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An investigation into the modification of locus of control in outpatient alcoholics and its relationship to preference for alcoholics anonymous

Betsy H. -1944 Hettinger
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AN INVESTIGATION INTO THE MODIFICATION OF
LOCUS OF CONTROL IN OUTPATIENT ALCOHOLICS
AND ITS RELATIONSHIP TO PREFERENCE
FOR ALCOHOLICS ANONYMOUS

A Dissertation
Presented to
the Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Bettsy H. Hettinger
June, 1976

APPROVAL SHEET

We, the undersigned do certify that we have read this dissertation and that in our individual opinions it is acceptable in both scope and quality as a dissertation for the degree of Doctor of Education.

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"Bounded by themselves and unregardful
In what state God's other works may be,
In their own tasks all their powers pouring,
These attain the mighty life you see.

O air-born voice! long since, severely clear,
A cry like thine in mine own heart I hear:
Resolve to be thyself; and know that he
Who finds himself loses his misery!"

"Self-Dependence"
Matthew Arnold

And that inverted Bowl they call the Sky,
Whereunder crawling cooped we live and die,
Lift not your hands to It for help - for It
As impotently moves as you or I."

"YESTERDAY this Day's madness did prepare;
TOMORROW'S Silence, Triumph, or Despair.
Drink! for you know not whence you came,
nor why;
Drink, for you know not why you go, nor where."

"The Rubaiyat of Omar Khayyam"
Edward Fitzgerald

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Chapter 1

Introduction

Since Biblical times man has been beset with problems associated with the beverage alcohol. Over the years alcoholism, no matter how it is defined nor its prevalence assessed, has proven remarkably resistant to all attempts at understanding and resolving it. Recently, Assistant Secretary of Health Charles C. Edwards stated:

Alcoholism and alcohol abuse is one of our most serious problems Alcoholism is an illness that plagues some 9 million Americans directly, and many times that number when one considers the effects on families and others. (Chafetz, 1974, p. ix)

Evidence of the extent and pervasiveness of the alcohol problem is not difficult to discover. The economic cost associated with the misuse of alcohol is estimated at \$25 billion a year (Chafetz, 1974). Iowa Senator Harold Hughes (1973) cautions that most estimates of the extent of alcoholism and its economic costs are inclined to err on the conservative side. Recognizing the enormity of the alcohol problem, in 1972 Congress appropriated \$70 million to implement the grant provision of the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act.

It was through this Act that the Virginia Comprehensive

Community Alcoholism Plan came into being. As might be expected, the problems associated with alcohol in Virginia are typical of those in the rest of the United States. In 1974 it was estimated that there were about 122,000 alcoholics in Virginia (Dundon, 1974). Furthermore, it is assumed that each alcoholic affects at least four or five other individuals. Consistent with national figures, alcohol is involved in half of the 1,200 traffic fatalities in Virginia each year (Virginia Alcohol Safety Program, 1974). On a national level, Bacon (in Malikin, 1973) estimates that half of the arrests for violations of the law are related to alcohol. In Virginia in 1970, arrests for Driving While Intoxicated (DWI) were 8,251 and drunk and disorderly arrests were 42,279. Alcohol is also implicated in approximately 40 percent of deaths by suicide and homicide (Dundon, 1975).

There can be little question of the fact that alcohol abuse has been and currently is a gargantuan problem. Unfortunately, little if any progress appears to have been made through decades of attempts to assess and treat alcoholism. Blane (1968) laments:

There is no evidence that the percentage of alcoholism in the population has decreased, despite the fact that the absolute number of alcoholics being treated is now greater than ever before. Treatment endeavors have made not the slightest dent in the alcohol problem as a social entity, although many individual successes occur. (p. 145)

Concurring in this pessimism is Franks (1970) as he presents two studies twenty years apart (1942, 1962) in which the results indicate minimal effects of treatment. Hill and Blane (1971) comment that they are unable to form a conclusive opinion as to the value of psychotherapeutic methods in the treatment of alcoholics. Franks concludes:

It may seem astounding that, despite many decades of research endeavor and much clinical ingenuity, matters of etiology and effective methods of coping with the problems presented remain largely in the realm of conjecture. The indications are that there is no simple etiology and no single remedy. . . for alcoholism. (1970, p. 448)

Contemporary Perspective of Treatment of Alcoholism

Conventional wisdom has held that there is no truly effective therapy for alcoholism and that differences among treatment methods are inconsequential (Chafetz, 1974). This view gains support from Baekeland, et al. (1974) as they conclude, "The nature of the patient is much more important than that of the treatment used on him" (p. 271). Various studies (Baekeland, Lundwall, & Shanahan, 1973; Gerard & Saenger, 1966; Goldfried, 1969; Mayer & Myerson, 1970; Mindlin, 1959; Platz, et al., 1970) have shown that such factors as socio-economic status (SES), social stability, motivation for treatment, and length of abstinence in the year before treatment

favor good outcome in outpatient treatment of alcoholism.

Parallel with this interest in the demographic and social characteristics of the alcoholic patient has been a strong concern, even a search, for the so-called "alcoholic personality". "Early work in the area of personality description of alcoholics was concerned with the problem of differentiating alcoholics from non-alcoholics, reflecting an assumption that the alcoholic population was relatively homogeneous in character" (Allen & Dootjes, 1968, p. 707). Numerous studies (Jones, 1968; Lisansky-Gomberg, 1968; Rosen, 1966; Walton, 1968) show little support for the idea that a unique or special alcoholic personality exists, that is, one which would clearly differentiate alcoholics from other kinds of socially maladaptive individuals. Hoffman and Nelson (1971), in fact, state that their results demonstrate that there are fewer differences between alcoholics and non-alcoholics than between alcoholics of different ages and intelligence. Thus, the conclusion that there is no single alcoholic personality has led to the reasoning that a greater variation might be expected within an alcoholic population than between it and the normal population.

Despite the claim that differences between treatments are of little consequence, others (Baekeland et al., 1975; Chafetz, 1974) have pointed out that the low rate of success

reported in evaluations of various treatments may be due to serious methodological flaws which distort the record of actual effectiveness of treatment. One of the most common is the failure to discriminate between the rehabilitation potential of various patients. As previously mentioned, SES is a very important characteristic of the patient. Another more complex criticism of the general designs of alcoholic treatment outcome studies comes from Baekeland et al. (1975). They argue that factorial designs investigating therapist/treatment interaction, therapist/patient interaction, or therapist/patient/treatment interaction paradigms must be planned. Only when the interactions between these variables are estimated can the treatment effects be carefully and accurately calculated.

A major problem with this idea of studying interactions between the therapist and patient and/or treatment is the paucity of research on the therapist characteristics in alcohol treatment. Luborsky et al. (1971) have summarized the extensive evidence on effect of therapists in the psychotherapy of nonalcoholics, and there is no reason to believe the therapist would not be an important factor in alcoholism counseling. Covner (1969) looks at the screening of volunteer alcoholism counselors and identifies certain characteristics which seem to mark the more effective counselors, including sensitivity to others, self-control,

and spontaneity and social presence in interpersonal dealings. Cooke et al. (1975) notes that trainees in an alcoholism counselor training program tend to be competitive, aggressive, and anxious about themselves and motivated for self-change. Hoffman and Miner (1973) in investigating the personality characteristics of alcoholics who become counselors state that these counselors are dependent and conventional individuals who expressed a high need to analyze their own and other people's motivations.

Although a myriad of treatment modalities have been tried with alcoholics, most can only claim inconclusive and inconsistent results at best. For perhaps varying reasons, forms of chemotherapy (including disulfiram, LSD, librium, and metronidazole), behavior modification, Transactional Analysis, and family therapy have all been in vogue at one time or another but have not been able to produce the uniform results their proponents claim.

Standing apart from the faddishness and squabbles over success rates of these modalities of treatment is Alcoholics Anonymous (A.A.). A.A. has been hailed by many (Baekeland et al., 1975; Blum & Blum, 1967; Kahn, 1970; Chafetz, 1974; Clinebell, 1968; Leach, 1973; Plaut, 1967) as the most effective modality in helping alcoholic people achieve sobriety. Fox, a noted authority in the field of alcoholism, seems to speak for all when she comments, "Probably the single most

effective method of treatment we have is that of Alcoholics Anonymous" (cf. Blum & Blum, 1967, p. 161).

To many therapists in the alcoholism field, A.A. is considered an adjunct treatment as opposed to the primary treatment, but, nevertheless, its importance and contributions are never maligned by practitioners in the field. In fact, Baekeland et al. (1975) point out that even in terms of primary treatment, A.A. reaches almost twice as many alcoholics as does the medical profession.

Despite the praise heaped upon A.A., surprisingly little is known about it in a systematic way, as it has consistently avoided scientific study. The question, who is likely to benefit from A.A. and who is not, has barely been touched in the literature. Canter (1966) finds that the more authoritarian patients prefer A.A. Allen and Dootjes (1968) confirm this and add that the patient favorable to A.A. tends to score higher on the Adjective Check List on Lability, indicating an inability to tolerate the consistent and routine. Mindlin (1964) also finds patients who attend A.A. are more at ease socially. Baekeland et al. (1975) summarize the characteristics of a new A.A. affiliate as:

A single, middle-class individual who has lost his drinking friends and has a supportive wife or girlfriend. He is not highly symptomatic, and is a socially dependent, guilt-prone person with obsessive-

compulsive and authoritarian personality features,
prone to use rationalization and reaction formation.
(p. 280)

Theoretical Framework

The theoretical framework for this study is found in the work of Julius Rotter's social learning theory (1954) which discusses the nature and effects of reinforcement. In this theory, a reinforcement acts to strengthen an expectancy that a particular behavior or occurrence will be followed by that same reinforcement in the future. Once an expectancy for such a behavior reinforcement sequence is built up, the failure of the reinforcement to occur will reduce or extinguish the expectancy.

It follows as a general hypothesis that when the reinforcement is seen as not contingent upon the subject's own behavior that its occurrence will not increase an expectancy as much as when it is seen as contingent. Conversely, its nonoccurrence will not reduce an expectancy so much as when it is seen as contingent. It seems likely that, depending upon the individual's history of reinforcement, individuals would differ in the degree to which they attributed reinforcements to their own action. (Rotter, 1966, p. 261)

Although he originated his social learning theory in

1954 as a theory of personality, Rotter later (1966) began to elaborate in detail on his idea of generalized expectancies of internal versus external control of reinforcement. As implied above, he was concerned with the degree to which an individual believes that reinforcements are contingent upon his behavior. Joe (1971) amplifies this by explaining:

Internal control refers to individuals who believe that reinforcements are contingent upon their own behavior, capacities, or attributes. External control refers to individuals who believe that reinforcements are not under their personal control but rather are under the control of powerful others; luck, chance, fate, etc. Thus, depending on this past reinforcement experience, a person will have developed a consistent attitude tending toward either an internal or external locus as the source of reinforcement.

(p. 619)

As part of his formulation of a theory of generalized expectancies, Rotter designed an instrument to measure internal versus external control of reinforcement or locus of control, as it came to be called. The Internal-External Control Scale (I-E Scale) provides a distribution along a dimension specifying the degree to which an individual believes he possesses or lacks the power necessary to control

what happens to himself. Lefcourt (1966b) describes the polarities of the distribution by saying:

Internal control refers to the perception of positive and/or negative events as being a consequence of one's own actions and thereby under personal control; external control refers to the perception of positive and/or negative events as being unrelated to one's own behaviors in certain situations and thereby beyond personal control. (p. 186)

Subsequent to the development of the I-E Control Scale, numerous attempts have been made to measure the internal-external control dimension as a personality variable (Feather, 1967; Hersch & Scheibe, 1967; Tolor & Reznikoff, 1967). Joe (1971) summarizes these studies with the remarks that:

These findings tend to form an orderly cluster which is logically and theoretically consistent with the construct of internal-external control. The findings depict externals, in contrast to internals, as being relatively anxious, aggressive, dogmatic, and less trustful and more suspicious of others, lacking in self-confidence and insight, having low needs for social approval, and having a greater tendency to use sensitivity modes of defense. (p. 622)

Statement of the Problem

Contrary to what most clinicians in the alcoholism field would tend to believe, a review of the literature

surrounding locus of control and alcoholism demonstrates that most of the studies on I-E done with alcoholics have found them as a group to be internal in control. In one of the first studies carried out, Gozali and Sloan (1971) speculate that perhaps it is the alcoholic's excessive belief in his control over the outcome of events that may be partially responsible for his behavior so that feedback from its consequences does not modify it. Baekeland et al. (1974) bring out the interesting point that it is just this aspect of the alcoholic's behavior that A.A. tries to change. On the other hand, several major studies of alcoholics and the I-E have come up with the opposite conclusion, that alcoholics are external in control. Butts and Chotlos (1973), for example, found that when an alcoholic group was compared with a more appropriate group (in terms of age and social class) than Rotter's original college age comparative group, the alcoholics were significantly more external than the non-alcoholics.

In view of the inconsistencies in the literature on locus of control and alcoholics, the paucity of research on A.A. members and alcoholism counselors, and the inconclusive evidence on the susceptibility of I-E to change over a moderate period of time, the following questions need to be investigated:

1. What are the correlates of I-E in outpatient alcoholics?

2. What are the correlates of I-E in alcoholism counselors?

3. What are the correlates of I-E in A.A. members?

4. Is there a significant relationship between locus of control orientation and treatment outcome as measured by frequency of attendance at A.A. meetings?

5. Is it possible to change an alcoholic's locus of control orientation through an alcoholism treatment program?

Hypotheses

For the purpose of the research, the following hypotheses were made:

1. Alcoholics will be significantly more external in locus of control compared with Butts and Chotlos' (1973) non-alcoholic group.

2. Alcoholism counselors will be significantly more internal in locus of control than the alcoholics.

3. A.A. members will be significantly more external than Butts and Chotlos' non-alcoholic group but significantly more internal than alcoholics coming in for treatment.

4. External alcoholics exposed to internal counselors will significantly lower their I-E scores toward the internal, compared to the external alcoholics exposed to external counselors. Further, internal alcoholics exposed to internal counselors will not significantly change their I-E scores when compared to internal alcoholics exposed to external

counselors. Finally, the internal and external alcoholics in the control group will have significantly different I-E scores compared to the experimental group.

5. Those alcoholics who do lower their I-E scores will be those who continue treatment by attending A.A. meetings.

Description of the Instrument

The Internal-External (I-E) Control Scale is a 29-item forced-choice test, including 6 filler items intended to make somewhat more ambiguous the purpose of the test (Rotter, 1966). Developed by Rotter, Liverant, and Crowne in 1961, it has subsequently become known as Rotter's I-E Scale. Basically, the scale is designed to distribute individuals along a continuum of generalized expectancies. On the internal or lower end of the distribution (scores may range from 0 to 23) are the individuals who view events as products of their own actions, capacities, or traits. On the external or upper end of the distribution are the individuals who view the locus of causality of events as outside of their control. The I-E Scale, along with the instructions, is presented in Appendix A.

The reliability measures reported on the I-E Scale have been consistent. Rotter (1966) reports for varying samples and for intervening time periods varying from one to two months test-retest reliability coefficients for a two month period ranging between .43 and .84. Harrow and Ferrante (1969) found a test-retest reliability of .75

over a six week period with psychiatric patients. Internal consistency estimates of reliability range from .65 to .79, with nearly all correlations in the .70's (Rotter, 1966).

Definitions of Terms

Alcoholic

An alcoholic is defined as any individual who has been identified as an alcoholic by the Division of Alcoholic Services (DAS).

Alcoholism Counselor

An alcoholism counselor is defined as any individual employed by the DAS on a full or part time basis for the purpose of counseling alcoholics.

A.A. Member

An A.A. member is defined as any individual who has attended A.A. meetings on a regular basis for at least one year and has remained abstinent for one year.

External Alcoholic

An external alcoholic is defined as one who falls in the upper half of a median split of the distribution of I-E scores of the entire sample of the experimental alcoholics.

Internal Alcoholic

An internal alcoholic is defined as one who falls in the lower half of a median split of the distribution of I-E scores of the entire sample of the experimental alcoholics.

External Counselor

An external counselor is defined as one who falls in the upper half of a median split in a distribution of I-E scores of the counselor sample.

Internal Counselor

An internal counselor is defined as one who falls in the lower half of a median split in a distribution of I-E scores of the counselor sample.

Limitations of the Investigation

Because of the nature of this study (i.e. a field experiment) perhaps all variables will not be adequately controlled. Therefore, the following limitations have been acknowledged:

1. The control group is receiving some attention which critics might claim is a form of treatment. But as Kerlinger (1973) declared, it is virtually impossible to find a pure "no treatment" control group in any study. In the area of alcohol studies, once an alcoholic has been so diagnosed, it is rare to find a treatment center relegating him to waiting list status.

2. The counselors used in the study vary greatly in training and experience in counseling. Since the study uses an intact staff and counselors were selected for inclusion on the basis of a personality dimension, this disparity in competence seems natural.

Plan of Presentation

The presentation of the investigation has been organized into five sequential parts which have been designated as chapters. The present chapter has served to identify the problem and provide an overview of the treatment aspect of alcoholism. It has also served to establish the theoretical framework for the study, to define terms, to discuss the instrument used, and the limitations of the study.

Chapter 2 presents a review of the relevant research. A majority of this research is within the period of the last ten years. Chapter 3 details the research methodology employed. Chapter 4 provides for examination of the collected data and an analysis of the data in terms appropriate for the study. Chapter 5 contains a summary of the study and contains the conclusions and recommendations drawn from the research.

Chapter 2

Review of the Literature

This chapter contains a review of the literature pertaining to the personality dimension of locus of control and the alcoholic. In the interest of clarity and convenience, the chapter is divided into the following sections:

1. The construct of internal-external control as a personality variable;
2. The construct of internal-external control in relationship to the alcoholic;
3. The susceptibility of the internal-external construct to modification;
4. Personality characteristics of alcoholism counselors;
5. Psychosocial characteristics of members of Alcoholics Anonymous;
6. Summary.

The Construct of Internal-External Control as a Personality Variable

Subsequent to the development of the I-E Scale by Rotter, numerous attempts were made to measure the internal-external control construct as a personality variable.^{1/2} Hersch and Scheibe (1967), for example, reported that the internal ~~score~~ was characterized as high on The Adjec-

tive Check List (ACL) on the measures of Defensiveness, Achievement, Dominance, Endurance, and Order, and low on the ACL scales of Succorance and Abasement. On the California Psychological Inventory (CPI) the internal subject scored higher than the external on the Dominance, Tolerance, Good Impression, Sociability, Intellectual Efficiency, Achievement via Conformance, and Well-Being scales. Hersch and Scheibe conclude that while their data seems to support the notion that internality is associated with positive social adjustment and personal achievement, they warn that this theoretical position may be too simplistic. Because individuals scoring low on the I-E Scale (internals) are more homogeneous in their performance on other personality measures than are high scoring subjects (externals), externality may encompass a broader diversity of types of individuals.

Joe (1971), in a review of studies relating the internal-external dimension to personality variables, summarizes:

These findings tend to form an orderly cluster which is logically and theoretically consistent with the construct of internal-external control. The findings depict externals, in contrast to internals, as being relatively anxious, aggressive,

dogmatic, and less trustful and more suspicious of others, lacking in self-confidence and insight, having low needs for social approval, and having a greater tendency to use sensitizing modes of defenses. (p. 622)

Burns, Brown, and Keating (1971) seem to concur in this judgment as they conclude from their study of volunteer members of a suburban rescue squad with the I-E and Minnesota Multiphasic Personality Inventory (MMPI), "... . that a sense of control over external events is related to self-control and competence in handling internal events" (p. 301). However, they compare their findings with those of Goss and Morosko's (1970) study of I-E, MMPI and alcoholics (see p.32) and speculate that correlations between I-E scores and clinical scales may differ according to the population studies. "Externality in alcoholics is associated with affective and thought dysfunction" (Goss & Morosko, 1970, p. 301), whereas, in normal subjects, important clinical symptoms do not appear with externality.

Consistent with this theory of generalized expectancies and control, the assumption was made that socioeconomic status and minority group membership would be linked to locus of control orientation. Several studies (Lefcourt & Ladwig, 1965; Lefcourt, 1966a) have noted that blacks are more external than whites. Investiga-

tions with children have shown that children from low socioeconomic levels have higher external scores than children from higher social classes (Battle & Rotter, 1963; Crandall, et al., 1965). Although no definitive studies showing similar differences among adults could be found, most social scientists seem to endorse the concept that pervasive feelings of powerlessness are characteristic of the poor.

Lefcourt (1966a) concludes, "In all of the reported ethnic studies, groups whose social position is one of minimal power, either by class or race, tend to score higher in the external-control direction" (p. 212). MacDonald (1971) concurs with this position, noting, "Minority group membership and low social class level appear to be conducive to the development of a low expectancy for success" (p. 112). Implicit in this conclusion, MacDonald feels are two postulates:

(a) Persons who attempt to overcome their difficulties have higher internal control orientations.

(b) Success in coping with difficulties will change one in the direction of more internal control orientation. (McDonald, 1971, p. 112)

He cites evidence (Levens, 1968; Gottesfeld & Dozier, 1966) to support his belief, showing that expectancy levels can be raised by providing success experiences in community

action programs. MacDonald concludes that other kinds of programs and techniques that are most effective in raising expectancy levels need to be identified.

In addition to race and social class, intelligence has been linked to the locus of control dimension. Bailer (1961) and Crandall et al. (1962) report that intelligence is positively related to perceived internal control at the .05 level of significance. Conversely, retardates score significantly higher on measures of external control than normal peers.

Evidence also exists that schizophrenics, as a group, tend to score significantly more in the external direction (Cromwell et al., 1961; Lottman et al., 1973; Palmer, 1971). In light of the tendencies for the above mentioned groups to score in the external direction, Lefcourt (1966b) concludes that external control orientation characterizes groups that are marginal in our society.

Additional support for the notion that the locus of control construct can be useful as a personality dimension comes from a recent study by Shepel (1976). He notes, "In general, the personal characteristics associated with internality were higher levels of interpersonal trust, higher ego strength scores and a willingness to openly express feelings of anxiety" (p. 3627B).

Corroborating the position that a sense of lack of

control over the environment and the outcome of one's own actions is associated with negative affect states, Tumilty (1973) reviews numerous pertinent studies (Aarons, 1969; Abramowitz, 1969; Butterfield, 1964; Lichtenstein & Keutzer, 1967; Tolor & Reznikoff, 1967; Williams & Vantress, 1969) and concludes that negative affect, as represented by anxiety, depression, and hostility, is more positively correlated with external locus of control.

Speaking to this connection between locus of control and adjustment, Rotter (1966) originally speculated that a low linear relationship exists between perceived locus of control and personal adjustment in a normal population. That is, those who view reinforcements as contingent on their own behavior (internals) would be expected to be better adjusted than those who see reinforcements as determined by chance, fate, or powerful others (externals). Rotter did suggest, however, that seriously maladjusted groups might have more variability on I-E scores and probably more frequently have higher scores in the direction of externality.

Indeed, previous studies cited above have linked externality with negative affect, schizophrenia and retardation. Tumilty (1973) concludes, then, that the greater the degree of psychopathology or maladjustment, the more external the I-E scores.

Other investigators have questioned this low linear relationship. Joe (1971) suggested a curvilinear relationship, with individuals at the extreme ends of the control continuum more maladjusted than individuals in the middle range, would be a more accurate description. Harrow and Ferrante (1969) have shown that manic patients, who frequently display grandiose thoughts regarding their own ability to deal successfully with life, score at the extreme end of the I-E continuum.

Ducette, Wolk, and Soucar (1972) seem to concur with the curvilinear relationship notion as they criticize the idea that internal locus of control will always be associated with positive outcomes. Granted, it has often been found that the internal person, who perceives himself as personally responsible for the rewards and punishments that come to him, is more adaptive and possesses a better self-concept. But Ducette et al. point out that other studies (Lao, 1970; Phares, et al., 1968) have concluded that in some situations a degree of externality would be helpful and even viewed as a positive characteristic, especially when an external orientation might serve as a defense against negative self-evaluation.

The Construct of Internal-External

Control in Relationship to the Alcoholic

In the first study seeking a relationship between the locus of control dimension and adjustment in an alcoholic

population, Goss and Morosko (1970) found some surprises. They postulated that because alcoholics usually have maintained a marginal social existence and are often passive, dependent people, they would score higher in the external direction than normals on the I-E Scale. Furthermore, utilizing the MMPI, they predicted, in line with previous research relating lack of control to dysfunctional behavior and high anxiety levels, that positive relationships would be found between the subscales Psychasthenia (Pt), Depression (D), and I-E, as well as a negative relationship between K, F, and I-E.

Contrary to their prediction regarding locus of control, the three groups of alcoholics (mean ages, 43.16, 44.19, 45.15) had mean I-E scores of 6.52, 6.11, and 6.74 which, when compared to Rotter's 1966 norms of 8.50 for normal adults, made the alcoholics significantly more internal. The authors attempt to account for their findings by suggesting that alcoholics may "understand the contingency between their behavior and what for them is a preferred source of reinforcement - alcohol" (Goss & Morosko, 1970, p. 190). Unlike other groups which face restricted fields of alternatives (blacks, lower-class persons, retardates, schizophrenics, etc.), alcoholics have available to them a means of rapidly altering or modifying their subjective states. "Past experience provides the problem drinker with the knowledge necessary to regulate the way he feels at any

moment. This sense of personal control may, in part, account for the guilt and self-blame that many alcoholics engage in" (Goss & Morosko, 1970, p. 191).

In the area of adjustment, Goss and Morosko's findings were consistent with their hypotheses. In addition to finding the predicted correlations between I-E and F, D, Pt, and K, significant correlations were also observed between I-E and subscales for Schizophrenia (Sc), Social Introversion-Extroversion (Si), and Hypochondriasis (Hs). The authors remark that their results would appear to indicate that "male alcoholics who score in the more external direction also exhibit more anxiety, helplessness, alienation, and generally more clinical pathology. Those alcoholics who score in the internal direction appear to maintain substantial ego-strength or perhaps functional defensiveness as reported by the MMPI" (Goss & Morosko, 1970, p. 192).

Reacting to the shock of this initial study, others attempted to replicate Goss and Morosko's findings. Gozali and Sloan (1971) compared alcoholic males to non-alcoholic males belonging to church organizations. The results showed the alcoholics to be significantly more internal (mean I-E score of 6.4) than the non-alcoholics (mean I-E score of 8.8). However, these investigators found no significant correlations between the subscales of the MMPI and

the I-E Scale. The authors caution against jumping to the conclusion that internally oriented persons are "healthier" than the externally oriented, especially given the apparent independence of the I-E and MMPI scores. They do conclude, in what has become an often quoted statement:

It seems that the alcoholic's belief in his control over outcome of events may be partly responsible for his drinking behavior. In other words, the feedback from the consequences of his drinking does not modify his behavior because of his belief in his ability to control his behavior. We suggest that an internal-orientation may contribute to a person's proclivity to become an addict, and that alcoholism treatment programs should consider modification of alcoholics' control orientation as part of their treatment objectives. (Gozali & Sloan, 1971, p.161)

In other words, the alcoholic uses alcohol to exercise control over his reinforcements.

A further attempt to replicate Goss and Morosko's results was carried out by O'Leary, Donovan, and Hague (1974). The mean I-E score of their sample of 100 male alcoholics was 6.74, which they reported to be significantly lower (i.e. more internal) than Rotter's norm group. Significant positive correlations were found between the I-E score and the F, D, Pt, and Si subscales of the MMPI. Contrary to Gozali and Sloan's findings, the present results tend to indicate

that perceived locus of control and personality characteristics are related. The authors conclude that more external alcoholics appear to be aloof, depressed, anxious, and generally dissatisfied. Internal alcoholics appear to be "relatively calm, dependable, self-confident, socially outgoing, and interpersonally warm, have a high level of ego-strength, and an ability to deal effectively with personal problems" (O'Leary, Donovan, & Hauge, 1974, p. 314).

Lottman, Davis, and Gustafson (1973) investigated the relationship between locus of control and MMPI clinical scale scores using 15 alcoholic, 15 neurotic, 20 process schizophrenic, and 20 reactive schizophrenic patients. The mean I-E scores for the four groups were 6.40, 6.20, 9.80, and 6.85 respectively. Only the process schizophrenics were significantly more external than the other three groups. However, the authors feel that of greater importance are the significant correlations at the .01 level. "Between I-E and 8 of a possible 12 MMPI variables with alcoholics and the complete lack of relationship between I-E and any of the 12 MMPI variables with the other three patient groups" (Lottman, Davis, & Gustafson, 1973, p. 80). The significant positive relationships between I-E and MMPI for alcoholics were on the Hypochondriasis (Hs), Depression (D), Hysteria (H), Psychopathic Deviate (Pd), Masculine-Feminine (Mf), Paranoia (Pa), Psychasthenia (Pt), Schizophrenia (Sc), and Mania (Ma) subscales. The K scale was significantly cor-

related negatively with I-E. The authors conclude that the "degree of pathology expressed by the alcoholic is related to the social learning principle of locus of control, whereas the pathology of the neurotic and schizophrenic are not" (Lottman, Davis, & Gustafson, 1973, p. 81).

Seeking to offer an explanation for their findings, Lottman et al. (1973) point out:

The alcoholic has a more adient orientation to the environment and has been traditionally described as extremely concerned about the image he reflects on the interpersonal world around him He is often an adept manipulator and has frequently been characterized as having great needs for control over individuals in his environment. Relatedly, the maintenance of the good interpersonal image the alcoholic attempts to sustain often involves him in a gigantic struggle to project an outward facade of normality. (p. 81)

In another study concerned with comparing a psychiatric group (consisting of 17 paranoid schizophrenic, 20 nonparanoid schizophrenic, 20 depressed, 15 anxious, and 20 alcoholic patients), with 88 nonpsychiatric patients, Palmer (1971) examined locus of control, acceptance of parental norms, and perception of parental warmth and

support. He did find his psychiatric group (mean I-E score 5.0) to be more external than his nonpsychiatric group (mean I-E 4.0). He elaborates:

Among our psychiatric patients, those demonstrating the greatest externality were not the schizophrenics but the alcoholic patients who expressed greater externality with reference both to other psychiatric patients and to the nonpsychiatric patients. In this context . . . the alcoholics' ratings of maternal supportiveness-warmth were low, relative both to the other psychiatric and nonpsychiatric patients.

These findings for our alcoholic patients seem quite compatible both with the greater 'dependency' and with 'the tendency to feel victimized by society' ascribed to alcoholics by McCord and McCord (1960).

(pp. 424-425)

Also attempting to link locus of control and personality characteristics of alcoholics, Carothers (1971) used the I-E Scale and the Sixteen Personality Factor Questionnaire (16PF) to discriminate between the intemperate and rehabilitated alcoholic. He found that the successfully rehabilitated alcoholic was more internal in control than the intemperate. Furthermore, the rehabilitated alcoholic could be described as, "conscientious, imaginative, forthright, placid, conservative, self-suf-

ficient, with more undisciplined self-conflict; whereas the intemperate alcoholic could be described as expedient, shrewd, practical, apprehensive, experimenting, group dependent, and controlled" (Carothers, 1971, p. 2393B).

Another series of replications of Goss and Morosko's study dealt strictly with the correlates of I-E in an alcoholic population and did not seek to find any correlations with personality characteristics. Distefano, Pryer, and Garrison (1970) found a sample of 50 alcoholics to be significantly more internal (mean of 5.7) than both Rotter's adults and a group of 50 emotionally disturbed adults (mean 9.5).

Oziel, Obitz, and Keyson (1972) report a mean I-E score for their sample of 50 alcoholics of 6.1, which is significantly lower than Rotter's general norms, making them more internal. Gross and Nerviano (1972) also found that alcoholics are more internally oriented. Their sample of 266 alcoholics had a mean I-E score of 7.35, which is significantly lower than Rotter's normal males.

Costello and Manders (1974) also found alcoholics to be internal in control, although their sample was rather small (N=14 active alcoholics; 14 recovered alcoholics). Using a larger sample, they investigated the reliability of the I-E as a monitor of the recovery process. They concluded that the phenomenon measured by the I-E resisted manipulation over a 30-day treatment interval,

suggesting a relatively stable personality characteristic.

Numerous doctoral dissertations, in addition to Carothers (1971), have focused on locus of control in alcoholics. Only those most pertinent to this study will be reviewed here. Roberts (1972) found no significant differences in I-E scores of his sample of alcoholic and normative adult males. Hawkins (1972) reported that alcoholics tend to exhibit an internal control orientation, regardless of the stage of addiction or recovery. Shen (1972) also found that alcoholics scored significantly in the internal direction. However, he did offer a note of caution in using the I-E with alcoholics:

Unlike college students, alcoholics were quite inconsistent in what they expected and how they behaved. Cognitive influence from the environment more than anything else was probably the reason why alcoholics scored more in the internal direction on the I-E. The helping professions might do better to insure the alcoholic's matching this sense of personal control with his capacity for performance rather than merely elevating that sense of control.

(p. 1806B)

Brown (1975) relates that internality is a distinctive trait of male alcoholics, although he does not specify his comparison group.

Despite the results of the previous studies showing alcoholics to be more internal than normals, Butts and Chotlos (1973) could not accept this conclusion. To begin with, they cited Phares, Ritchie, and Davis (1968) who suggested that belief in an external locus of control could be a means of avoiding responsibility for anticipated negative reinforcements. Then the authors noted that Jessor et al. (1970) found evidence that "persons having the highest intake of alcohol tended to have the lowest expectation of reaching their goals and the greatest tendency to see their behavior as being externally controlled" (Butts & Chotlos, 1973, p. 1327). Apart from these theoretical arguments, Butts and Chotlos criticized the previous studies which had used Rotter's (1966) norms for methodological reasons. The groups (alcoholics and Rotter's) are not comparable since they differ considerably in age and social class. Rotter's norms are based primarily on samples of college students and others aged 16 to 26, while the alcoholic's average age is about 44. They also assumed that the social class of these two groups would differ.

As evidence that age could be important, Butts and Chotlos (1973) cite the studies of Murray and Staebler (1972), Goldstein and Reznikoff, (1971), and Lichenstein and Keutzer (1967), all with sample age means of over 40, which found I-E means of 6.58, 7.00, and 6.50 respectively.

They suggest this is a more reasonable mean of over 40 adults than is the 8.50 of Rotter. Butts and Chotlos also fault the only study which did not use Rotter's norms for comparison. Gozali and Sloan, they claim, used another inappropriate comparison group, men belonging to an organized church group who might be expected to be more external than normals.

Because of these weaknesses in previous studies, Butts and Chotlos created a new comparison group composed of 68 non-alcoholic males, randomly selected, yet with a mean age of 39.60. They also turned out to be of lower social class than Rotter's group. The results were as they hypothesized: the mean score of the alcoholics was 8.28, and of the normals 6.01, indicating the alcoholics were more external. They concluded that there may be a nonlinear correlation between age and I-E scores. Persons of high school and college age may give more external answers than older persons. "Social class and age appear to have opposite effects on I-E scores. We suggest that in college students the factor of social class tends to lower the I-E score, whereas age tends to raise it. In middle-aged men the social class factor tends to increase the score and age to lower it" (Butts & Chotlos, 1973, p. 1331).

Butts and Chotlos (1973) sound a note of warning about what could be a crucial point in locus of control

research with alcoholics. They caution that alcoholics should be tested before they enter a treatment program. Their results show that once in a program which stressed responsibility for behavior (as many do), alcoholics may give the answers they think are expected of them.

Nowicki and Hopper (1974) seem to be confirming Butts and Chotlos' findings. They report that their female alcoholic inpatients (with a mean I-E score of 16.73) were significantly more external than any of the other three groups (mean = 11.06), but they fail to identify these groups other than that they include male and female outpatients. Their normal control group (mean = 10.96) was also not identified, but it should be noted that these mean scores are far more external than any reported previously on alcoholics or normals.

A study by Naditch (1975) seems to add more confusion than clarity to the picture. Naditch complains that studies finding alcoholics to be internal did not have control groups drawn from the same sample as their alcoholic patients. He, therefore, explored the relationship between locus of control and drinking behavior in a population whose drinking behavior ranged from abstinence to problem drinking. The results showed a clear pattern of increased externality with increased drinking. "Mean I-E scores were 8.00 for abstainers, 9.71 for light drinkers, 9.57 for moderate drinkers, and 11.00 for problem

drinkers" (Naditch, 1975, p. 96). It should be noted that this sample (N=517) consisted of men in their early weeks of Army basic training and might be assumed to have a mean age in the early 20's, although none was given.

Naditch concludes that although the subjects in the studies of Goss and Morosko (1970) and Gozali and Sloan (1971) may have been more seriously alcoholic than the problem drinkers in this sample:

There is no reason to expect that a move from problem drinking to more serious alcoholism would result in a sharp shift of locus of control in the internal direction. On the contrary, the increasing incompetent behavior of the alcoholic would be expected to result in feedback about his efficacy in interacting with the environment such that his locus of control would be more likely to move in the external direction. (Naditch, 1975, p. 96)

A further conclusion of Naditch is that the internal scores of previous studies could have been influenced by participation in the treatment programs from which they drew their samples.

The Susceptibility of the Internal-External

Construct to Modification

While perhaps oversimplifying the case for encouragement of modification of locus of control, Lefcourt (1966b)

expresses an opinion common to many clinicians when he states, "Since an internal locus of control may be one prerequisite of competent behavior, and an external-control orientation seems common to many people who do not function in a competent, 'healthy' manner, it would seem that perceived control should have some importance as a goal for psychotherapy" (p. 191). Joe (1971), in a review of studies purporting to change locus of control, comments "that an external expectancy of control can be changed to an internal frame of reference" (p. 134). MacDonald (1971), as previously mentioned, also presents additional evidence which suggests that remedial programs can change control orientation.

Several studies within the last few years have been directed either at studying change in locus of control or in actively and deliberately attempting to bring about such change. Studies, employing a diversity of types of subjects, yet with a general applicability to alcoholics, will be discussed first. A review of the few studies which have examined change in locus of control in alcoholics will follow.

Moser (1975) investigated the extent to which internalization behaviors can be systematically shaped by short-term, small group intervention with a highly external adolescent population. Results indicate that internality can be produced. The author draws the implication that for

successful psychotherapy, the client's perception should be of himself as controller rather than as a victim of outside forces.

Using a population of university students, Lewis and Dawes (1974) studied the effects of a T-group experience on participants' belief regarding locus of control. Pre-test versus post-test comparisons showed a decrease in the belief of external control for the T-group and a slight increase for the control group. Differences between the groups were significant.

In another brief study using prison inmates, Reed (1975) found that short-term group psychotherapy could be effective in changing locus of control orientation. Although some change occurred, he did not find the greater change being manifested by the external group exposed to treatment.

The previous studies mentioned did not consider the influence of the control orientation of the experimenter on the subjects, yet this does seem to be an important and powerful variable in attempts to change control orientation. In the first study including experimenter locus of control as a factor, Phares (1966) produced some often quoted results. Internally controlled experimenters were able to induce greater changes in attitudes than were externally controlled experimenters. This finding was accordant with Rotter's theory since "internals, having

the generalized expectancy that they are in control of their own behavior-reinforcement sequences, should thus be more effective agents in the induction of change than individuals not having such an expectancy" (Phares, 1966, p. 643). Phares concludes that a major variable in the study of social influence situations is locus of control and, furthermore, that the I-E dimension is operating with both those who would exert the influence and those who would receive it.

Expanding on this notion and looking more closely at the influence of control orientation of the subjects in an experiment, several investigators (MacDonald & Hall, 1971; Ritchie & Phares, 1969) found "that an external orientation might predispose one to be more sensitive to the reactions or demands of outside agents - especially those in status positions" (Biondo & MacDonald, 1971, p. 407). The evidence seems to suggest that externals are more conforming than internals and, in fact, that internals become resistant when attempts are made to influence them. Julian and Katz (1966) report that internals have a certain "need to control" and are likely to resist subtle attempts to change them.

In a major study involving response to attempts to influence, Biondo and MacDonald (1971) hypothesized that externals would conform to overt influence and internals would move in a direction opposite to that advocated by

persuasion. Their findings show that externals conformed under both low and high influence attempts, whereas internals seemed to be negatively influenced or showed resistance under the high influence condition only. In the high influence condition, externals and internals moved significantly in opposing directions. An interesting observation of the authors should be noted: "Had this been an investigation of attitude change, without the inclusion of locus of control as a factor, no change would have been found between the experimental and control groups. The attitude change of the externally oriented subjects would have been masked by the reactance manifested by the more internally oriented subjects" (Biondo & MacDonald, 1971, p. 418).

Felton (1971), in exploring this same concept, felt that internal control types as subjects would resist more to external manipulation when they were aware of this manipulation for fear that their control of the environment is being taken away from them. External control types would resist less since they expect such external control. Felton's results indicate:

If the E is an internal control type, he is more effective with all his Ss in approximating the expectancy score than if he is an external control type. His effectiveness is heightened if the Ss are external control types. Thus, the maximal bias effect will be obtained from internal Es working with ex-

ternal Ss under conditions of High Ambiguity. The minimal bias effect will be obtained from external Es working with internal Ss under conditions of Low Ambiguity. (Felton, 1971, p. 291)

Felton concludes that when discussing the expectancy effect, one must consider the degree of task ambiguity, the E's perceived locus of control and the S's perceived locus of control.

Turning now to studies focusing on change of control orientation in an alcoholic population, Costello and Manders (1975) have already been mentioned as having found no change in I-E over a 30 day treatment interval.

Tumilty (1973) also found no significant differences between his control group and two experimental conditions (one designed to change Ss more toward an external control orientation and the other to change Ss toward an internal control orientation). He adds that externality was not found to be associated with greater susceptibility to modification of locus of control. However, it is noteworthy that this author chose to ignore the work of Felton (1971) and Phares (1965) who strongly urged that the control orientation of the experimenter be considered. In this case, the experimenter (author) has an external control orientation and achieved no results, which is consistent with the position taken by Felton. Allowing for the perspective from which this conclusion emanates, Tumilty does

offer a salient comment. "The excessive internality of the alcoholic may inhibit his rehabilitation by disposing him to unrealistically high goals, resistance to therapeutic input, and the belief that he can stop after that first drink" (Tumilty, 1973, p. 112).

In another doctoral dissertation, Hawkins (1972) examined the control orientation of alcoholics in varying stages of recovery. He was interested in whether locus of control changed during treatment and/or after treatment. His findings suggest that alcoholics, regardless of what stage of addiction or recovery they are in, tend to exhibit an internal control orientation. Furthermore, an alcoholic's control orientation appears to have no relationship with successful treatment outcome. Hawkins did find that the alcoholic treatment group did show a significant shift toward internality from admission to discharge and follow-up.

In a study cited in an earlier section of this review, Oziel, Obitz, and Keyson (1972) agree with the position that alcoholics as a group perceive themselves as being in control of their behavior. But, these authors acknowledge in a corollary regarding locus of control modification, that internals have been found to resist attempts to manipulate them. They caution, "If this resistiveness is found in alcoholics as well, the hypothesis would become

tenable that alcoholics engage in negativistic passive-aggressive behavior as a resistive reaction to perceived external manipulative attempts to take away their own control of their own behavior. This finding would have important implications . . . for the mode of treatment most appropriate" (Oziel et al., 1972, p. 958).

Two of these authors, Oziel and Obitz (1975), in a later study offer an explanation for the internality of alcoholics. They found that the more treatment alcoholic individuals had, the more they perceived themselves to be in control of their behavior. They, therefore, suggest that a change in locus of control toward internality after treatment may be a consequence of exposure to treatment modalities, stressing the importance of self-motivation rather than a consequence of a predisposing personality disposition.

Before closing this section on modification of locus of control, the tangential, yet closely allied question of motivation of the alcoholic must be discussed. Several studies (Linsky, 1970; Pattison et al, 1968; Sterne & Pittman, 1965) have shown that both professionals and laymen view the alcoholic as someone who "chooses" to drink and therefore entraps himself in his alcoholism. This point of view would only seem to reinforce the internality of the alcoholic. Yet the paradoxical aspect of this position is that although the alcoholic person is thought to act with intent

and choice, if one accepts the disease concept of alcoholism, one of the essential characteristics of the illness is that the alcoholic is disabled from directing his own actions. By the nature of his disease, then, the alcoholic would seem to be external, although he might not perceive his lack of control.

In related research, Lottman, Mozdzierz, and Macchitelli, (1973) found that alcoholics with a high perception of personal control (internal) are motivated primarily toward the achievement of success, whereas the externally controlled alcoholic places a greater emphasis on avoidance of failure. The authors speculate that when an alcoholic is confronted with an environment over which he feels he has no control, but where he is told he should have control, he characteristically is avoidance-oriented and may employ symptoms of physical and psychological distress as defenses against responsibility for failure. The importance of this last study would appear to be its confirmation of the psychological distress associated with externality in alcoholics.

The Personality Characteristics of

Alcoholism Counselors

The literature to be reviewed in this section is considered appropriate in light of the makeup of the staff at the treatment center where the study was carried out.

The following demographic characteristics describe the personnel:

- (a) Mean age - 42.7
- (b) Mean educational level - 13.9
- (c) Percentage of recovered alcoholic counselors - 54%
- (d) Percentage trained at Johns Hopkins University Training Program for Alcoholism Counselors (5 weeks long) - 80%

Consistent with the literature on the effect of the counselor's personality on the counseling situation is the position that whatever the training of the counselor, the personality of the counselor is a potent factor in the situation.

In reporting on a study completed at the Detroit Harbor Light Alcoholism Therapist Training Program, Cooke, Wehmer, and Gurber (1975) discuss the trainee characteristics of the paraprofessionals (out of 47 trainees, 16 had a history of alcohol problems) coming to their program. Coming into the program, the trainees had highest scores on the ACT scales of Intraception and Nurturance and the lowest scores on Change. High scales indicated they were competitive, aggressive, yet anxious about themselves and motivated for self-change. "Many of the trainees seemed to be experiencing some conflict over control of their impulses,

sometimes leaning toward expression, sometimes toward overcontrol" (Cooke et al., 1975, p. 941). Using pre and post administrations of the ACL, the authors conclude that no significant group changes in personality resulted from the training.

Covner (1969) used the California Psychological Inventory (CPI) in an attempt to discriminate between successful and unsuccessful volunteer alcoholism counselors. Among the female counselors, the more effective ones scored higher on sensitivity to others, self-control, spontaneity, and social presence in interpersonal dealings, and lower on dominance. Among the male counselors, the better ones scored higher on femininity-nurturance, self-control, and socialization, and much lower on sociability, dominance, and good-impression. A further finding of this study was that whether or not an applicant is an alcoholic is not crucial to his or her success as a counselor.

Hoffman and Miner (1973) investigated specifically the personality characteristics of alcoholism counselor trainees who were all recovered alcoholics. They used 13 male trainees engaged in a 9 month program and administered the Edwards Personal Preference Schedule (EPPS) before and after the training. The results of this study show that, like the alcoholic population described by Hoffman and Nelson (1971), counselors had low scores on Autonomy, which

would tend to characterize both groups as dependent and conventional individuals. Unlike alcoholics, counselors were high on Intraception, that is, they expressed a high need to analyze their own and other people's motivation. In general, however, there were few differences in needs of trainees and the normative population on the EPPS.

Although not a study dealing with counselors, the work of Phares and Lamiell (1975) does seem to be relevant to the discussion. After administering the I-E scale to 146 undergraduates, the experimenter gave brief case histories of several people (an ex-convict, a welfare recipient, and a war veteran) who were described as either being victims of circumstances, responsible for their own plights, or described ambiguously. The subjects in the study were asked to react to various plans of assistance for the people described in the case histories. The results indicate that internals sanctioned significantly less in the way of money, understanding, and sympathy than externals and seemed to feel the people should take responsibility for their problems, no matter what the cause.

The Psychosocial Characteristics of Alcoholics

Anonymous Members

Alcoholics Anonymous (A.A.) has been accorded a prominent place in the treatment of alcoholism. Although

eulogized by professionals in the field, A.A. has seldom been analyzed except from a distance. By its very nature (emphasis on anonymity) and structure (loose national organization with little record-keeping), A.A. is difficult, if not impossible, to investigate in an objective fashion. Some descriptive studies have been carried out on A.A. members, but the perplexing and momentous question of who likes A.A. and who does not has been notoriously impervious to research. One of the goals often espoused by outpatient treatment programs is affiliation of the alcoholic with A.A. so that he can continue an adjunct treatment program after his clinic stay is over. Obviously, it would be helpful to treatment personnel if the successful A.A. affiliate could be distinguished from the non-affiliate. Within this context, the few studies which have attempted to discriminate, via psychosocial characteristics, between the affiliate and nonaffiliate of A.A. will be reviewed. In the process, a picture of the psychosocial characteristics of the successful affiliate with A.A. will emerge.

Trice, a leading authority on A.A. and the characteristics of its members, has devoted several studies (1957; 1959) to the process of affiliation with A.A. He defines affiliates as those who stick with A.A. by attending at least two meetings a month for over a year and nonaffili-

ates as those who attended A.A. less than once a month in the past 3 years. He found the affiliate to be a person who could share emotional reactions with others, had lost his drinking friends, and thus was more socially isolated, but one who had heard favorable descriptions of A.A. before attending any meetings. In addition, he had no close friend or relative who had quit drinking on his own and, hence, had no competing will power model to look to for recovery. He had a better history of childhood churchgoing, was more likely to have a wife or girlfriend who accompanied him to meetings and supported his affiliation. The affiliate was not found to be class conscious. But as Jones (1970) noted, most A.A. members are members of the upper and lower middle class anyway. Skid row persons do not often seek out A.A.

In his latter study, Trice found that affiliates had higher status jobs than nonaffiliates. Yet, he concluded that A.A. appeals to socially isolated persons on the basis of his findings using Murray's Thematic Apperception Test. Although affiliates scored higher on affiliation motive than did nonaffiliates, both groups scored relatively low on affiliation motive (the emotional need to establish and maintain positive affective relationships) compared to controls.

In a more recent and methodologically sophisticated study of A.A. affiliates and nonaffiliates, Trice and Roman (1970) used a stepwise multiple regression analysis of 26 social-demographic and 55 psychological variables and concluded that psychological rather than social-demographic factors accounted for more of the experimental variance. However, it should be borne in mind that the subjects were 378 white, largely middle class males who were being treated for alcoholism in a state hospital.

Successful A.A. affiliates were found to be characterized by affiliative needs and group dependency needs. In addition, affiliates reported physical stability prior to affiliation attempts and showed a definite proneness to guilt, perhaps because most had experienced intensive labeling as alcoholics prior to treatment. Ego-strength, self-reliance, social stability prior to treatment, and middle class background and experience were not related to success in A.A.

Canter (1966) in another study of inpatient alcoholics found that the hospital patient who participated in A.A. rather than in disulfiram therapy, group therapy, or conditioned reflex treatment was more authoritarian (as measured by the California F Scale). His only other significant correlation was a negative one between education and attendance at A.A.

Again describing inpatients with respect to participation in A.A., Gynther and Brilliant (1967) found that more of the unmarried alcoholics had been or were then A.A. members (52.5% unmarried, 30% married). However, analysis of data derived from the patients who had ever joined A.A. versus the nonjoiners revealed few other differences. Those who did not join demonstrated more self-deception, as defined by a discrepancy between the MMPI profile and a self-description. This trend was only true for unmarrieds. There was also a somewhat greater discrepancy between self and ideal ratings on a Dominance factor in A.A. joiners compared to non-joiners. This tendency was again more marked in the unmarrieds. The authors contend that this trend is consistent with Sterne and Pittman's (1965) findings that A.A. members are likely to be more self-deprecatory and, at the same time, have loftier ideals than controls.

White (1965) carried out a study utilizing members of A.A. with different backgrounds: those who had just begun attending A.A. meetings and those with a verified sobriety of more than 3 years. His findings indicate that alcoholics with longer sobriety appeared to have stronger superego strength, were consistently more ordered and emotionally mature, yet also tended to be more adventurous, carefree, less timid, and more confident and self-

assured. The short-sobriety group lacked rigid standards and was more undependable, demanding and impatient.

Using outpatient alcoholics, Allen and Dootjes (1968) attempted to discover whether psychological differences exist between those who profess a liking for A.A. and those who dislike A.A. The ACL was used to measure the self-concept of the subjects. The results indicate that subjects who disagreed with A.A. were lower on the Lability and Autonomy scales and higher on the Deference scale. Thus, the more favorable the patient professed to be towards A.A., the higher were his scores on Lability and Autonomy, suggesting an adventuresome, restless, yet rather independent type of person. The authors conclude that the adventurous and non-placid patients favor A.A., whereas the dependent and persevering prefer the more orthodox clinic variety of treatment.

Machover et al. (1959) looked directly at the issue of who is and who is not likely to benefit from A.A. Using an extensive battery of psychological tests on remitted A.A. members, unremitted alcoholics, normal controls, and homosexuals, they concluded that remitted A.A. members were less defensive, less socially inhibited, and more likely to be identified with their mothers. Furthermore, they tended to be obsessive-compulsive, to use overcontrol, rationalization, and reaction formation.

From this type of study Baekeland et al. (1975) have put together a composite of the new A.A. affiliate:

A single, middle class individual who has lost his drinking friends, and has a supportive wife or girlfriend. He is not highly symptomatic, and is a socially dependent, guilt-prone person with obsessive-compulsive and authoritarian personality features, prone to use rationalization and reaction formation.
(p. 218)

Since this dearth of research on the psychological characteristics of A.A. members does not provide many clues as to where A.A. members would fall on the locus of control dimension, a pilot study was conducted by this author. From an admittedly small sample (N=25) of A.A. members, all of whom had been sober for at least one year, a mean I-E score of 7.8 was found. This would seem to place A.A. members in a more external position than Butts and Chotlos' (1973) nonalcoholic group (mean 6.01), but slightly more internal than their alcoholics (mean 8.28). The mean age of the author's sample was 42, which should make it a comparable age group for most alcoholics since the national figures (Chafetz, 1974) on the age of the heaviest drinkers indicate that 60% of problem drinkers are between the ages of 30 and 50. The average age for those seeking help for alcoholism

is in the early 40's.

Summary

The review of the literature reported in this chapter has been presented in sections dealing with various facets of the personality dimension of locus of control and its relationship to the alcoholic. The following subtopics were represented:

1. The construct of internal-external control as a personality variable.
2. The construct of internal-external control in relationship to the alcoholic.
3. The susceptibility of the internal-external construct to modification.
4. The personality characteristics of alcoholism counselors.
5. The psychosocial characteristics of A.A. members.
6. The summary.

The literature indicates that the locus of control construct can be usefully viewed as a personality dimension and that internals and externals can be differentially described in personality variables (Hersch & Scheibe, 1967; Joe, 1971). In general, internals tend to be more self-confident and insightful, less anxious, aggressive, and dogmatic, while externals tend to be less competent and less well adjusted socially (Burns, Brown, & Keating,

1971; Joe, 1971; Tumilty, 1973). Certain groups have been found to score consistently more in the external direction - blacks, lower socioeconomic status persons, mental retardates, and schizophrenics (Lefcourt, 1966a; MacDonald, 1971; Palmer, 1971). While Rotter (1966) had originally speculated that a low linear relationship existed between the locus of control dimension and adjustment, others (Ducette et al., 1972; Harrow & Ferrante, 1969; Joe, 1971) have suggested a curvilinear relationship, with individuals at the extreme ends of the control continuum more maladjusted than individuals in the middle range.

Contrary to the initial speculation, most of the studies linking the locus of control construct to alcoholics have found alcoholics to be internal compared with Rotter's 1966 norms (Destefano, Pryer, & Garrison, 1970; Goss & Morosko, 1970; Gozali & Sloan, 1971; Gross & Nerviano, 1972; O'Leary, Donovan, & Hague, 1974; Oziel, Obitz, & Keyson, 1972). There is not as much agreement among studies in the attempt to link the locus of control dimension to personality adjustment in alcoholics, although most seem to conclude that externality is related to dysfunctional behavior and higher levels of anxiety (Carothers, 1971; Goss & Morosko, 1970; Gozali & Sloan, 1971; Lottman, Davis, & Gustafson, 1973; O'Leary, Donovan, & Hague, 1974; Palmer, 1971).

The front is not completely united that alcoholics are on the internal pole in locus of control. Butts and Chotlos (1974) refused to accept this conclusion, despite the rather overwhelming evidence that alcoholics are internal. They pointed to theoretical and methodological flaws in studies previous to theirs. Most serious they felt was the use of a comparison group not comparable in age or social class to alcoholics, i.e. Rotter's 1966 normal adult group. Since the concept of locus of control is a relative one (depending on where others fall on the dimension, one's score is labeled internal or external), Butts and Chotlos argued for a comparison group matched on age and social class. Controlling for these two variables, these authors found alcoholics to be external. Other studies subsequent to theirs (Naditch, 1975; Nowicki & Hopper, 1974), and one prior to theirs (Palmer, 1971), support their position.

The bulk of the research on the modification of locus of control supports the contention that an external expectancy of control can be changed to an internal frame of reference (Felton, 1971; Joe, 1971; Lefcourt, 1966b; MacDonald, 1971; Moser, 1975; Phares, 1966), although a few studies (Costello & Manders, 1974; Tumilty, 1973) found no change in locus of control after brief treatments.

Phares (1966) discovered that internal experimenters could bring about greater change in subjects than could externals. Other investigators (Biondo & MacDonald, 1971; Felton, 1971) expanded on this concept and showed that externals were more conforming as subjects and internals as subjects were more likely to be resistive to attempts to manipulate them. Felton (1971) concludes that the maximum effect should occur if the experimenter is internal and the subjects are external.

The majority of the research on alcoholism counselors, of which there is very little, is concerned with the recovered alcoholic who becomes an alcoholism counselor. Since the staff of most outpatient treatment programs in Virginia is approximately 50% recovered alcoholics, this literature seems appropriate. Covner (1969) found successful counselors could be distinguished from unsuccessful ones in areas of sensitivity, self-control, and social presence. Cooke, Wehmer, and Gruber (1975) felt that alcoholism counselor trainees, as a group, experience some conflict over control of their impulses. Hoffman and Miner (1973) describe alcoholism counselors as conventional and dependent individuals with a strong need to analyze their own and the motives of others.

In an attempt to ascertain who likes A.A. and who does not, numerous studies have analyzed the psychosocial

characteristics of A.A. members (Allen & Dootjes, 1968; Canter, 1966; Gynther & Brilliant, 1967; Machover et al., 1959; Trice, 1957, 1959; Trice & Roman, 1970). It appears that the successful A.A. affiliate is an adventuresome, non-placid type of person who tends to have a strong super-ego and an emotionally mature and self-assured outlook on life.

The overall conclusions to be drawn from this review are as follows:

1. Research dealing with the locus of control construct as a personality variable has formed a fairly consistent and orderly pattern of internals being the more socially adept and competent individuals.

2. Research existing which shows alcoholics to be internals has been convincing, yet confusing, since it goes against the theoretical premises of Rotter.

3. It seems to be very important in locus of control research to control for such variables as the control orientation of the experimenter, the control orientation of the subjects, and the age and social class of any comparison group utilized.

4. There is no conclusive evidence on which alcoholics are likely to prefer A.A. and which are not, although psychological characteristics of the alcoholic do seem to

make a difference.

It is a combination of the findings of this review of the literature that has given impetus to the present research.

Chapter 3

Methodology

The specific purposes of the investigation were to examine the correlates of I-E in outpatient alcoholics, alcoholism counselors, and Alcoholics Anonymous (A.A.) members; furthermore, to determine the susceptibility of I-E to modification by an alcoholism treatment program; and finally to determine if any relationship exists between control orientation and which outpatients like A.A., as measured by frequency of attendance at A.A. meetings.

Chapter Three includes the procedures and methods of research. Description of the following are presented herein:

1. Research design.
2. Population.
3. Description of program at Newport News Division of Alcoholic Services (NNDAS).
4. Methods of procedure.
5. Statistical methods.

Research Design

The research design implemented in this study was a factorial version of what has been designated a compromise experimental group - control group design (Kerlinger, 1973).

Yb	X	Ya	(Experimental)
Yb	X	Ya	(Control)

A compromise experimental design was necessary in this situation since it was not possible to randomly assign subjects to the experimental and control groups. Almost all alcoholic treatment centers, as a matter of policy, attempt to treat an individual as quickly as possible once he has been identified as an alcoholic. The control group, therefore, was comprised of alcoholics in the orientation phase of the program at the NNDAS, while the experimental group was drawn from those alcoholics in the actual treatment phase of the program.

This pre-test, post-test design can be seen more graphically in the following paradigm in which the internal and external alcoholics were randomly assigned to internal and external counselors, but not to the no treatment section.

<u>Alcoholics</u>	<u>Counselors</u>	<u>No Counselors</u>	<u>Covariates</u>
	I	E	Age
	<u>No Treatment</u>		Pre-test scores
I	Dependent	Measures	
E			Social Class

The dependent measures will be the post-test scores on the I-E Scale and the number of hours of attendance at

A.A. meetings during the ten weeks of the closed group treatment and orientation.

Population

The subjects for this study came from various sources. The sample of alcoholism counselors included all of the counselors (N=15) employed on a full or part-time basis by the Newport News Division of Alcoholic Services (NNDAS). The sample pool of alcoholics (N=121) was randomly selected from males reporting for closed group treatment at the NNDAS. The sample of A.A. members (N=75) were randomly selected members of A.A. in the Newport News area who met the criteria of abstinence and attendance previously established.

The second phase of the study utilized subjects who were identified by statistical analyses from the initial pool of alcoholics and counselors. That is, the counselors in the upper and lower halves of a median split in a distribution of the I-E scores of the counselors were selected for inclusion in the study. Two were eliminated arbitrarily because of commitments which kept them from the office for five weeks during the study, leaving a sample of 13; then, excluding counselors who scored at or one point above or below the median, the sample was further reduced to 8.

The alcoholics utilized in the study were selected as follows: At the NNDAS, alcoholics who complete the

orientation phase are randomly assigned to a closed group. The treatment aspect of the program consists of one group meeting per week for 12 weeks. The members of the closed group of each of the counselors selected for the study were tested on the first and tenth meeting of the group (N=76).

The members of the control group were composed of a new group of alcoholics just beginning the orientation phase of the program (N=58).

Description of Program at Newport News

Division of Alcoholic Services

The NNDAS is a local branch of the Virginia State Department of Health's Bureau of Alcohol Studies and Rehabilitation. Although a community agency open to anyone, the NNDAS does get the majority (85%) of its referrals from the court system. That is, either through the Virginia Alcohol Safety Action Program (VASAP) or the court itself, the individual labeled an alcoholic is mandated to receive treatment from the NNDAS. Some additional figures might shed more light on the type of client the NNDAS is treating. (All figures quoted in this section come from statistics compiled by the NNDAS for 1975.) The clientele of NNDAS is 94% male with 61% of this group falling between the ages of 31 and 50. Approximately 20% are under 30 and about 19%

are over 50.

Persons designated alcoholics by VASAP, when first referred to NNDAS, are put in the orientation or education phase of the program. The format of orientation is a weekly large group (N=120) lecture followed by an hour long discussion group session led by a volunteer from the community (usually a person who has recently completed the orientation himself). The large group lectures proceed through the following steps:

1. "Philosophy of Treatment"
2. "Alcohol vs Body"
3. "Phases of Alcoholism (Jellineks Chart)"
4. "Process of Self-Disclosure"
5. "Dynamics of Alcoholism"
6. "Film - 'Chalk Talk' (in two parts)"
7. "Family in Transition"
8. "Film - '.08'"
9. "A.A."
10. "Merry-Go-Round Named Denial" - Al-Anon

The primary goal of the orientation program, which lasts 10 weeks, is to break down denial. In other words, the educational phase attempts to force the individual to admit that he does need help. The focus of orientation is on new knowledge, a re-education about alcohol. Attendance at Alcoholics Anonymous meetings is strongly encouraged, al-

though punitive measures are not taken if the alcoholic never attends a meeting.

The orientation phase of the program is run on a continuous basis with new individuals attending the meeting each week. The lectures do not have to be heard in sequential order to be understood, so the membership of orientation is flexible and changing.

After an individual has completed the 10 week orientation, he is eligible to move to a closed group. Closed groups start at various times, but once begun will accept no new members. Led by the trained alcoholism counselors employed by the NNDAS, the closed groups are considered the crux of the treatment offered by the agency. Although orientation may provide a valuable preliminary service, it does and could not stand alone as a treatment. The 12 week closed groups are the primary treatment modality offered. The clients are seen individually by counselors, but only at four to six week intervals.

The closed groups are not run from any particular theoretical framework, although Glasser's reality therapy (Glasser, 1966) seems to exert a great deal of influence. The emphasis in the groups is on the here-and-now with members encouraged to discuss present problems related to alcohol. These could include problems in staying away from alcohol, marital or family problems, or job-related problems. The

goals of the groups tend to encompass such concepts as: the individual accepting responsibility for his actions; the individual setting up specific behavioral objectives to be met; the individual producing action or results (such as attending A.A. meetings) which will indicate that he is changing.

Methods of Procedure

The following methods of procedure were utilized to complete the investigation.

Data Collection

Within the framework of the program described above, the following procedure was carried out. All of the alcoholism counselors (N=15) employed by the NNDAS were given the I-E Scale. It should be noted that none had taken the test before and none had any knowledge of the purpose of the instrument. Using a median split of the distribution of scores (and eliminating those at or within one point of the median, (N=3), five of the counselors were labeled external (those above the median) and seven were labeled internal (those below the median). Eliminating from the study those counselors in supervisory positions who were not currently running groups (N=3) and one counselor who was away for training for five weeks, a sample of eight, four internal and four external, remained.

With each of the eight counselors in the study, the

next step was taken. When the counselor began a new group, the members of his or her group were administered the I-E Scale on the first night the group met during the first half hour of the session. A post-test was completed on the final night of the group's meeting.

A control group was used for comparison with the experimental group and composed in the following manner. At each orientation meeting for seven weeks, the individuals who were attending their first meeting were administered the I-E Scale. Then, the same individuals were post-tested on their 9th week of orientation meetings which varied according to the night they started orientation.

All the alcoholics in the study, including both the experimental and control groups, were given the same basic and ambiguous instructions (outlined in Appendix A) and further directed that:

1. The use of the questionnaire was a new procedure for the clinic.
2. Their responses and test scores would in no way affect their retention, progress, or completion of treatment at the clinic.
3. That confidentiality was guaranteed.
4. That their VASAP counselors would not see their scores.
5. Their individual scores would be discussed with them at a later date.

Explanation of scores followed the post-testing.

The alcoholic sample to be compared with Butts and Chotlos' (1973) non-alcoholic group was composed of both the experimental and control group (N=121), all of whom had been labeled alcoholics by VASAP.

The sample of A.A. members (N=75) was gathered by members of A.A. known to the investigator. Each A.A. member requested his or her group cooperate in a survey and fill out the I-E Scale. Again, the purpose of the study and the Scale remained nebulous. Only the age and length of sobriety of the A.A. members were requested on the form so that anonymity could be assured.

Treatment of the Data

The alcoholic subjects who participated in the study had been divided into the experimental and control groups according to their stage of treatment. All of the answer sheets from the respondents in both groups were hand scored on the I-E Scale. The control group was then divided into internal subjects and external subjects, using a median split (median = 7.5). Between the pre-testing and post-testing, 13 subjects were lost in the control group. Five alcoholics were terminated by the clinic because of failure to adhere to the requirements of the program. Five alcoholics just stopped coming to the treatment program and were in the process of being terminated. Three alcoholics had

been admitted to a hospital for an inpatient treatment program. Thus, although the control group began with 58 subjects, it dwindled to a final N of 45, or a loss of 22% of its members. This loss is certainly not considered unusual in the early stages of an alcoholism treatment program.

The experimental group was also divided into internal and external subjects. However, the experimental group was not divided as an intact group since it was actually composed of 8 subgroups led by 8 different counselors. It was deemed most appropriate to use the median score for each individual group in the performance of the median split. (See Appendix B for individual group medians.) Again, between the pre-testing and post-testing, several subjects were lost. Four alcoholics had been terminated by the clinic for lack of progress in the treatment; two were absent the night of the testing and could not be located later; one subject had died; one was hospitalized; and one refused to retake the test. Beginning with 85 subjects, 9 were lost (11%), resulting in N = 76. Furthermore, through the utilization of the median split, 3 additional subjects were excluded as they fell on the median. A final usable N for the experimental group was 73.

Each subject in the experimental and control group was

given a social status rating to be used as a covariate in the statistical analysis. Social status was defined by a summated two variable measure of education plus occupation originated by Mayer and Myerson (1970) and computed as follows:

<u>Points</u>	<u>Education</u>
2	Education beyond high school (over 12 years)
1	High School completed only
0	Less than high school education
	<u>Occupation</u> (Highest attained)
2	Professional, managerial, or high level technician
1	Clerical, sales, or skilled worker position
0	Semi-skilled or unskilled labor

The range of social status scores is 4 to 0.

High Status	3 or 4 points
Middle Status	1 or 2 points
Low Status	0 points

Each subject in the experimental and control groups had also indicated on the answer sheet of the I-E Scale the number of A.A. meetings he had attended during the treatment or education program in the last 9 weeks. Since each A.A. meeting lasts one hour, a subject's response that he had attended A.A. 20 times in the time period indicated

would mean he had 20 hours of attendance at A.A. in 9 weeks.

Processing the Data

The data generated in this study was treated differently according to its utilization as directed by the hypotheses. The data on the alcoholism counselors, the entire sample of alcoholics (experimental plus control group), and the A.A. members was analyzed on the APL terminal of an IBM 360 digital computer using the functions t -test and t -mean. The data on the experimental versus control groups, including pre and post-test scores, age, social status, and hours of A.A. attendance, was placed on punch cards to be processed by the College of William and Mary Computer Center on an IBM 360 digital computer.

Statistical Methods

The statistical methods employed in the treatment of the data were designed to:

1. Determine if the scores on the I-E of the initial sample of alcoholics are from a similar population as Butts and Chotlos' (1973) non-alcoholic group (hypothetical mean 6.01).
2. Determine if the scores on the I-E of the alcoholism counselors are from a similar population as the initial alcoholic sample.
3. Determine if the scores on the I-E of the A.A.

members are from a similar population as the initial alcoholic sample and/or from a similar population as the non-alcoholic group of Butts and Chotlos.

4. Determine if significant differences exist between internal and external subjects exposed to treatment (experimental) and not exposed to treatment (control) on post-test I-E scores controlling for age, social status, and pre-test scores.

5. Determine if a relationship exists between those subjects who lower their I-E scores and hours of attendance at A.A. meetings.

The I-E scores on the pre-test (before any treatment) of the entire sample of alcoholics were analyzed by using a t -mean test to determine if they were from a similar population as Butts and Chotlos' (1973) non-alcoholic group (hypothetical mean 6.01). The significance of all t -mean scores was set at .05.

The I-E scores of the alcoholism counselors were analyzed by using a t -test to determine if they were from a similar population as the entire alcoholic sample. The significance of all t -test scores was set at .05 and determined by Table 6 of Statistical Inference (Li, 1964).

The I-E scores of the A.A. members were analyzed by using a t -test to determine if they were from a similar population as the initial alcoholic sample and by using a

t-mean test to determine if they were from a similar population as Butts and Chotlos' non-alcoholic group.

To analyze significant differences between internal and external subjects of the control versus experimental group, more complicated statistical procedures were used. First, an analysis of covariance using orthogonal contrasts, also known as a priori contrasts, was run on the MANOVA package. Pre-test scores, age, and social status were held as covariates. A priori contrasts were also run on the 6th version of SPSS on the ONE-WAY program using difference scores between the pre and post-tests. Nie et al. (1975) explain that:

Capitalizing on chance is avoided by selecting a set of orthogonal contrasts, that is, contrasts which are statistically independent and which are not redundant. When such contrasts are used, it is common practice to use them in lieu of the overall F test. (p. 426)

The following contrasts were made:

1. The experimental group versus the control group.
2. Internal counselors versus external counselors.
3. Internal alcoholics versus external alcoholics.
4. Internal alcoholics exposed to internal counselors versus internal alcoholics exposed to external counselors.
5. External alcoholics exposed to internal counselors

versus external alcoholics exposed to external counselors. Resulting F values were tested at the .05 level of significance.

Following the use of the a priori contrasts, those which were determined in advance on the basis of theory, several a posteriori contrast tests were carried out. The latter are systematic procedures for comparing all possible pairs of group means. Essentially, these tests divide the groups in the experiment into homogeneous subsets, where the difference in the means of any two groups in a subset is not significant at some prescribed level. This prescribed level, called a range, is based on a significance level (in this case the .05 level). The significance level (α) may also be considered as an error rate; in other words, it is the same as the acceptable rate of a Type I error (declaring two means to be unequal when, in fact, they are equal). The a posteriori tests differ from one another in how they define error rate. The least significant difference (LSD) test is basically a t -test between group means which holds the pre-comparison error rate to the significance level specified. The problem with this test is that as the number of groups increases, so does the experimentwise error rate. Duncan's multiple range test attempts to avoid the difficulty of LSD by using different range values for subsets of different sizes.

"The larger the potential subset, the larger the difference in means must be in order to be declared significant" (Nie et al., 1975, p. 427). The Student-Newman-Keuls (SNK) procedure is similar to Duncan in that different range values are used for different size subsets. "SNK holds the experimentwise error rate to alpha for each stage of the testing procedure (for tests involving the same number of means). Thus, alpha is neither experimentwise nor pre-comparison" (Nie et al., 1975, p. 428).

The above tests can only be run on the analysis of variance program of SPSS and not on the analysis of covariance. However, as can be seen in Table 10 on page 100, the only covariate which was significant was the pre-test score. Therefore, it was not deemed imperative to include age and social status in the analysis since neither was significantly contributing to the strength of the independent variable acting the dependent variable.

In view of this situation, a one-way classification analysis of variance was performed on the difference scores between the pre-test and post-test I-E scores. After establishing that the overall F ratio was significant, the a posteriori contrasts were run.

The final statistical procedure utilized was to determine if a significant relationship existed between subjects who lowered their I-E scores and hours of attendance at

A.A. meetings. Using a Pearson correlation program of the SPSS, the number of hours of A.A. attendance and lowered I-E scores were correlated and the resulting r ratio was tested at the .05 level of significance.

Chapter 4

Results

The purposes of this investigation were to examine the correlates of I-E in outpatient alcoholics, alcoholism counselors, and A.A. members; furthermore, to determine the susceptibility of I-E to modification by alcoholism counselors, and finally to determine if any relationship exists between control orientation and preference for Alcoholics Anonymous. Specifically, this study was addressed to the following major questions:

1. Are the scores on the I-E Scale of the initial sample of alcoholics from a similar population as Butts and Chotlos' (1973) non-alcoholic group (mean score 6.01)?

2. Are the scores on the I-E Scale of the alcoholism counselors from a similar population as the initial alcoholic sample?

3. Are the scores on the I-E Scale of the A.A. members from a similar population as the alcoholic sample and/or from a similar population as the non-alcoholic group of Butts and Chotlos?

4. Are there any significant differences in post-test I-E scores between internal and external subjects exposed to treatment by internal and external counselors and internal and external subjects not exposed to treatment?

5. Is there a significant relationship between those

whose I-E scores are lowered during treatment and hours of attendance at A.A. meetings?

Questions 1, 2, and 3 were investigated by means of t -mean tests and t -tests. Question 4 was investigated within a Compromise Experimental Group-Control design (Kerlinger, 1973), utilizing a pre-test and post-test. The data were subjected to an analysis of covariance using orthogonal contrasts.

The following contrasts were made holding pre-test scores, age, and social status as covariates:

1. Experimental versus control group;
2. External counselors versus internal counselors;
3. External alcoholics versus internal alcoholics;
4. Internal alcoholics exposed to internal counselors versus internal alcoholics exposed to external counselors;
5. External alcoholics exposed to internal counselors versus external alcoholics exposed to external counselors.

Certain a posteriori contrasts using the difference scores between pre-test and post-test in an analysis of variance were also performed.

Question 5 was investigated by determining the Pearson product-moment correlation coefficient between the I-E scores which were lowered between pre and post-testing and hours of attendance at A.A. meetings.

The statistical results of this investigation are presented by hypothesis.

Hypothesis 1

Hypothesis 1 states that the sample pool of alcoholics will be significantly more external in locus of control when compared with Butts and Chotlos' (1973) non-alcoholic group. The pre-test scores of the entire alcoholic sample (experimental and control) were tested using a t -mean test against the mean score (6.01) of the non-alcoholic group. The resulting t -mean = 4.79 is significant at the .01 level. Table 1 presents the mean and standard deviation of the sample. Hypothesis 1 is accepted as the alcoholic sample mean = 7.66 is significantly more external than the non-alcoholic mean = 6.01.

It is of interest to look at the breakdown of the alcoholic sample into the experimental and control group versus the hypothetical mean. Table 2 presents the relevant means, standard deviations, t -mean values, and t -test value between the experimental and control groups. Although the experimental and control group means do appear to be quite different, the t -test shows them to be from similar populations.

Recalling that Butts and Chotlos (1973) warned that alcoholics should be given the I-E Scale as early as possible into the treatment program before they become internal as a function of the treatment, the respective means of the experimental and control groups are puzzling. The control

Table 1
 Hypothesis 1--Summary of Mean, Standard
 Deviation of Pre I-E Score and t-mean
 Value of Alcoholic Sample Versus
 Non-Alcoholic Sample

Alcoholic Sample-Experimental and Control Group (N=121)		Significance
Mean	7.66	
Standard Deviation	3.78	
t-mean	4.79	.01

Mean of Butts and Chotlos'	
Non-Alcoholic Group	6.01

Table 2

Hypothesis 1--Summary of Means, Standard
Deviations, of Pre-test I-E Scores, and
t-test of Experimental Versus
Control Group

		Significance
Control Group (N=45)		
Mean	6.91	
Standard Deviation	3.36	
t-mean	1.79	N.S.
Experimental Group (N=76)		
Mean	8.10	
Standard Deviation	3.96	
t-mean	4.60	.01
t-test between experimental and control group		
t	-1.7	N.S.

group is not significantly different from Butts and Chotlos' nonealcoholic group, whereas the experimental group (which had been exposed to a re-education of alcohol) is significantly more external.

Hypothesis 2

Hypothesis 2 states that alcoholism counselors will be significantly more internal in locus of control than the alcoholic sample. The I-E scores of the alcoholism counselors were compared with the alcoholic sample using a t-test. The resultant $t = 0.89$ is not significant at the .05 level. Table 3 presents the means, standard deviations of the groups under consideration. Hypothesis 2 is rejected since the alcoholism counselors are not significantly different in locus of control from the alcoholic sample.

Of note is the fact that the counselors' mean score (8.53) is higher than either the experimental group ($M = 8.10$) or the control group ($M = 6.91$), although not significantly different in either case.

Hypothesis 3

Hypothesis 3 states that the A.A. member sample will be significantly more external than Butts and Chotlos' (1973) non-alcoholic group, but significantly more internal than the alcoholic sample. The I-E scores of the A.A. members were tested using a t -mean test against the mean score (6.01) of the non-alcoholic group and using a t -test against the pre-test I-E scores of the alcoholic sample. The re-

Table 3

Hypothesis 2--Summary of Means, Standard
 Deviations of Pre-test I-E Scores and
 t-test of Alcoholism Counselors Versus
 Alcoholic Sample

		Significance
Alcoholism Counselors (N=15)		
Mean	8.53	
Standard Deviation	3.54	
Alcoholic Sample (N=121)		
Mean	7.66	
Standard Deviation	3.78	
t	0.89	N.S.

sultant t -mean = 3.74 comparing the A.A. sample with the non-alcoholic group is significant at the .01 level. The resultant t = 0.48 comparing A.A. members with the alcoholic sample is not significant at the .05 level. Table 4 presents the means, standard deviations, and t values under consideration. The age of the sample is also included. The portion of Hypothesis 2 which states that A.A. members will be significantly more external than the non-alcoholic group is accepted. The portion of hypothesis 2 which states that A.A. members will be significantly more internal than the alcoholic sample is rejected since the two samples appear to come from similar populations.

Hypothesis 4

Hypothesis 4 states that external alcoholics exposed to internal counselors will have significantly different (lower) I-E scores compared to external alcoholics exposed to external counselors. Further, internal alcoholics exposed to internal counselors will not have significantly different I-E scores compared to internal alcoholics exposed to external counselors. Finally, the internal and external alcoholics exposed to the control group will have significantly different I-E scores from those in the experimental group.

To test the subhypotheses of Hypothesis 4, post-test

Table 4

Hypothesis 3--Summary of Means and Standard Deviations of Age and Pre-test I-E Scores of A.A. Members and Alcoholic Sample; t-mean Test Between A.A. Sample and Non-alcoholic Sample; t-test Between A.A. Sample and Alcoholic Sample

			Significance
	Age	I-E Score	
A.A. Members (N=75)			
Mean	43.72	7.41	
Standard Deviation	9.51	3.24	
t-mean		3.74	.01
Mean of Butts and Chotlos'			
Non-alcoholic Group		6.01	
Alcoholic Sample (N=121)			
Mean	40.50	7.66	
Standard Deviation	10.73	3.78	
t		0.48	N.S.

data was organized into six groups:

Internal alcoholics exposed to internal counselors
(IAIC);

External alcoholics exposed to internal counselors
(EAIC);

Internal alcoholics exposed to external counselors
(IAEC);

External alcoholics exposed to external counselors
(EAEC);

Internal alcoholics in the control group (IACG);

External alcoholics in the control group (EACG).

Theseddata were subjected to a multiple classification analysis of covariance which adjusted for initial discrepancies between the groups in terms of age, social status, and pre-test scores. After these covariant adjustments had been carried out with regard to each group, the orthogonal contrasts between the groups previously specified were made.

The analyses produced the F ratios found in Table 5. As can be seen, the overall significance test was significant at the .001 level, suggesting that there is a great deal of variance between the six groups. The special contrasts, which were done to more explicitly isolate the variance, showed the following results: The experimental group versus the control group contrast was significant at the .05 level.

Table 5
 Summary of F Ratios Resulting from the
 Analysis of Covariance and the
 Special Contrasts

Contrast	F	Significance
Overall Treatment	5.418	.001
Experimental versus Control	5.624	.05
Internal Counselors versus External Counselors	4.180	.05
Internal Alcoholics versus External Alcoholics	3.544	.05
Internal Alcoholics exposed to Internal Counselors versus Internal Alcoholics exposed to External Coun- selors	2.529	N.S.
External Alcoholics exposed to Internal Counselors versus External Alcoholics exposed to External Coun- selors	11.611	.01

The contrast involving internal counselors (combining groups IAIC and EAIC) versus external counselors (combining groups IAEC and EAEC) was significant at the .05 level. The contrast involving internal alcoholics (IAIC and IAEC) versus external alcoholics (EAIC and EAEC) was significant at the .05 level. The only significant contrast involving the interaction of I-E in alcoholics and counselors occurred when external alcoholics exposed to internal counselors were compared to external alcoholics exposed to external counselors (at the .01 level).

The means and standard deviations of the variables under consideration in terms of the six groups are presented in Tables 6, 7, 8, and 9. The relevant information on the dependent variable, post I-E scores is given first with the relevant information on the covariates, pre-test, age, and social status following. These tables contain the preliminary raw data which went into the calculations of the analysis of covariance. Table 10 presents the pertinent information on the overall significance test between treatments in the analysis of covariance with the contributions of the covariates noted.

The relevant information pertaining to the special contrasts performed is detailed in Tables 11, 12, 13, 14, and 15, moving from the more general contrasts to the more explicit contrasts. A summary of the results of the special

Table 6
Hypothesis 4--Summary of Means and Standard
Deviations of Post-test I-E Scores
Used in Analysis of Covariance

Group	Mean	Standard Deviation
IAIC (N=16) *	3.625	3.222
EAIC (N=22)	7.364	2.574
IAEC (N=22)	5.682	2.662
EAEC (N=13)	11.308	3.591
IACG (N=24)	5.833	2.745
EACG (N=21)	8.476	2.926

* Key to groups

IAIC - Internal alcoholics exposed to internal counselors

EAIC - External alcoholics exposed to internal counselors

IAEC - Internal alcoholics exposed to external counselors

EAEC - External alcoholics exposed to external counselors

IACG - Internal alcoholics in the control group

EACG - External alcoholics in the control group

Table 7
Hypothesis 4--Summary of Means and Standard
Deviations of Pre-test I-E Scores
Used in Analysis of Covariance

Group	Mean	Standard Deviation
IAIC	4.625	2.849
EAIC	10.955	2.319
IAEC	5.727	2.434
EAEC	12.692	2.780
IACG	4.375	2.281
EACG	9.810	1.537

Table 8

Hypothesis 4--Summary of Means and Standard
Deviations of Age Used in
Analysis of Covariance

Group	Mean	Standard Deviation
IAIC	39.938	10.286
EAIC	45.045	10.040
IAEC	35.273	13.253
EAEC	35.846	13.502
IACG	45.083	8.992
EACG	38.143	8.850

Table 9
Hypothesis 4--Summary of Means and Standard
Deviations of Social Status Used
in Analysis of Covariance

Group	Mean	Standard Deviation
IAIC	2.000	1.155
EAIC	1.364	2.329
IAEC	1.773	1.066
EAEC	2.000	1.414
IACG	1.583	1.283
EACG	1.429	1.287

Table 10

Hypothesis 4--F Ratio of Overall Treatment
on Analysis of Covariance with
Covariate Contributions

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F	Significance
Covariates	790.201	3	263.400	51.680	
Age	1.654	1	1.654	0.324	N.S.
Social Status	15.020	1	15.020	2.947	N.S.
Pre-test	661.384	1	661.384	129.767	.001
Main Effects					
Treatment					
Between	138.075	5	27.615	5.418	.001
Residual					
Within	555.541	109	5.097		
Total	1483.817	117	12.682		

Table 11

Hypothesis 4--Contrast 1

F Ratio for Experimental Group
versus Control Group

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	<u>F</u>	Significance
Between	387.410	3	129.137	129.137	
Within	555.541	109	5.097		
Contrast	28.665	1	28.665	5.624	.05

Table 12
 Hypothesis 4--Contrast 2
F Ratio of Internal Counselors
 (Groups IAIC and EAIC)
 versus External Counselors
 (Groups IAEC and EAEC)

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	<u>F</u>	Significance
Between	387.410	3	129.137	25.337	
Within	555.541	1109	5.097		
Contrast	21.306	1	21.306	4.180	.05

Table 13

Hypothesis 4--Contrast 3
F Ratio of Internal Alcoholics
 (Groups IAIC and IAEC)
 versus External Alcoholics
 (Groups EAIC and EAEC)

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	<u>F</u>	Significance
Between	387.410	3	129.137	25.337	
Within	555.541	109	5.097		
Contrast	23.434	1	23.434	3.544	.05

Table 14

Hypothesis 4--Contrasts⁴F Ratio of IAIC versus IAEC

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	<u>F</u>	Significance
Between	387.410	3	129.137	25.337	
Within	555.541	109	5.097		
Contrast	12.892	1	12.892	2.529	N.S.

Table 15

Hypothesis 4--Contrast 5

F Ratio of EAIC versus EAEC

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	<u>F</u>	Significance
Between	387.410	3	129.137	25.337	
Within	555.541	109	5.097		
Contrast	59.179	1	59.179	11.611	.01

contrasts has been previously presented in Table 5.

The frequencies for each of the variables under study, treatment, post-test I-E scores, pre-test I-E scores, age, and social status are reported in Appendices C, D, E, F, and G.

A final figure derived from the multiple classification of covariance is the multiple R value. The multiple R represents the multiple correlation between the dependent variable and the factor (treatment) and covariates (pre-test, age, and social status).

In examining the data in this hypothesis in terms of multiple R, it was found the correlation was .791. Multiple R squared, then, 63%, gives the percentage value which can be said to be the relationship of the independent variables to the dependent variable.

After finding from the analysis of covariance that the only significant change occurred with the interaction of external alcoholics exposed to internal counselors when contrasted with external alcoholics exposed to external counselors, the decision was made to attempt to isolate the variance even further by performing certain a posteriori tests. Since it was also discovered through the analysis of covariance that the only covariate contributing significant variance to the dependent variable was the pre-test score, the use of a posteriori contrasts which can only be used

with analysis of variance (and not with analysis of covariance) was definitely a feasible procedure. In the analysis of variance, the difference scores (between the pre-test and post-test) were used as the dependent variable.

The tables which follow pertaining to Hypothesis 4, then, represent simply a re-analysis of the same data used in the previous calculations but using different statistical procedures. Table 16 reports the relevant data on the overall F test in the analysis of variance (on the difference scores) which must be significant before the a posteriori contrasts can be carried out. The means and standard deviations of the six groups on the difference scores are reported in Table 17.

The results of the a posteriori contrasts as carried out by the LSD, Duncan, and SNK tests all found the difference mean of group EAIC to be significantly different from the means of the rest of the groups at the .05 level. The subsets of the groups, the means, and the ranges at the .05 level for the LSD test, the Duncan procedure, and the SNK procedure are presented in Tables 18, 19, and 20, respectively.

At the conclusion of these statistical procedures, Hypothesis 4 is accepted since the results show that external alcoholics exposed to internal counselors do change significantly when compared to external alcoholics exposed to ex-

Table 16
Hypothesis 4 - F Ratio of the Overall
Treatment Test in One-Way
Analysis of Variance

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	<u>F</u>	Significance
Between	315.999	9	63.1998	11.837	.0001
Within	597.975	112	5.3391		
Total	913.974	117			

Table 17
Hypothesis 4 - Summary of the Means and
Standard Deviations of Difference
Scores Between Pre and
Post-test I-E

Group	Mean	Standard Deviation
IAIC	1.000	2.633
EAIC	3.590	2.428
IAEC	0.045	1.557
EAEC	1.384	2.894
IACG	-1.458	1.841
EACG	1.333	3.551

Table 18
Hypothesis 4 -- Subsets Formed by
the Least Significant
Difference Test

Ranges for the .05 level

2.77 2.77 2.77 2.77 2.77

Homogeneous Subsets - Subsets of groups, no pair of which
have means that differ by more than
the shortest significant range for
a subset of that size.

Subset 1

Group	IACG
Mean	-1.458

Subset 2

Group	IAEC	IAIC	IACG	EAEC
Mean	0.0455	1.000	1.3333	1.3846

Subset 3

Group	EAIC
Mean	3.5909

Table 19
Hypothesis 4 -- Subsets Formed by the
Duncan's Multiple Range Test

Ranges for the .05 level

2.81 2.05 3.04 3.11 3.17

Homogeneous Subsets - Subsets of groups, no pair of which
have means that differ by more than
the shortest significant range for
a subset of that size.

Subset 1

Group	IACG
Mean	-1.458

Subset 2

Group	IAEC	IAIC	IACG	EAEC
Mean	0.0455	1.0000	1.3333	1.384

Subset 3

Group	EAIC
Mean	3.5909

Table 20

Hypothesis 4 -- Subsets Formed by the
Student-Newman-Keuls Test

Ranges for the .05 level

2.82 3.36 3.69 3.92 4.10

Homogeneous Subsets - Subsets of groups, no pair of which
have means that differ by more than
the shortest significant range for
a subset of that size.

Subset 1

Group	IACG
Mean	-1.458

Subset 2

Group	IAEC	IAIC	IACG	EAEC
Mean	0.0455	1.000	1.333	1.384

Subset 3

Group	EAIC
Mean	3.5909

ternal counselors and when compared to any of the other five groups. This change was significant at the .01 level.

Hypothesis 5

Hypothesis 5 states that there will be a significant relationship between those subjects whose I-E scores are lowered during treatment and hours of attendance at A.A. meetings. A Pearson product-moment correlation coefficient was determined between those subjects whose I-E scores were lowered between pre and post-testing and number of hours of attendance at A.A. during the treatment program. Separate correlations for the experimental and control groups were determined between lowered scores and A.A. attendance since no change had been predicted would occur in the control group. A correlation coefficient of $-.022$ for the control group is not significant and indicates there is no correlation between the two variables.

For the experimental group, a correlation of $-.29$ is significant at the .01 level and indicates there is a weak negative correlation between I-E score reduction and hours of attendance at A.A. meetings. In other words, the more a subject's I-E score went down, the more his hours of A.A. attendance went up, accounting for the inverse relationship noted in the negative correlation. It should be emphasized that this is a relatively weak, although significant, relationship. Table 21 gives the means and standard deviations

Table 21

Hypothesis 5 -- Summary of Means and Standard Deviations for Control and Experimental Groups on Reduction of I-E Scores and Hours of A.A. Attendance; Correlation Between Reduction of Scores and A.A. Attendance for Control and Experimental Groups

Control Group (N=45)			
	Reduction of Scores	Hours of A.A. Attendance	Signifi- cance
Mean	-0.15	5.13	
Standard Deviation	2.87	7.55	
\underline{r}	-0.022		N.S.
Experimental Group (N=76)			
Mean	1.56	7.83	
Standard Deviation	2.54	10.33	
\underline{r}	-0.29		.01

for the control and experimental groups on reduction of scores and A.A. attendance.

Hypothesis 5, stating that there would be a significant relationship between reduction of I-E scores and hours of A.A. attendance, is accepted. There was no significant correlation between the two variables for the control group; however, there was a significant correlation at the .01 level between the two variables for the experimental group.

Summary

The results presented in this chapter may be summarized as follows:

1. The alcoholic sample (mean = 7.66) was significantly more external than the mean score (6.01) of Butts and Chotlos' non-alcoholic group.

2. The alcoholism counselor sample (mean = 8.53) was not significantly different from the alcoholic sample (mean = 7.66).

3. The A.A. member sample (mean = 7.41) was significantly more external than the mean score (6.01) of Butts and Chotlos' non-alcoholic group, but not significantly different from the alcoholic sample (mean = 7.66).

4. Only one group, external alcoholics exposed to internal counselors, changed significantly on post-test I-E scores, when compared to any of the other groups.

5. A weak, yet significant, correlation (-.29) was found between reduction in I-E scores and hours of A.A. attendance.

Chapter 5

Summary, Conclusions, Implications and Recommendations

Chapter 5 provides an overview of the results of this investigation by summarizing the study, presenting the conclusions drawn, and discussing pertinent implications and recommendations.

Summary

There can be little question of the fact that alcohol abuse has been and currently is a mammoth health problem. Unlike many other health problems, minimal progress appears to have been made through decades of attempts to assess and treat alcoholism. Therefore, in recent years, a philosophy of the treatment of alcoholism has evolved which holds that the treatment modality does not make as much difference in the success of the rehabilitation of the alcoholic as does the nature of the patient who comes for treatment. In addition, to considering the characteristics of the patient, logic would dictate attention should be given to the characteristics of the therapist or counselor offering the treatment. However, a thorough review of the literature reveals a paucity of research on the characteristics of alcoholism counselors exists. Standing apart from the fads and squabbles over success rates of various treatment modalities, over the importance of patient characteristics, and over

the controversial idea of considering counselor characteristics is Alcoholics Anonymous (A.A.). Although praised by many as the most effective treatment in alcoholism, A.A. has consistently avoided scientific study. The question of the types of persons who tend to like A.A. and those who do not has hardly been touched by researchers.

The purpose of this study, then, has been to combine the elements of patient characteristics, counselor characteristics, and preference for A.A. into a comprehensive design which would allow systematic evaluation on one personality dimension, locus of control. Recognizing that many previous studies involving locus of control in alcoholics have found them to be internal on Rotter's Internal-External (I-E) Scale, this investigation attempted, in part, to replicate Butts and Chotlos' (1973) finding that alcoholics are external when compared with an appropriate (in age and social class) non-alcoholic group. Specifically, then, this study set out to examine the correlates of I-E in outpatient alcoholics, alcoholism counselors, and A.A. members; furthermore, to determine the susceptibility of I-E to modification by alcoholism counselors; and finally, to determine if any relationship exists between control orientation and treatment outcome as measured by frequency of attendance at A.A. meetings.

To answer these questions, this investigation utilized a compromise experimental group-control⁷ group design since it was not possible to randomly assign subjects to experimental and control groups. The study was carried out at the Newport News Division of Alcoholic Services (NNDAS) where an alcoholic is offered some type of treatment as soon as possible. The control subjects were 45 male alcoholics receiving an education about alcohol, while 76 male alcoholics receiving the actual treatment phase of the program comprised the experimental subjects. The pre-test/post-test design involved treatment by counselors designated as internal and external for the experimental group and no treatment for the control group. Treatment, the active variable, consisted of the following six groups: internal alcoholics exposed to internal counselors; external alcoholics exposed to internal counselors; internal alcoholics exposed to external counselors; external alcoholics exposed to external counselors; internal alcoholics in the control group; external alcoholics in the control group. The treatment provided by both internal and external counselors was based on Glasser's reality therapy and was expected to vary according to the personality of the counselor. Through the medium of small closed groups, the treatment was given for 10 weeks with a pre-test occurring at the beginning and a post-test at the end of these sessions. The control groups, tested at the beginning

and end of 10 weeks, saw films and heard lectures on alcohol.

Various statistical tests of significance were applied to the hypotheses advanced according to their content. The correlates of I-E in the specified groups were determined by comparing them with t-mean and t-test procedures. The susceptibility to change of I-E was determined by using post-test I-E scores in an analysis of covariance with a priori contrasts, while holding pre-test I-E scores, age, and social status as covariates. In addition, certain a posteriori contrasts were performed. Finally, a Pearson product-moment correlation was found between subjects whose I-E scores were lowered during treatment and hours of attendance at A.A. meetings.

Conclusions

The conclusions concerning the correlates of I-E in outpatient alcoholics, alcoholism counselors, and A.A. members; the susceptibility of I-E to modification; and the relationship of reduction of I-E scores and A.A. attendance will be presented by hypothesis.

Hypothesis 1

The research hypothesis that the sample pool of alcoholics would be significantly more external in locus of control than Butts and Chotlos' (1973) non-alcoholic group was accepted. There was a statistical difference between the two groups at the .01 level of significance. It was concluded

that Butts and Chotlos were correct in labeling alcoholics external when they are compared with an appropriate group in terms of age and social class.

Hypothesis 2

The research hypothesis that alcoholism counselors would be significantly more internal in locus of control than the alcoholic sample was rejected. There was no significant difference between the two groups at the .05 level of significance. It was concluded that the alcoholism counselors in this study were not statistically different from the alcoholics they were treating in terms of locus of control.

Hypothesis 3

The portion of the research hypothesis stating that the A.A. member sample would be significantly more external in locus of control than Butts and Chotlos' non-alcoholic group was accepted. The portion of the hypothesis stating that the A.A. members sample would be significantly more internal in locus of control than the alcoholic sample was rejected. There was a significant difference between the non-alcoholic group and the A.A. sample at the .01 level, but there was no difference between the A.A. sample and the alcoholic sample at the .05 level. It was concluded, then, that the A.A. members, like the newly labeled alcoholics, were more external in locus of control than the non-alcoholics, but that

the A.A. sample, or recovered alcoholics, were not more internal than the alcoholics just going into treatment.

Hypothesis 4

The global hypothesis that external alcoholics exposed to internal counselors would significantly lower their I-E scores compared to any of the other groups, and that neither external alcoholics exposed to external counselors nor internal alcoholics exposed to internal counselors would significantly change their I-E scores when compared to the other groups was accepted. There was a significant difference in post-test I-E scores between external alcoholics exposed to internal counselors and external alcoholics exposed to external counselors at the .01 level. On the other hand, there was no significant difference between internal alcoholics exposed to internal counselors and internal alcoholics exposed to external counselors at the .05 level. There were significant differences at the .05 level between the experimental and control groups, internal and external counselors, and internal and external alcoholics. It was concluded, therefore, that despite significant differences between the experimental and control groups, the two types of counselors, and the two types of alcoholics, that the only interaction strong enough to produce a significant change involved external alcoholics exposed to internal counselors.

This judgment was born out by the a posteriori contrasts

performed on the means of the difference scores between the pre-test and post-test which singled out the group, external alcoholics exposed to internal counselors, as significantly different from the other five groups at the .05 level. In conclusion, the maximum change in I-E scores appears to occur when external alcoholics are exposed to internal counselors.

Hypothesis 5

The research hypothesis that there would be a significant relationship between reduction of I-E scores and hours of attendance at A.A. meetings was accepted. There was a significant correlation for the experimental group between subjects whose I-E scores were lowered and the subjects' hours of attendance at A.A. meetings at the .01 level. As was expected, there was no significant correlation between the two variables for the control group at the .05 level. Although the significant correlation for the experimental group was rather weak, it was concluded that when a subject's I-E score moves toward the internal, he is most likely to increase his hours of A.A. attendance.

Implications

In examining the findings of this study, numerous implications seem to emerge. Looking first to the controversy over the locus of control of the alcoholics themselves, no clear-cut answers are available. The results did show the alcoholics to be more external than Butts and Chotlos' non-

alcoholic group, but the relativity of the internal-external construct must constantly be kept in mind. The alcoholics in this study were not as external as Butts and Chotlos' alcoholic group (means of 7.6 and 8.2 respectively). Yet an interesting and puzzling aspect to consider comes from the examination of I-E means of the experimental and control groups in this study. The control group is more internal to begin with and does not change during the 10 weeks. The experimental group is relatively more external than the control group and moves toward the internal with treatment.

An explanation for this phenomenon can only be speculated. Perhaps the alcoholics in the control group (who are just entering the program) are internal because they are in denial and, therefore, choose to believe they are in control of their actions, whereas the experimental groups is more realistic and recognizes outside contingencies, yet with treatment accepts more responsibility and becomes more internal. The problem with this interpretation revolves around the fact that the control group's scores did not move toward the external as one would expect if they were breaking through denial. In addition, in the experimental groups, only external alcoholics exposed to internal counselors changed significantly which seems to belie the notion that alcoholics are internal as a result of the treatment per se. One is left with the facts that the control group

is internal to begin with and the experimental group moves to become internal. Thus, both groups are relatively internal at the end of the study, but for apparently much different reasons.

Turning to another perplexing area of the study, some light has been shed on the characteristics of alcoholism counselors. Surprisingly, the alcoholism counselors in this study had the most external mean I-E scores of any group in the study, although it was not significant. The most obvious explanation of this result could be that the small sample size of counselors did not permit the statistical principles to operate correctly and that this group is not representative of alcoholism counselors in general. Leaving the theoretical statistical issue aside, one is left with a far-reaching implication. If, indeed, the results of this part of the study can be accepted, then the personality of the counselor definitely does make a difference in the counseling situation.

The finding that the maximum effect is achieved when internal counselors work with external alcoholics is consistent with previous research on control orientation of experimenters and subjects. Looking specifically at external counselors in an alcoholism treatment center setting, an additional dimension may be added to the experimenter-subject interaction. Since the prognosis for alcoholism has tradi-

tionally been gloomy anyway, an external counselor would appear to have double reason for not expecting change in the alcoholics. The principle of the "self-fulfilling prophecy" may be operating here.

Final comments are devoted to the implications of the findings on A.A. members. A.A. members were not that different from active alcoholics, according to the results. Since this is a rather unexpected conclusion, again an explanation is offered. Perhaps the criterion of one year's sobriety to be included in the A.A. sample was not stringent enough. That is, maybe as A.A. members become more committed to A.A. principles by continuing for two or more years of attendance, they become increasingly internal or more responsible for their own behavior. This would seem to be logical, despite the A.A. credo's (the steps regarding submission to a higher power) bent toward the external. Yet the results of this study show that A.A. members seem to be internal. This is buttressed by the finding that as an alcoholic in treatment lowers his I-E score toward the internal, the more his hours of attendance at A.A. meetings increases. Or another obvious interpretation of this result could be that the more an alcoholic attends A.A., the more internal he becomes.

In summary, although most of the predicted postulates in this study were proven true, the results seem to raise

as many questions as they answer.

Recommendations

With the above discussion in mind, several recommendations for further research are made.

1. It would be interesting if a similar study could be carried out with a randomized experimental design. This would be possible if a treatment center had a waiting list and only a certain number of alcoholics could have treatment at one time.

2. It would be informative to conduct a study focusing on what, if any, changes are occurring as a result of the alcohol education phase of the program.

3. It would be beneficial for further research to be done on the meaning of internality within the alcoholic population context, especially during the denial stage of alcoholism.

4. It would be meaningful if research of this type could be pursued at several Division of Alcoholic Services offices concurrently, thereby offering more conclusive results and greater generalizability.

5. It would be prudent to carry out additional research on the personality characteristics of alcoholism counselors, especially comparing counselors of different background and training.

6. It would be useful if further investigations of locus of control among A.A. members could be pursued, especially if careful sobriety restrictions are observed.

APPENDIX

APPENDIX A

I-E SCALE

Instructions

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet provided. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not begin until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and mark the space under the letter a or b which you choose as the statement more true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. a. Children get into trouble because their parents punish them too much.
b. ~~The trouble with most children nowadays~~ is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5.
 - a. The idea that teachers are unfair to students is nonsense.
 - b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6.
 - a. Without the right breaks one cannot be an effective leader.
 - b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7.
 - a. No matter how hard you try, some people just don't like you.
 - b. People who can't get others to like them don't understand how to get along with others.
8.
 - aa. Heredity plays the major role in determining one's personality.
 - b. It is one's experiences in life which determine what they're like.
9.
 - a. I have often found that what is going to happen will happen.
 - b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.
 - a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
 - b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11.
 - a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.
 - b. Getting a good job depends mainly on being in the right place at the right time.
12.
 - a. The average citizen can have an influence in government decisions.
 - b. This world is run by the few people in power, and there is not much the little guy can do about it.
13.
 - a. When I make plans, I am almost certain that I can make them work.
 - b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14.
 - a. There are certain people who are just no good.
 - b. There is some good in everybody.
15.
 - a. In my case getting what I want has little or nothing to do with luck.
 - b. Many times we might just as well decide what to do by flipping a coin.

16.
 - a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
 - b. Getting people to do the right thing depends on ability, luck has little or nothing to do with it.
17.
 - a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.
 - b. By taking an active part in political and social affairs, the people can control world events.
18.
 - a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
 - b. There really is no such thing as "luck".
19.
 - a. One should always be willing to admit mistakes.
 - b. It is usually best to cover up one's mistakes.
20.
 - a. It is hard to know whether or not a person really likes you.
 - b. How many friends you have depends on how nice a person you are.
21.
 - a. In the long run the bad things that happen to us are balanced by the good ones.
 - b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22.
 - a. With enough effort we can wipe out political corruption.
 - b. It is difficult for people to have much control over the things politicians do in office.
23.
 - a. Sometimes I can't understand how teachers arrive at the grades they give.
 - b. There is a direct connection between how hard I study and the grades I get.
24.
 - a. A good leader expects people to decide for themselves what they should do.
 - b. A good leader makes it clear to everybody what their jobs are.
25.
 - a. Many times I feel that I have little influence over the things that happen to me.
 - b. It is impossible for me to believe that chance or luck plays an important role in my life.
26.
 - a. People are lonely because they don't try to be friendly.
 - b. There's not much use in trying too hard to please people, if they like you, they like you.

27.
 - a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
28.
 - a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have control over the direction my life is taking.
29.
 - a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX B

<u>Internal Counselor Groups</u>	<u>Median</u>
Group A	6.5
Group B	7.5
Group C	8.0
Group D	7.5

<u>External Counselor Groups</u>	<u>Median</u>
Group E	8.0
Group F	7.0
Group G	11.0
Group H	8.5

APPENDIX C

Frequencies of Experimental and Control
Groups on the Variable Treatment

Experimental (N=73)

<u>Group</u>	<u>Frequency</u>
IAIC	16
EAIC	22
IAEC	22
EAEC	13

Control (N=45)

<u>Group</u>	<u>Frequency</u>
EACG	24
EACG	21

APPENDIX D

Frequencies, Means, and Standard Deviations
of Experimental and Control Groups on the
Variable Post-test I-E Score

Experimental (N=73)

Score	Frequency	Score	Frequency
0	1	8	8
1	5	9	3
2	3	10	8
3	6	11	4
4	10	12	1
5	6	13	2
6	6	15	2
7	6	16	2

Mean	6.74
Standard Deviation	3.83

APPENDIX D

(Continued)

Control (N=45)			
Score	Frequency	Score	Frequency
0	1	7	6
1	1	8	4
2	1	9	7
3	4	10	4
4	4	11	2
5	2	12	4
6	5		

Mean	7.06
Standard	
Deviation	3.10

APPENDIX E

Frequencies, Means, and Standard Deviations of
the Experimental and Control Groups on the
Variable Pre-test I-E Score

Experimental (N=73)

Score	Frequency	Score	Frequency
0	1	9	9
1	5	10	2
2	2	11	9
3	1	12	4
4	2	13	2
5	7	14	3
6	6	15	3
7	8	16	1
8	6	17	2

Mean	8.30
S.D.	4.11

APPENDIX E
(Continued)

Control (N=45)

Score	Frequency	Score	Frequency
0	1	7	6
1	3	8	4
2	1	9	4
4	4	10	9
5	3	11	3
6	4	15	1

Mean	6.91
S.D.	3.36

APPENDIX F

Frequencies, Means, and Standard Deviations of
the Experimental and Control Groups on
the Variable Age

Experimental (N=73)

Age	Frequency	Age	Frequency	Age	Frequency
20	1	34	4	48	1
21	3	35	2	50	5
22	4	37	3	51	2
24	5	38	1	53	2
25	3	40	2	54	1
26	1	41	3	55	1
27	1	42	2	56	3
28	2	43	2	59	1
29	1	44	1	61	2
31	1	45	5	62	1
32	1	46	2	63	1
33	1	47	2		

Mean	39.34
S.D.	12.26

APPENDIX F

(Continued)

Control (N=45)					
Age	Frequency	Age	Frequency	Age	Frequency
26	1	37	1	48	1
28	2	38	2	49	1
29	1	39	1	50	1
30	2	41	1	51	1
31	2	42	1	53	2
32	1	43	3	54	2
33	1	44	2	56	1
35	3	45	1	58	3
36	4	46	3	59	1
Mean		41.84			
S.D.		9.49			

APPENDIX G

Frequencies, Means, and Standard Deviations of
the Experimental and Control Groups on
the Variable Social Status

Experimental (N=73)	
Status Rating	Frequency
0	12
1	21
2	24
3	6
4	10
Mean	1.74
S.D.	1.23
Control (N=45)	
Status Rating	Frequency
0	14
1	6
2	17
3	4
4	4
Mean	1.51
S.D.	1.27

APPENDIX H

Frequencies, Means, and Standard Deviations of the
Experimental and Control Groups on the
Variable A.A. Attendance

Experimental (N=73)

Hours of A.A.	Frequency	Hours of A.A.	Frequency
0	18	10	3
1	4	15	1
2	4	18	2
3	1	20	2
4	1	22	1
5	9	27	3
6	7	30	1
7	5	40	1
8	4	60	1
9	5		

Mean	7.83
S.D.	10.33

APPENDIX H

(Continued)

Control (N=45)

Hours of A.A.	Frequency	Hours of A.A.	Frequency
0	14	7	2
1	5	9	5
2	4	18	2
3	5	27	2
4	3	30	1
6	2		

Mean	5.13
S.D.	7.55

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ABSTRACT

AN INVESTIGATION INTO THE MODIFICATION OF LOCUS OF CONTROL IN OUTPATIENT ALCOHOLICS AND ITS RELATIONSHIP TO PREFERENCE FOR ALCOHOLICS ANONYMOUS

HETTINGER, BETTSY H., Ed.D.
THE COLLEGE OF WILLIAM AND MARY IN VIRGINIA, 1976

CHAIRMAN: DR. FRED L. ADAIR

In the field of alcoholism the theory that the type of treatment modality utilized might not make as much difference in the successful rehabilitation of the alcoholic as might the characteristics of the patient who comes for treatment has gained credence among professionals. Logic would seem to dictate that attention also should be given to the characteristics of the therapist or counselor offering the treatment. Despite the plethora of research on the characteristics of alcoholics, a paucity of literature exists concerning the characteristics of alcoholism counselors. Another neglected area in alcoholism research involves the characteristics of persons who have found Alcoholics Anonymous (A.A.) to be beneficial, in spite of the fact that the contributions of A.A. as an alcoholism treatment have been heralded by many.

The purpose of this study, then, has been to combine the elements of patient characteristics, counselor characteristics, and preference for A.A. into a comprehensive design which would allow systematic evaluation on one personality dimension, locus of control. Recognizing that many previous studies involving locus of control in alcoholics have found them to be internal on Rotter's Internal-External (I-E) Scale, this investigation attempted, in part, to replicate Butts and Chotlos' (1973) finding that alcoholics are external when compared with an appropriate (in age and social class) non-alcoholic group. Specifically, then, this study set out to examine the correlates of I-E in outpatient alcoholics, alcoholism counselors, and A.A. members; furthermore, to determine the susceptibility of I-E to modification by alcoholism counselors; and finally, to determine if any relationship exists between control orientation and treatment outcome as measured by frequency of attendance at A.A. meetings.

To answer these questions, this investigation utilized a compromise experimental group-control group design which was carried out at the Newport News Division of Alcoholic Ser-

vices (NNDAS). The control subjects were 45 male alcoholics receiving an education about alcohol, and 76 male alcoholics receiving the actual treatment phase of the program served as the experimental subjects. The pre-test/post-test design involved treatment for 10 weeks by counselors designated as internal and external for the experimental group and no treatment for the control group. Treatment, the active variable, consisted of the following six groups: internal alcoholics exposed to internal counselors; external alcoholics exposed to internal counselors; internal alcoholics exposed to external counselors; external alcoholics exposed to external counselors; internal alcoholics in the control group; external alcoholics in the control group.

The results noted were:

1. The hypothesis that the alcoholic sample would be significantly more external than the non-alcoholic group of Butts and Chotlos was accepted.

2. The hypothesis that the alcoholism counselor sample would be significantly more internal than the alcoholic sample was rejected.

3. The portion of the hypothesis that the A.A. sample would be significantly more external than the non-alcoholic group of Butts and Chotlos was accepted, but the portion of the hypothesis that the A.A. sample would be significantly more internal than the alcoholic sample was rejected.

4. The hypothesis that external alcoholics exposed to internal counselors would significantly lower their I-E scores compared to any of the other groups, and that neither external alcoholics exposed to external counselors nor internal alcoholics exposed to internal or external counselors would significantly change their I-E scores when compared to the other groups was accepted.

5. The hypothesis that there would be a significant relationship between reduction of I-E scores and hours of attendance at A.A. meetings for the experimental group was accepted.

In conclusion, the maximum interaction effect in reduction of I-E scores seems to occur when external alcoholics are exposed to internal counselors and those who do lower their scores are those most likely to attend A.A. meetings most frequently.

VITA

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Born in Jamestown, New York, on June 22, 1944. Educated at the undergraduate level at Bowling Green State University in Bowling Green, Ohio and at Purdue University in Lafayette, Indiana, where the Bachelor of Arts Degree in English was awarded in 1966. Initially, graduate studies culminated in a Master's Degree in Education in Guidance and Counseling at the University of Rochester in Rochester, New York, 1972. After coming to Virginia, work at the College of William and Mary led to the award of the Doctor of Education Degree in Counseling, 1976.

Relevant work experiences include teaching English at Clarence High School in Clarence, New York for two years and at Penfield High School in Penfield, New York for one year. More recent experience occurred at Associated Psychological Services in Norfolk, Virginia where position as a vocational counselor and psychometrist involved working with veterans, visually handicapped clients, vocational rehabilitation clients, and managerial placement clients.