distress levels. Subjects were asked to report on how much each problem had been bothering them during the two weeks before the accident. This instruction may have led patients to underestimate previous symptoms
by comparing them with their current, post-trauma, distress. However, one indication that this was not the case is the mean T-score for the Positive Symptom Total scale. This scale measures a respondent's tendency to endorse symptoms across all nine clinical scales. The mean for this study sample was 60, reaching one standard deviation above the mean, indicating that there was a tendency to endorse symptoms in greater numbers than the normative group. It is possible that the Positive Symptom Total was inflated by frequent endorsement of items on the somatization scale, which taps physical symptoms. This might be expected in patients who had recently been hospitalized for trauma. However, the mean T-score for the Somatization subscale, $T = 49$, is the lowest T-score of the nine clinical scales. This suggests that physical complaints secondary to trauma cannot explain the rate of symptom endorsement in these subjects. Overall, subjects in this study were not denying the existence of symptoms, including psychological distress.

Subjects reported higher levels of psychological distress related to alcohol use than general psychological distress. Compared with the normative sample, these subjects reported as much or more worry, fear and guilt about their alcohol use than 40% of an inpatient group of alcoholics. Recognition of marital problems related to alcohol use was slightly higher, approaching the average of inpatient alcoholics. Married subjects ($N = 36$) were slightly less than average on reports that alcohol use resulted from marital stress and slightly above average (when compared with inpatient alcoholics) on reports that
drinking led to marital problems.

Distress data provide another possible explanation of the generally low recognition rate of alcoholics among surgical staff. The trauma alcoholics in this study, on the average, did not report general psychological distress exceeding that of the normal population and, therefore, would be less likely to be identified for dysphoric mood, agitation, confusion or management problems, which bring other patients with psychiatric diagnoses to the attention of the medical staff.

However, the current sample did report psychological distress and marital dysfunction regarding alcohol use, suggesting that questions related to the individual's perception of the effect of alcohol use in his life are more likely to increase identification of alcoholics in surgical populations than questions regarding quantity of alcohol consumed or estimates of general psychological distress.

Veroff et al. (1981) reported that the use of alcohol or medication to reduce tension and alcohol-related family problems were strongly and positively related to "readiness for self-referral" to a professional helping agent. In their study, those reporting a higher level of distress on these symptoms were more likely to seek help than those reporting lower levels and were less likely to reject the possibility of ever needing professional help in the future.

Although comparable data on Hopkins Symptom Checklist-90 scores for other samples of alcoholics are not available, the current results may be compared with those reported by Mc Leian et al. (1981) using
the Addiction Severity Index, which had a correlation of .81 with the Hopkins Symptom Checklist-90 General Severity Index. McLellan et al. (1981) reported that 22% of 469 alcoholics admitted to one of five agencies treating alcoholics or drug abusers had a low-severity rating on the Addiction Severity Index. These low-severity alcoholics had the best overall improvement ratings after treatment and seemed to respond equally well to the less intensive outpatient treatment as to residential treatment. This comparison suggest that alcoholics in the trauma population, though less likely to be identified than more medically deteriorated or psychologically distressed alcoholics, are more likely to benefit from intervention efforts.

**Distress and cognitive variables.** Ajzen and Fishbein (1980) predict that demographic, personality, situational and other "exogenous" variables influence behavior only through their effect on beliefs. To test the contribution of distress variables to endogenous variables (belief, attitude and intention) distress measures (AUI Worry/Fear Scale; Hopkins Symptom Checklist-90; AUI Scales Marital Coping and Marital Problems) were entered in hierarchical regression analyses predicting pre- and post-intervention endogenous variables.

Neither general psychological distress nor alcohol-related distress contributed additional explanation of variance in intentions over that of attitudes or beliefs. This result was consistent with Ajzen and Fishbein's (1980) hypothesis regarding exogenous variables.

Simple correlations were calculated between distress measures and pre- and post-intervention intentions. Several low but statistically
significant correlations were found among distress and intention measures. Both general distress and distress related to alcohol use were significantly and positively correlated with pre-intervention intention to continue drinking but at post-intervention measurement, intentions were no longer significantly correlated with distress level. Intentions to quit were significantly correlated with general distress but not distress related to alcohol use prior to the intervention. After the intervention, intentions to quit were significantly correlated with alcohol-related distress; the correlation of general distress to quitting intentions approached significance at post-intervention measurement. Measures of distress did not correlate with intentions to seek help at either measurement time. Measures of marital dysfunction related to alcohol use did not correlate with any measure of intention.

Although general distress levels were within normal limits and alcohol-related distress was low to moderate when compared with alcoholics in treatment, both measures of distress were significantly correlated with intentions and relationships among these measures changed from pre- to post-interventions measurement times. Subjects who were more highly distressed about their alcohol use had stronger intentions to continue drinking before the experimental treatment. However, after the intervention, this correlation was no longer significant, suggesting that distressed subjects were less strong in their intention to continue drinking or, possibly, that less distressed subjects reported stronger intentions to continue drinking.
This pattern is consistent with recent empirical findings that both social drinkers and problem drinkers believe that drinking reduces tension and worry (Brown et al., 1980). The current data suggest that alcoholics intend to continue drinking even when the source of worry is their alcohol use.

Changes in correlations between distress variables and intentions to quit complement those regarding intentions to drink. Although general distress was correlated with pre-intervention intention to quit, distress related to alcohol use was not. However, after the intervention, worry about alcohol use was correlated with intention to quit and general distress approached significance. It may be that subjects who were moderately worried about their alcohol use were more likely than unconcerned subjects to intend to continue drinking before the intervention. However, after the intervention, these subjects were more likely than their unconcerned counterparts to intend to quit. However, this change in intentions did not, in turn, affect change in behavior since intentions did not predict post-discharge help-seeking or drinking behavior.

The failure of distress measures to predict help-seeking contradicts findings reported by Veroff et al. (1981) for the general population but is consistent with self-reports of the small subgroup identified in that survey as "loners" - older, minimally educated men who endorsed self-help as a principle even when they were distressed.
Implications

Several implications for assessment and intervention with alcoholics can be drawn from the current data. These should be limited to alcoholics similar to subjects in this study on alcohol use, socio-demographic and distress factors until further research demonstrates a wider generalization.

The low rate of staff referral for the study sample (2%) is consistent with previous studies (Beresford et al., 1981; Gallanter et al., 1976). If these alcoholics are to be identified and referred during their hospitalization, intensive staff education and/or consultation programs (e.g. Gallanter et al., 1976) or brief screening instruments (e.g. CAGE, Michigan Alcoholism Screening Test, trauma history) should be implemented. The alcoholics in general hospitals who are least likely to be identified (e.g. the less seriously injured trauma patients in this study) are similar to those self-referred alcoholics and problem drinkers who benefit from minimal interventions (Edwards et al., 1977; Miller et al., 1982) and have positive prognoses (McLellan et al., 1983). Therefore, the effort to identify these patients is likely to have a clinically significant impact in personal and social terms.

In the absence of intensive staff training, or perhaps in conjunction with such training, videotaped programs apparently can be used to persuade some alcoholics to reduce or eliminate alcohol consumption. If alcoholics who can benefit from feedback and advice alone can be identified, medical staff could focus efforts on staff
training or on patients requiring more intensive treatment, e.g. the alcoholic with another psychiatric diagnosis.

Intervention, especially assessment and feedback aspects, should not be limited to patients who "accept" the diagnosis of alcoholism, report that they want help with their problems or are distressed. Follow-up data suggest that none of these factors predicted reduced drinking or abstinence. It may be that subjects who are not seriously distressed and who refuse professional help may benefit the most from a brief, focused communication regarding their drinking and potential consequences.

Summary

This study investigated the effect of videotaped versus clinical intervention on the help-seeking behavior of 96 alcoholics admitted for trauma to surgical services of a general hospital. Results showed that subjects did not seek help for problems with alcohol at rates higher than those expected for alcoholics in the general population. However, an improvement rate for a sub-sample (N = 34) contacted after discharge exceeded estimates of spontaneous remission for alcoholics. Although improvement rates for different experimental conditions suggested that videotape and physician interventions were more successful in eliciting change than assessment and diagnostic feedback alone, small numbers of help-seekers and disproportionate representation in the follow-up interview for assessment-only subjects limit confidence in this conclusion.
Subject beliefs, attitudes and intentions regarding three target behaviors (help-seeking, drinking, quitting) were measured before and after experimental treatments to determine if Ajzen and Fishbein's (1980) Theory of Reasoned Action would predict and/or explain behavior in this sample. Results were mixed on the usefulness of this theory for this behavior domain. Intentions did not predict behavior and relationships among beliefs, attitudes and intentions changed from pre-intervention to post-intervention measurement times. Generally, relationships among the variables conformed more to theoretical predictions before the experimental treatments but not after. These results were attributed in part to design flaws although subject characteristics may also have influenced the outcome. Changes in relationships among cognitive variables supported previous speculation (Bentler & Speckert, 1981; Cook et. al., 1980) that conative changes take place as drug users move to more addictive behaviors. Further research is needed to clarify these processes.

Consistent with the Theory of Reasoned Action (Ajzen & Fishbein, 1980), self-reported distress did not add explanatory power to that of cognitive variables in predicting intentions. Although the relationship of distress to intentions (drinking and quitting) changed from pre- to post-intervention measurement, distress did not predict help-seeking nor reported change in drinking behavior.

Applications to clinical intervention with hospitalized alcoholics focused on the need for identification of the less seriously deteriorated alcoholic, differential interventions based on
assessment of the alcoholics self-help skills and use of videotaped programs to complement professional intervention.
APPENDIX A

CONSENT FORM

I, __________, agree to participate in a study of the emotional aspects of physical injury.

I understand that the study involves asking questions about my injury and my life through the use of questionnaires and a personal interview. I may also be asked to discuss certain aspects of my health with a health professional.

I understand that the purpose of this study is to learn more about health problems related to physical injury, that this knowledge may potentially provide help for other patients who suffer from similar health problems and that any information that may be of personal benefit will be brought to my attention.

I know that I may end my participation in this study at any time and that this action will have no effect upon my treatment. I also know that there are no foreseeable risks involved.

Any information is confidential, will be securely maintained by the investigators and will not be destroyed until the end of the study. My name will not be used in any way and my participation in the study will be kept strictly confidential.

Problems discovered during the study that are important for my treatment will be brought to the attention of my attending doctors.

Signature

Date

Witness
## APPENDIX B

### DEMOGRAPHIC AND TRAUMA DATA COLLECTION FORM

**Patient Name**

**Date of Injury**

**A.m. P.m. Time of Injury**

**Place of Injury**

1. Home
2. Highway/Street
3. School
4. Public place (e.g. restaurant)
5. Nursing home/Doctor's office
6. Job site
7. Friend's home
8. Other

**Incident Cause**

1. MVA driver
2. MVA occupant
3. MVA pedestrian
4. Industrial
5. Gunshot wound
6. Shotgun wound
7. Stabbing
8. Other assault
9. Sports
10. Explosion/fire
11. Other

**Surgery (Did the person have surgery/is surgery planned for the near future?)**

1. Yes
2. No

**ETOH/Drug Use (Was the person using alcohol/drugs prior to the injury?)**

1. Yes
2. No
OCCUPATIONAL ROLE

1. wage earner, full time
2. wage earner, part-time
3. student (at least half-time)
4. unemployed
5. retired/disability

OCCUPATIONAL LEVEL (actual type of employment; not place of work)

EDUCATIONAL LEVEL

1. completed post-graduate training
2. attended post-graduate training
3. completed college, trade school or other training requiring completion of high school
4. attended college, trade school or other training requiring completion of high school.
5. completed high school
6. attended high school
7. completed grade school (8 grades)
8. attended grade school
9. no schooling

PSYCHIATRIC ILLNESS (Has the person ever been hospitalized for a psychiatric disorder or "emotional problem")

1. yes
2. no

AGE AT PSYCHIATRIC HOSPITALIZATION

REASON FOR PSYCHIATRIC HOSPITALIZATION/DIAGNOSIS
APPENDIX C

DIAGNOSTIC INTERVIEW SCHEDULE (DIS) QUESTIONS ON ALCOHOL USE.

1. Now I am going to ask you some questions about your use of alcohol. How old were you the first time you ever drank enough to get drunk? (never = 00; baby/infant = 02)
Enter Age:
(Interviewer: If 15 or older, skip to Q 2; if less than 15, ask B; if "DK" ask A.)
a. Do you think it was before or after you were 15?
Before 15...(record 01 above and ask B)......................5
15 or older (record 95 above and skip to Q 2)..............1
Still "DK"...(record 98 above and skip to Q 2).............8
b. Did you get drunk more than once before you were 15?
No.................................................................................1
Yes...............................................................................5

2. Has your family ever objected because you were drinking too much?
No.................................................................................1
Yes, but volunteers they object to moderate drinking by anyone.........2
Yes...............................................................................5*

3. Did you ever think that you were an excessive drinker?
No.................................................................................1
Yes...............................................................................5*

4. Have you ever drunk as much as a fifth of liquor in one day, that would be about 20 drinks or 3 bottles of wine or as much as 3 six-packs of beer in one day?
No.................................................................................1
Only once.......................................................................2
Yes................................................................................5

5. Has there ever been a period of two weeks when every day you were drinking seven or more beers, seven or more drinks or seven or more glasses of wine?
No...........................(skip to Q 6)...............................1
Yes...........................(ask a).................................5
a. How long has it been since you drank that much or do you still?
Still or within last two weeks....{(skip to q 7)}.............1
Within last month...............{(skip tp q 6a)}..........2
Within last six months........{(skip to q 6a)}...........3
Within last year................{(skip to q 6a)}.............4
More than one year ago........{(skip to q 6a)}...........5

6. Has there ever been a couple of months or more when at least one evening a week you drank seven drinks, seven bottles of beer or seven glasses of wine?
No.................................................{(skip to Q 7)}.........1
Yes................................................{(ask a)}..............5

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a. How long has it been since you drank seven or more drinks at least once a week or do you still?
Still or within the last two weeks.................................1
Within the last month.....................................................2
Within the last six months.............................................3
Within the last year.......................................................4
More than one year ago.................................................5
b. If more than one year ago, how old were you then?
Enter Age:

7. Have you ever told a doctor about a problem you had with drinking?
   No.................................................................1
   Yes...............................................................5

8. Have friends, your doctor, your clergyman or any other professional ever said you were drinking too much for your own good?
   No, or only to lose weight.................................1
   Yes...............................................................5*

9. Have you ever wanted to stop drinking but couldn't?
   No.................................................................1
   Yes...............................................................5*

10. Some people promise themselves not to drink before 5 o'clock or never to drink alone in order to control their drinking. Have you ever done anything like that?
    No.................................................................1
    Yes...............................................................5*

11. Did you ever need a drink just after you had gotten up (that is, before breakfast)?
    No.................................................................1
    Yes...............................................................5*

12. Have you ever had job (or school) troubles because of drinking—like missing too much work or drinking on the job (or at school)?
    No.................................................................1
    Yes...............................................................5*

13. Did you ever lose a job (or get kicked out of school) on account of drinking?
    No.................................................................1
    Yes...............................................................5*

14. Have you ever gotten into trouble driving because of drinking—like having an accident or being arrested for drunk driving?
    No.................................................................1
    Yes...............................................................5*

15. Have you ever been arrested or held at the police station because of drinking or for disturbing the peace while drinking?
    No.................................................................1
    Yes...............................................................5*
16. Have you ever gotten into physical fights while drinking?
   No. ........................................................................................................1
   Yes......................................................................................................5*

17. (INTERVIEWER; Have any 5*s been coded in Qs. 2-15?
   No. ........................................................................................................1
   Yes......................................................................................................5
   a. Has only one 5* been coded?
      Only one 5* ..............................................................................1
      More than one 5*....................................................................5
   b. Have either Q 5 or 6 been coded 5*?
      No. ..............................................................................................(skip to Q 25) 1
      Yes. ..........................................................................................(answer a) 5

18. Have you ever gone on binges or benders, where you kept drinking for a couple of days or more without sobering up?
   No. ........................................................................................................1
   Yes....................................................................................................5
   a. Did you neglect some of your usual responsibilities then?
      No. ..................................................................................................1
      Yes................................................................................................5*
   b. How many times have you gone on benders that lasted at least a couple of days?
      Number of benders:
      (INTERVIEWER: If R says 96 or more, record 96 and go to Q 19; if R says "DK" ask c.)
      c. Was it just once or more often than that?
         Just once. ..................................................................................1
         More than once. .....................................................................5
         Still "DK" ...............................................................................8

19. Have you ever had blackouts while drinking, that is, where you drank enough so that you couldn't remember the next day what you had said or done?
   No. ........................................................................................................1
   Yes....................................................................................................5*

20. Have you ever had "the shakes" after stopping or cutting down on drinking (that is, your hands shake so that your coffee cup rattles in the saucer or you had trouble lighting a cigarette)?
   No. ...................................................................................................1
   Yes....................................................................................................5*
   a. Have you ever had fits or seizures after stopping or cutting down on drinking?
      No. ..............................................................................................1
      Yes................................................................................................5*
   b. Have you ever had the "DT's" (hallucinations and fever) when you quit drinking?
      No. ..........................................................................................1
      Yes................................................................................................5*
c. Have you ever seen or heard things that weren't really there after cutting down on drinking?
   No..........................................................(ask b)................................1
   Yes.........................................................(go to Q 22)..........................5*

21. There are several health problems that can result from long stretches of pretty heavy drinking. Did drinking ever cause you to have:
   a. Liver disease or yellow jaundice?
      No..........................................................(ask b)...............................1
      Yes........................................................(go to Q 22)..........................5*
   b. Vomiting blood or other stomach troubles?
      No..........................................................(ask c)...............................1
      Yes........................................................(go to Q 22)..........................5*
   c. Trouble with tingling or numbness in your feet?
      No..........................................................(ask d)...............................1
      Yes.........................................................(go to Q 22)..........................5*
   d. Memory trouble when you hadn't been drinking (not blackouts)?
      No..........................................................(ask e)...............................1
      Yes.........................................................(go to Q 22)..........................5*
   e. Inflammation of your pancreas or pancreatitis?
      No..........................................................(ask f)...............................1
      Yes........................................................(go to Q 22)..........................5*

22. Have you ever continued to drink when you knew you had a serious physical illness that might be made worse by drinking?
   No..........................................................(ask g)...............................1
   Yes.........................................................................................................5*

23. Has there ever been a period in your life when you could not do your ordinary daily work well unless you had something to drink?
   No..........................................................(ask h)...............................1
   Yes.........................................................................................................5

24. I'm going to mention some things you told me about your drinking. I'll be asking how old you were the first time any one of these things happened. You mentioned (list all coded 5* items in Qs. 2-21). What's the earliest age any of these things happened? Enter Age:
   a. When was the last time any of these (STARRED) things happened?
      Within the last two weeks.................................1
      Within the last month...........................................2
      Within the last six months.................................3
      Within the last year..............................................4
      Within the last three years...............................5
      More than three years ago.................................6
   b. If more than three years ago: How old were you the last time? Enter Age:
APPENDIX D
PRELIMINARY INTERVIEW QUESTIONS

Questions about Drinking
1. What good would it do you to continue drinking as you normally do? What advantages or benefits would you get from continuing to drink as you normally do?
2. What disadvantages are there to drinking as you normally do? What problems would continuing to drink cause for you?

Questions about Quitting/Cutting Down
1. What good would it do you to quit or cut down on your drinking? What advantages or benefits would there be to quitting/cutting down on your drinking?
2. What problems would it cause if you quit/cut down on your drinking? What would be difficult about quitting or cutting down on your drinking? How would your life be different if you quit/cut down on your drinking?

Questions about Seeking Help
1. Do you need help with your drinking problems? Do you need help to quit/cut down on your drinking? Do you want help to quit/cut down on your drinking? Who can help you? How can you be helped?
2. Do you think a professional (doctor, counselor) could help you quit/cut down on your drinking? How would a professional help you?

3. What would be the advantages of getting professional help to quit/cut down on your drinking? What do you think you would do in a treatment program?

4. What would be the disadvantages of entering a professional treatment program to quit/cut down on your drinking?
APPENDIX E

BELIEFS QUESTIONNAIRE ITEMS AS GROUPED BY COUNSELORS

Drinking Item Groups

positive physical effects

d10 enjoyable taste
d12 helps me to sleep
d21 increases appetite
d47 relieves aches and pains

negative physical effects

d7 memory problems
d11 not good for health
d13 hangovers
d51 physically sick

positive emotional/psychological effects

d2 keeps feelings in
d8 helps to relax
d20 calms me down
d22 gives a "high"
d27 relieves home pressures
d32 feel better when things don't go right
d33 gets feelings out
d36 relieves work pressures
d38 helps me unwind
d42 forget problems
d45 takes worries away
d52 feel better when sad
d53 lets me think
d56 gets things off my mind

negative emotional/psychological effects

d14 sad or depressed
d26 hard to get along with
d31 keeps me from solving problems
d43 forget things
d49 might hurt oths
d50 feel bad about self
positive social consequences

d4  feel like one of the gang

d9  helps me socialize

d34 helps me make friends

d39 have a good time

d46 do a better job at work

d48 helps me to talk with others

negative social consequences

d23 keeps me from doing useful things

d24 problems on the job

d37 arguments and fights with others

d54 keeps me from going to church

danger to self

d3  dangerous situations

d35  kills you

d41 might hurt self

inconsistently categorized

d6  shortening life

d15  friends avoid me

d16  trouble with the law

d17  helps nerves

d18  accidents

d19 weak in the a.m.

d25  do unusual things

d28  driving trouble

d29  uncoordinated

d40 say unusual things

Quitting Item Groups

positive physical effects

q4  appetite back

q15 no shakes/DT's

q25 feel better physically

q28 lengthen life

positive financial, emotional, social effects

q3  not behind on bills

q7  better on the job

q8 stay at home
q9 get along with others
q10 drive more often
q11 better for family
q12 less police trouble
q16 feel better about self
q19 solve other problems
q21 no fights
q22 save money
q27 better myself

negative emotional effects
q1 smoke more
q5 tense all the time
q12 bored more often
q18 more depressed
q26 more nervous
q29 more stress
q30 more hyperactive

negative social effects
q2 wouldn't see friends
q6 feel self-conscious
q14 hard to have fun with others
q20 nervous around others
q24 less socializing with women

Help-Seeking Item Groups

motivation-scare

t1 scare me into quitting

t22 convince me, bad for health

motivation-information

t6 tell me things about drinking

t12 tell me what happens to people

motivation-persuasion

t7 make me want to quit

t13 different points of view
support

t11 people listen
t15 get me away from alcohol
t23 doctors and counselors help

external control

t3 medicine to help me stop
t9 something for nerves
t21 control me, make me stop

education re drinking/self

t10 show me how to enjoy self without alcohol
t14 give you idea why you drink
t24 teach you to drink moderately

personal help

t16 help me with problems
t25 take time to listen

alcoholic role

t4 make me go to AA
t18 make me say I'm alcoholic

peer support

t2 learn from other patients
t17 people with same problem would help

Inconsistently categorized

t5 lead my life better
t6 tell me things I know
t8 stay in hospital
t19 care about me
t20 teach me to live longer
t26 tell me to stop
t28 cost too much
APPENDIX F
COUNSELOR SORT INSTRUCTIONS

Enclosed are three stacks of cards labeled "drinking," "quitting," and "getting help." Phrases on the drinking cards are statements made by alcoholics about the consequences of their drinking. "Quitting" phrases are the perceived consequences of not drinking or significantly reducing alcohol intake. Phrases in the "seeking help" stack reflect subjects' beliefs about what would happen if they sought professional help for problems with alcohol.

1. Group the phrases in each stack into five categories or less, according to the similarity of the statements. That is, put together the phrases that, in your opinion, refer to the same effect or mean the same thing.

2. After you have categorized each stack in this way, fill out a "cover card" for each category (enclosed). Fill in the label you would choose for each category, e.g. emotional consequences of drinking. Also fill in the numbers of the three phrases in the category that seem to you most representative of the category. Each card has a number on the back for this purpose. Secure each category and its cover card and return them in this envelope to the front desk.
APPENDIX G

FORMAT QUESTIONNAIRE

Instructions: On the following pages are some things I would like your opinion about. Each phrase is followed by a line with five possible opinions. Please make an X in the place that best describes your own opinion about each situation. For example, if you think that improving your work on the job is a very good thing, you would place an X in the space over the words "very good" in the example below.

Improving my work on the job is

<table>
<thead>
<tr>
<th>very bad</th>
<th>bad</th>
<th>neither</th>
<th>good</th>
<th>very good</th>
</tr>
</thead>
</table>

Improving my work on the job is

bad

extremely quite slightly neither slightly quite extremely

If I continue to drink in the future, my own drinking will make me physically sick.

I myself I myself I am I myself I myself

strongly disagree disagree undecided agree strongly agree

If I continue to drink in the future, my own drinking will make me physically sick.

likely unlikely

extremely quite slightly neither slightly quite extremely
APPENDIX H

HOPKINS SYMPTOM CHECKLIST-90

Original Instructions: Below is a list of problems or complaints that people sometimes have. Read each one carefully and check ( ) the descriptor that best describes how much discomfort that problem has caused you in the last two weeks. Do not skip an item.

Instructions for this study: Tell the patient-subject that you are going to read a list of problems or complaints that people sometimes have and that you want to know how much discomfort that problem has caused him during the two weeks prior to his injury. Then read him the five descriptors. If the subject responds to an item with a simple "yes," re-read the descriptors and ask him to choose one.

0 1 2 3 4
Not at all A little Moderately Quite Extremely
(absent) (mild) a bit

1. Headaches
2. Nervousness or shakiness inside
3. Repeated unpleasant thoughts that won't leave your mind
4. Faintness or dizziness
5. Loss of sexual interest or pleasure
6. Feeling critical of others
7. The idea that someone else can control your thoughts
8. Feeling others are to blame for most of your troubles
9. Trouble remembering things
10. Worried about sloppiness or carelessness
11. Feeling easily annoyed or irritated
12. Pains in heart or chest
13. Feeling afraid in open spaces or on the street
14. Feeling low in energy or slowed down
15. Thoughts of ending your life
16. Hearing voices that other people do not hear
17. Trembling
18. Feeling that most people cannot be trusted
19. Poor appetite
20. Crying easily
21. Feeling shy or uneasy with the opposite sex
22. Feeling of being trapped or caught
23. Suddenly scared for no reason
24. Temper outbursts that you could not control
25. Feeling afraid to go out of your house alone
26. Blaming yourself for things
27. Pains in lower back
28. Feeling blocked in getting things done
29. Feeling lonely
30. Feeling blue
31. Worrying too much about things
32. Feeling no interest in things
33. Feeling fearful
34. Your feelings being easily hurt
35. Other people being aware of your private thoughts
36. Feeling others do not understand you or are unsympathetic
37. Feeling that people are unfriendly or dislike you
38. Having to do things very slowly to insure correctness
39. Heart pounding or racing
40. Nausea or upset stomach
41. Feeling inferior to others
42. Soreness of your muscles
43. Feeling that you are watched or talked about by others
44. Trouble falling asleep
45. Having to check and double check what you do
46. Difficulty making decisions
47. Feeling afraid to travel on buses, subways or trains
48. Trouble getting your breath
49. Hot or cold spells
50. Having to avoid certain things, places or activities because they frighten you
51. Your mind going blank
52. Numbness or tingling in parts of your body
53. A lump in your throat
54. Feeling hopeless about the future
55. Trouble concentrating
56. Feeling weak in parts of your body
57. Feeling tense or keyed up
58. Heavy feelings in your arms or legs
59. Thoughts of death or dying
60. Overeating
61. Feeling uneasy when people are watching or talking about you
62. Having thoughts that are not your own
63. Having urges to beat, injure or harm someone
64. Awakening in the early morning
65. Having to repeat the same actions such as touching, counting, washing
66. Sleep that is restless or disturbed
67. Having urges to break or smash things
68. Having ideas or beliefs that others do not share
69. Feeling very self-conscious with others
70. Feeling uneasy in crowds, such as shopping or at a movie
71. Feeling everything is an effort
72. Spells of terror or panic
73. Feeling uncomfortable about eating or drinking in public
74. Getting into frequent arguments
75. Feeling nervous when you are left alone
76. Others not giving you proper credit for your achievements
77. Feeling lonely even when you are with people
78. Feeling so restless you couldn't sit still
79. Feelings of worthlessness
80. The feeling that something bad is going to happen to you
81. Shouting or throwing things
82. Feeling afraid you will faint in public
83. Feeling that people will take advantage of you if you let them
84. Having thoughts about sex that bother you a lot
85. The idea that you should be punished for your sins
86. Thoughts or images of a frightening nature
87. The idea that something serious is wrong with your body
88. Never feeling close to another person
89. Feelings of guilt
90. The idea that something is wrong with your mind
APPENDIX I

ALCOHOL USE INVENTORY (AUI) SCALES

(All questions require a YES/NO response)

Guilt/Worry Scale

1. Does your drinking cause hardships for your family and/or friends?
2. Do you avoid talking to others about your drinking?
3. Are you worried that your drinking is occurring at times other than the times you are accustomed to drinking?
4. Are you afraid your drinking is getting worse?
5. Is the result of your drinking causing you to have noticeable fear?
6. Are you usually depressed after a period of heavy drinking?
7. Do you have vague fears and anxieties after a period of drinking?
8. Do you make excuses or lie to cover up your drinking?
9. Do you have guilt or remorse after a drunk?

Marital Coping Scale

1. Did you have difficulties in your marriage before you started to drink?
2. Have changes in your wife contributed to your drinking heavily?
3. Do you feel your spouse has been unfaithful?
4. Is your spouse too friendly with persons of the opposite sex?
5. Is your spouse excessively jealous?
6. Does your spouse regard you as overly jealous?
7. Do you feel that your marital problems have caused you to drink?

Marital Problems Scale

1. Has your drinking been a factor in marital difficulties?
2. Does your spouse get angry over your drinking?
3. Do you get irritated when your spouse comments on your drinking?
4. Do you argue with or belittle your spouse when you are drinking?
5. Do you sometimes physically abuse your spouse when drinking?
6. Does your spouse nag you about your drinking?
APPENDIX J

FOLLOW-UP INTERVIEW

Subject Name:
Phone Number:
Date of Interview:
Study Condition:

Physical Condition:

1. In comparison to the way I was before my injury, I am:
   1. as good as before
   2. almost as good as before
   3. only about halfway back to normal
   4. no where near back to normal

2. I have recovered from this injury:
   1. much better than I thought I would
   2. better than I thought I would
   3. about as I thought I would
   4. worse than I thought I would
   5. much worse than I thought I would

Study Intervention (Conditions one, two and four)
While you were in the hospital, you were interviewed about your
drinking habits as part of a study on accident victims. A research
assistant talked with you.

3. Did this research assistant recommend that you do something about
   your drinking?
   1. yes  2. no
   IF YES, what did she recommend?

   (If the subject doesn't offer the information, ask...)

4. Did she recommend that you call the MCV Substance Abuse Unit for
   professional help?
   1. yes  2. no

5. IF YES, Did you make this call?
   1. yes  2. no
   IF YES, did you make the call during your hospitalization or
   after you returned home?
Study Intervention (Condition Three)
While you were in the hospital, you were interviewed about your drinking habits as part of a study. A doctor was asked to talk with you about your drinking.

3. Did a doctor come to talk with you about your drinking?
   1. yes  2. no

4. What did the doctor recommend?

5. Did you do what the doctor recommended?
   1. yes  2. no

Post-Discharge Drinking and Help-Seeking
Since you have been discharged from the hospital for your injury...

6. Have you been drinking...
   1. more  2. about the same  3. less
   compared with how much you were drinking before your injury?

7. Have you done anything to cut down on the amount of your drinking?
   1. yes  2. no

8. IF YES, what did you do?

9. Have you contacted any person or group to help you cut down on your drinking?
   1. yes  2. no

10. IF YES, who/what group?
    doctor
    counselor/psychologist
    minister
    employer/supervisor
    AA
    other

11. IF YES, did you contact the person or group on your own initiative or did someone else make the arrangements for you?
    1. on own initiative  2. someone else arranged it
APPENDIX K

SCRIPT OF VIDEOTAPE "YOU HAVE A CHANCE"

My name's Diane and I'm an alcoholic and an addict. I'm 37 and a
single parent of a 10 year old.

My name's Steve, I'm a drug addict, alcoholic and I'm 20 years old.

My name's Bill. I'm 50 years old, an alcoholic.

My name's Ricardo. I'm an alcoholic and an addict, 32 years old.

My name's Tommy, I'm an alcoholic and 50 years old. I'm currently
going through an alcoholic treatment program.

Hello, I'm Doctor Ronald Forbes. I'm Associate Director of the
Substance Abuse Medicine Unit at the Medical College of Virginia
Hospitals. The people you have just met are people who have problems
with alcohol use. They have agreed to talk with me about these
problems and what they are doing to solve them. Ours is a drinking
society. Many people find that alcohol helps them to socialize
better, helps them to feel better, helps them to take the stress out
of everyday life.

Diane: I remember, um, being given rye whiskey and I was real little,
and the stuff tasted awful, but there was something about it that was,
you know it was warm and I was one of the big people.

Ricardo: I always liked the way it would make me feel. I didn't like
the way it always tasted, but I liked the way it made me feel. It
gave me courage.

Steve: Coming through high school I started using drugs when I was 12
or 13 years old, 13 I guess, 14 got into it real good. Uh, it started
going out with my brother. I thought, you know, that's the way to be
accepted; you know, that's the cool thing to do. You know, I wanted
to be accepted into the so-called, the "in" group.

Dr. Forbes: for some people alcohol use becomes more than an
occasional pleasure. It begins to destroy or replace important
relationships, destroy physical and emotional health and job
productivity. Many people don't realize that alcohol is the cause of
the problems that are interfering with their life.

Ricardo: I was kicked out of high school at the age of 16, put in the
military service. I talked my way in and they discharged me for being
too young but more likely I talked my way out because I couldn't drink
and use drugs the way I wanted to.
Bill: I guess it's five years ago my drinking got worse. I kept going to the hospital, getting sick on the stomach, I had pancreatitis once, went to the hospital, stayed 31 days, I think, over at Community. And he never told me anything about it comes from drinking too much. He just said I had pancreatitis. I came out of the hospital, stayed off it for awhile, told me "don't drink." I came out and stayed off for about 3, 4 months. And I'd go around, I'd take one drink. That didn't bother me. I drank a little more, added on up. Then I was going back to drinking a half a pint of drink. Eventually it kept going up and I'd go back to the hospital again.

Steve: Other things just faded out of my life all day long. Sports, they just kinda, I lost interest in that, stopped caring about people and my family. Drugs just took over somewhere along the line and it got worse and worse and worse. Accidents started coming around. And, uh, I couldn't never figure out how come all these things, things were happening to me. I use to think it's because I was staying out too late.

Dr. Forbes: Others realize that alcohol use Is causing serious problems and make repeated attempts to control their alcohol use.

Diane: I remember thinking to myself, 'You know, if you don't stop this, you're going to be an alcoholic.' And I did try and stop and I put a lot of energy into maintaining this, this new lifestyle. Um, I didn't drink, you know, like I didn't go to a job drunk; I didn't drink frequently. I did not drink great quantities when I did drink. So for years, even after I knew about alcoholism and I knew, um, how it affected family members, I still couldn't see that I was alcoholic because I only drank once in a while.

Dr. Forbes: Asking for help with a personal problem like alcohol abuse is not an easy matter. Sometimes a concerned family member or friend must pressure someone into getting help.

Steve: And, finally, my mother got me to go see a counselor about drug use and whatnot and I fought that but, finally, I went for one time because I figured she'd get off my back if I went, you know. Six, seven, five people were there telling me that I got a problem and they got a list saying, 'Look, these are the things that you're doing, going down spending 20, 30 dollars a night in a bar and buying everybody a beer in the bar and people you don't even know. And you know,' my brother's telling me, 'you buying beers for all my friends and you don't even come to see me.'

Diane: The way I got into recovery was as a concerned person, um, basically concerned about somebody else who was an alcoholic and drug abuser and initially I didn't even think that that had anything to do with me. Some friends of mine, my life was falling apart at a rapid
clip, and some friends of mine kept saying, 'Well, we think you'd really benefit from this, this program, this concerned-person program.'

Dr. Forbes: At other times the person must experience a crisis to realize that things are getting out of hand.

Bill: I almost died. I had four seizures. And I stayed out, I think, four days. When I woke, my wife was rubbing my head. I didn't know where I was; they had me strapped down to the bed. I didn't know whether I was in jail or in prison or where. And I was still looking up, still acting like a fool. I got myself together the next day and, uh, the doctor came—I forget his name—the doctor came and told me, saying, 'Moon, you know you're lucky you're living. Anybody that had four seizures in the time that you had 'em, usually end up with a stroke, brain damage or either dead.' So I paid attention to him, you know.

Ricardo: And I went to treatment because I didn't have any other place to go. I wasn't working, my money was gone, you know. I was fighting with my little boy's mother, my life was definitely going downhill. And I was tired. I was tired of doing the same old stupid things, so I went to treatment.

Dr. Forbes: Professional treatment is an important step in getting help for problems around drinking. Most often, people aren't sure what to expect.

Steve: I'd gotten there and I told people, 'Don't even show me the bathroom. I ain't gonna be here but three days and I gotta be at work Friday evening.'

Tommy: So I come here, MCV here, where I'm in treatment now. And I was scared, because I was coming into the unknown and I didn't know what was going to happen to me. I thought they'd lock me in a room, or somebody'd walk around with you and you couldn't move around by yourself. Just scared, more scared than I've ever been in my life, I believe. But, I was, I was nervous, I'd just come down off a drunk, I hadn't had a drink, I'd say, in 24 hours. Uh, I wanted to leave, I didn't want to leave, and the nurse started talking to me and telling me about the program and what I'd accomplish if I set my mind to it, and how to get my life on the right road. Nobody ever talked to me like that before. So I decided, 'Well, I've got to see what can be done.'

Dr. Forbes: Sometimes encouragement comes from other patients.
Steve: I believe God put a roommate in my life 'cause if there had been someone else I don't believe I would have stayed there. Because this dude was about six feet two, he had a beard down to his belly and he was a biker. And he said, 'Look man, you know, you got a long life ahead of you. What's 28 days out of your life? If you can't spend 28 days in here, listen and see what's going on, and then if you don't like it, you can go out there and do the same thing. But give it a chance, you know. Give it a chance. My way hasn't worked. My way has not worked for a long time.'

Tommy: You know, it's great what I learned here. You know, it's great to have somebody walk down the corridor in the hospital and one of the nurses or one of the patients look at you and walk with you and put their arm on your shoulder and say 'How you feeling today, man?' and mean it from their heart. You know, 'How you feeling? Is everything all right?'

Dr. Forbes: Doctors, nurses and counselors provide information about alcohol and the disease of alcoholism and, when necessary, medication and other treatments are provided.

Tommy: I like what I saw. I sat back and listened and had an open mind and these classes we take, that we go to, they have counselors there and they're there to help you, say the things of what alcohol can do to you and how you can live without it and, uh, that stuff is a killer. I mean, I never knew that alcohol could, uh, mess up your liver or your pancreas or things like this. And this is the thing they tell you about, uh, and destroy you. And I like what I found.

Dr. Forbes: You've said you learned a lot in the last two weeks about what alcohol can do to your body. You didn't know that before?

Tommy: Right, yea. Like I said, nobody could turn me against my bottle. Cause that was my friend. But my friend almost killed me. And, being in treatment I found out a lot of things, you know, that, uh, that's really helped.

Diane: It wasn't until I started getting some, just straight information about the illness, that I was, that I even had a chance to become willing to listen to the rest of it. When I got the first message was 'We care, there's help, you're not alone and we're not going to hurt you.'

Dr. Forbes: Do counselors tell you what to do?

Diane: No, but they can help me see myself.
Dr. Forbes: Patients are encouraged to recognize personal problems related to their alcoholism and are given help in changing these patterns.

Tommy: I'm starting to, you know, like me a little bit. You know, I never cared about these things before. But I found that there is people who care. And I've also found that there's somebody to talk to. You don't have to pick up that bottle because your problem is going to be there the next day anyway. We had a discussion yesterday afternoon, and uh, I'm still buckled up inside of me, you know, I got that real hurting in my gut. Uh, I've got to let some of that junk out. Because I've always been the type, all my life, where I've let these things bottle up in me, stay there. But they teach you here to speak up, right out, and it's hard to do that. For the last two weeks I think I've talked more than I have in the last 10 years, but it feels good because I can talk about me.

Dr. Forbes: But each patient contributes the most important thing to their recovery. That is the willingness to be honest with themselves and to be open to new ways of thinking and behaving.

Ricardo: I used to tell the counselors, 'You just be concerned that I'm not drinking and drugging and let me handle my life.' They let me go. In two days I started using drugs and alcohol and I found out I didn't have to drink and drug from the agency. I was definitely, I was happy, I had money. In two months time I hit bottom again. The same old things happening, not working, beating a woman, no money, you know, feeling bad about Ricardo, the whole world owed me something and I want to die. I went to treatment again, scared to death again. I didn't have any other place to go. But for 28 days I found out one thing—that I was an alcoholic and an addict and that if I went to a twelve-step recovery program I might be able to have a new way of living.

Dr. Forbes: Because recovery is an ongoing process, most patients will need some kind of ongoing support from professionals or from groups of people who have similar problems.

Tommy: And, uh, I believe I'm gonna be discharged Monday and I'm going to try to pick up my life, and I'm going into another program when I leave the hospital, for eight weeks, which is an outpatient program, where you go during the day, go home at night.

Ricardo: And I was afraid of going from the old life of drinking and drugs into a new life, but I found out that I didn't have anything to be fearful of. Once I came into the twelve-step program and began to get around other people who had the same problems I had, I wasn't alone.
Diane: It's hard to get sober off the street. It's, it can be done, but it's hard. And I need that support today, which is why I'm, I'm basically, I'm in treatment as an outpatient, as a recovering alcoholic, because things are getting good again, and that's what happens in recovery, things get great.

Dr. Forbes: But recovering from alcohol-related problems requires more than professional treatment or simply not drinking. Often it requires the individual to learn to live life without alcohol and to solve old problems in new ways.

Diane: Like Chico said, you stop using and that doesn't do it. There's more, you know, there's more to sobriety than just not drinking. There's gotta be growth and change. Otherwise, I'm gonna relapse. I can't be relapsing and recovering at the same time. It's an ongoing thing. Treatment's just the start.

Ricardo: I have to learn to do things to make me happy. What keeps me happy...

Dr. Forbes: It use to be you just drank or you just drugged...

Ricardo: ...but at the end it didn't make me happy. I now have to learn what keeps me happy is living right and being truthful to myself, learning to share with others, learning to say I'm not the most important person.

Dr. Forbes: Some people find that they have to make up for lost time by working on important relationships or doing some growing up that they hadn't done while they were drinking.

Ricardo: It's more, you know. If I'm 32 years old and I try a lot of things and was involved in a lot of different situations and everything was destroyed and lost, I have to go back and make amends. I have to go back ad re-clean that mess up in order to go on with the business of living.

Diane: I'm 37; I feel like I'm 20. And sometimes that's real uncomfortable because its real and that's something, like that's my handicap, if you will, or my impairment. It will not go away. You know, I may catch up someday and really feel inside like my chronological age, but that's the nature of my illness. And that's where just getting rid of the alcohol and getting rid of the drugs isn't enough. I was miserable when I was just not drinking, but there was nothing else going on.
Dr. Forbes: People who gain control over their problems with alcohol use feel better physically, are more able to manage their lives and feel better about themselves.

Steve: It's getting a whole lot better than it use to be. I don't have to worry about the cops no more. I don't have to worry about really just hurting the people, you know, and not knowing. Now, when I do something wrong to somebody, I know it. I, I know that, you know, hey, that's not right. Before I didn't know, and didn't care, it didn't matter.

Bill: I was just glad when I started thinking about what other people was seeing in me. Then I could, people see me now say, 'Damn, I'm glad you've changed. Just keep like you're going and you'll make it.

Diane: It gets easier, 'cause it's easier to stay away from the alcohol and the drugs but it gets harder because now I've gotta deal with the real stuff. I'm happy to do it—it's not, you know, not just a drag.

Tommy: I'd say the biggest change is, uh, I have to think a little bit, and say, in the very short time I've been in treatment, I'm starting to get to know me a little bit and I'm starting, you know, to like what I'm trying to do with myself in a very short time, you know.

Ricardo: Treatment's the first part. Then I have to look and say, well, if I want to stop drinking and living that old way, I have to do these certain things. And I'm learning to do 'em and I've begun to grow and I start seeing the benefits of it and I start seeing the joy of it, I say 'Hey, this is better than when I was drinking. I have a chance.'
APPENDIX L

VIDEOTAPING CONSENT FORM

Virginia Commonwealth University
Medical College of Virginia
Hospital Division

DATE: January 26, 1985

I hereby give my permission for the videotaping of ______________ by the Division of Consultation/Liaison Psychiatry and the Division of Substance Abuse Medicine.

I release the Medical College of Virginia from any and all responsibility for incidents arising from the use or publication of the videotape.

SIGNATURE

WITNESS
## APPENDIX M
### RESEARCH PROTOCOL

<table>
<thead>
<tr>
<th>Day of patient admission to the hospital</th>
<th>Patient name, age, injury and service location identified; patient's medical status is monitored daily.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial interview</td>
<td>Study explained and consent form signed; demographic, injury and trauma event data collected; DIS questions about alcohol use administered; participation of patients with no diagnosis of alcohol abuse/dependence completed.</td>
</tr>
<tr>
<td>Pre-intervention Measures</td>
<td>Diagnostic feedback given; Hopkins Symptom Checklist-90, Alcohol Use Inventory and Measures of Beliefs, Outcome Evaluations, Attitudes and Intentions administered.</td>
</tr>
<tr>
<td>Intervention</td>
<td>Persuasive communications administered: Condition One: Videotape A Condition Two: Videotape B Condition Three: Physician Consultation Condition Four: No Intervention</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>Beliefs, Attitudes, Intentions repeated; diagnostic feedback repeated; professional card of Substance Abuse Medicine Unit admissions nurse given to all subjects.</td>
</tr>
<tr>
<td>Dependent Measures</td>
<td>Measures of help-seeking documented: phone call to Substance Abuse Medicine Unit; admission to treatment program</td>
</tr>
<tr>
<td>Follow-up Interview</td>
<td>Measure of self-reported drinking</td>
</tr>
</tbody>
</table>
APPENDIX N
BELIEFS QUESTIONNAIRE

Instructions: Tell the patient-subject that you are going to read a list of statements about the possible consequences of his continued drinking. Hand him the response card and tell him that you will want to know which of the five possible responses is closest to his own belief about his own drinking. Tell him that you would like him to indicate his response by giving you the number printed above the words. As you read the statements, repeat the preface phrase "If you continue to drink..." before every third or fourth item.

strongly disagree disagree undecided agree strongly agree

IF I CONTINUE TO DRINK...
1. my drinking will cost too much.
2. my drinking will be bad for my family.
3. my drinking will help me to relax.
4. my drinking will help me to socialize.
5. it will ruin my health.
6. my drinking will get me into trouble with the police.
7. my drinking will lead to accidents.
8. my drinking will lead to accidents.
9. my drinking will help me to relax.
10. my drinking will help me to socialize.

IF I STOP DRINKING...
1. I won't get behind on my bills.
2. I'll be tense all the time.
3. things will be better for my family.
4. I'll be bored more often.
5. I'll have less trouble with the police.
6. it will be harder for me to have fun with other people.
7. I would feel better about myself.
8. it would help me to solve some other problems.
9. I'd feel better physically.

IF I ASK FOR HELP WITH MY DRINKING PROBLEM...
1. people will help me to lead a better life.
2. people would tell me things about drinking that I don't know.
3. people would make me stay in the hospital.
4. people would listen to me.
5. it would get me away from alcohol.
6. people would help me with my problems.
7. I'd have to say I'm an alcoholic.
8. people would try to control me and make me stop drinking.
APPENDIX 0

OUTCOME EVALUATION QUESTIONNAIRE

Instructions: Tell the subject you are going to read a list of things people might do or events that sometimes happen to people and that, after you read each item, you want them to tell you whether this would be good or bad if they did it or if it happened to them.

very bad bad neither good very good

1. having accidents or getting hurt.
2. people listening to me.
3. feeling bored.
4. feeling less pressure at home or work.
5. having money on hand.
6. getting away from alcohol.
7. things going well for my family.
8. people trying to control me.
9. solving my problems.
10. saying I'm an alcoholic.
11. having trouble with the police.
12. doctors, counselors or other professionals caring about me.
13. staying in a hospital.
14. getting help in leading my life better.
15. feeling good physically.
16. learning about alcohol and drinking.
17. getting worries off my mind.
18. having a good time with other people.
19. feeling good about myself.
20. feeling nervous and tense.
LIST OF REFERENCES


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